SIZE ISN'T EVERYTHING:

An Anthropologist’s View of The Cook, The Potter, Her Engineer, and His Donor in Appropriate Technology Development in Sri Lanka, Kenya, and UK

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Declaration

I have composed this thesis myself on the basis of my own work.

Emma Crewe

October 1992
Acknowledgements

To express gratitude to everyone who has contributed to this research would be enjoyable but expensive in trees. In brief, I would like to thank the following friends and colleagues: at ITDG Rugby, UK (Tammy Flavell, Ian Grant, Tim Jones, Andy Russell, John Twigg, Peter Watts, Pete Young and the commuting clan); in Sri Lanka (Ranaweera Banda and Priyanthi Fernando at ITDG, Amarasekera and Bandara at the CEB, Mallika Rajapakse, Bandula Herath and his family, and above all, the potter families all over Kandy, Kegalle, Kurunegala, and Ratnapura, who welcomed me into their homes - particularly my elder brother, Somapala, and his family), in Kenya (Stephen Karekezi at FWD, Vivienne Abbott at ITDG, Keyo Women and all the potter women who made me cry with laughter), in Tanzania (Anne Sefu), in India (Sri Muniandi at the Gandhiniketan Ashram), in Germany (Agnes Klingshirn at GTZ) and at international meetings (Kirk Smith from the East-West Center, Hawaii).

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Abstract

I reveal the ideological orientation of a British overseas development agency - Intermediate Technology Development Group (ITDG) - as evolutionary and male-centred, and springing out of European imperialism and a patriarchical social order. Ultimately, this ideology has a detrimental effect on ITDG's appropriate technology project work. I evaluate two improved stove projects, one in Sri Lanka and the other in Kenya, and conclude that while some cooks and stove-makers gained from the project, most of the benefits were unintended and/or inequitably shared. Mistaken assumptions arose out of a process of donors and technicians defining problems, needs and solutions with reference to neatly packaged, unilinear causal chains, and with little recognition of regional diversity.

Beneficiaries are apparently passive recipients of the results of experts' decisions. For example, in the area of stove technology, the knowledge of cooks is invisible to technicians, and so ignored, because their work is carried out in rural areas, is not part of the market economy, and is considered untidy, unhealthy, and smelly. On the other hand, stove makers and users often resist the interventions of others, and only take on new ideas when they work effectively in practice.

Finally, moving further down complex sets of relations in the development process, I describe how the roles of recipients and donors in development agencies are played within a boundary of the 'spirit' of project aid. The power of donors is not simply purchased like a commodity and displayed through the disposal of funds; power relations are observed in the structural relationship between groups or organisations. For example, donors are powerful and so in a position to define policies, rules or conditions attached to aid. Even so, as with any system of rules, it is the appearance, but not the practice, of obedience that it usually the criteria of success. It is this which allows people within recipient agencies to construct their own rhetoric and interpret their own world.
‘...doing social science research is like shining a torch around a darkened room. As one object is illuminated, shadows are cast on others’ (Sharma 1986:45).

1. Doing the Research

1.1. Introducing the Researcher

‘Who is shining the torch?’ seems the most urgent question when introducing a piece of social science research. And yet before I pose the question I should explain why and how it replaces my so-called ‘methodology’ section. If I were to heed Rostow’s advice I would not even touch on ‘methods’:

An historian’s method is as individual - as private a matter - as a novelist’s style. There is good reason for reserve - even reticence - on this subject, except in so far as we seek to share each other’s unique professional adventures... (1960:333).

I have chosen to avoid such terms as ‘methods’, ‘hypotheses’, and ‘data analysis’, not out of respect for Rostow’s secretive reserve, but because I suspect that such scientific terminology conjures the wrong impression. Methodology conveys a sense of following certain rules and regulations as set down by a particular discipline. These rules usually provide the researcher with techniques for carrying out studies or tests, so that results within a scientific field are falsifiable and comparable. Since I am a social anthropologist, I am expected to follow the only methodological rule agreed upon within the British discipline, that is, to compile an ethnography through participant-
observation fieldwork. This term is so vague, however, that it can be adhered to simply by joining in, watching, and describing the actions of informants. It might entail carrying out structured questionnaire surveys, measuring plots of land, counting number of products sold, charting time-studies, holding group discussions, or chatting with neighbours under a tree. Thus, an ethnography may be created by an imaginative, eclectic mixture of questioning, watching, ‘learning by doing’, and interpreting.

Whereas particular ethnographic statements can be checked by another social anthropologist, they are rarely interesting in isolation. For example, quantitative information, such as the number of houses in a village, can be counted by another social anthropologist, an exercise that should produce the same results. Nevertheless, they may use different definitions of ‘house’, which would then lead to different calculations. Furthermore, as soon as they begin classifying who lives in the houses, then the potential margins for disagreement will become inevitably greater because, as students of social relationships, ethnographers argue most bitterly about people’s similarities and differences. Subjective constructions are bound to intervene.

Does this mean that social anthropologists are stumbling artists, blinkered by their own subjectivity, while physical scientists, armed with empirical facts, are marching ahead towards objective truth? The second part of such a proposition was discredited long ago (Kuhn 1970; Chalmers 1982, 1990). It is now widely acknowledged amongst philosophers that the so-called laws of physical science are logically coherent within their own paradigm, but cannot be proved to be true in an absolute, universal sense. In this regard, physical science does not differ from social science. On the other hand, physical scientists often still claim that they have access to objective truth through empirical observation, and posit laws that have apparent universal validity across space and time. Also, their methods are inevitably different because they cannot usually communicate with their subjects. Those dealing with objects, and not living creatures, can isolate, destroy, experiment with them, and so on, with relative ease. I wish to avoid giving the impression that I have embarked on a pseudo-scientific empirical exercise, following discrete phases for perusing the literature, setting up the experiment with a control, conducting fieldwork to test out hypotheses, analysing the data, and finally postulating objective theories. Using the word ‘methodology’, normally

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1 Apparently the reputation of anthropologists does not convey this impression, since Richards claims that participant-observation entails mainly ‘learning by talking’ (1985:157).
associated with experimentation, would give the impression that I have employed a rigorously tested set of anthropological techniques for carrying out empirical research into objective truth.

However, in stark opposition to the idea that the personal history of an historian is private, I argue that those who interpret culture in the past or present should reveal the ideological stance which informs their text. The novelist should leave much to the imagination of the reader; the scholar should leave as little as possible to guess-work. In ethnography cultures are usually described with the author’s own moral, ideological, and cosmological perspective implied throughout the writing (Clifford 1986:98). Where possible, these perspectives should be made explicit, since the partiality of a ‘textual stance’ does not invalidate the author’s insights, but rather it situates their statements (Rabinow 1986:244). Although it is plainly impossible to ‘situate’ fully my text, I will draw attention to particularly relevant aspects of my own history, social background, and ideological perspective. Through this first section of my introduction, I hope to reveal a picture of myself, to place my ethnography within the parameters of my past, my subjective construction of reality, and, most importantly, my view of the relationships with different informants. This background will be sketchy and brief, but I also hope to remind the reader of my presence throughout the text, to ensure that this ethnography is read as one person’s interpretation of events, rather than an objective, scientific study of human behaviour.

In 1986, during a summer of travelling in India, I was sitting in a hostel garden in Gujarat, when Aloka Desai came up to me and introduced herself. She explained that she was a political activist, involved in community work in Assam and Bombay, and was interested to hear about the latest developments of feminism in Britain. At the end of a lively discussion, she advised me to visit the Self-Employed Women’s Association in Ahmedabad. A day spent with them, visiting a number of their co-operative dairies and training centres, confirmed my determination to be involved in overseas development. When I applied for the award for this research I wrote about this visit, and it was the reference to SEWA that apparently caught the favourable attention of ITDG.

In 1987 the University of Edinburgh advertised an Economic and Social Research Council (ESRC) award for research to be carried out in collaboration with Intermediate
Technology Development Group (ITDG), looking into the ‘Impact of New Technology on Potter Communities in Sri Lanka’. I wanted to do this research for two reasons. Firstly, I thoroughly enjoyed myself while living in a village in Himachal Pradesh for six months in 1984, and writing a dissertation on ‘Inter-Caste Relations in an Indian Village’ for my M.A. degree at Edinburgh University. Whilst staying in India, though I found village life tedious at times, I relished the position of being an outsider, constantly faced with challenges, novelty, and new people to meet. By 1987 I was craving to do fieldwork for a longer time. Secondly, since I planned to be a development anthropologist, further fieldwork experience would be essential for my career. This particular proposal offered the perfect chance to pursue my established interests in appropriate technology, gender relations, and Buddhism. From October 1987, I took up the research post at Edinburgh University, joined various post-graduate research methods courses, attended an ‘induction’ for a week at ITDG in Rugby, wrote a detailed research proposal, and prepared for fieldwork in Hambantota, Sri Lanka.

The details of the progress of my fieldwork and writing-up are described below (sections 1.2.-1.4.), but for the purposes of this section a brief outline will suffice. In total I spent about 22 months doing research away from Edinburgh, approximately the following amount of time in each fieldwork place:

<table>
<thead>
<tr>
<th>Months</th>
<th>Location</th>
</tr>
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<tbody>
<tr>
<td>9</td>
<td>Rugby</td>
</tr>
<tr>
<td>8</td>
<td>Sri Lanka</td>
</tr>
<tr>
<td>3</td>
<td>Kenya/Tanzania</td>
</tr>
<tr>
<td>1</td>
<td>Nepal/India</td>
</tr>
<tr>
<td>1</td>
<td>Finland/Germany/Switzerland/USA</td>
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</tbody>
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2 I find that challenging my own cultural conventions makes fieldwork enjoyable until I become too much of an ‘insider’, with the attendant expectation of obedience to new rules, in which case I begin to feel constrained.
The chronology of my fieldwork can be summarised as follows:

### Chronological Outline of Research

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
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<tbody>
<tr>
<td>July-Sept 1988</td>
<td>Held interviews for three months with potter households in Kandy, Kegalle, Kurunegala, Ratnapura, and Hambantota Districts.</td>
</tr>
<tr>
<td>Oct-Dec 1988</td>
<td>Wrote up report for ITDG and CEB(^3), entitled <em>Socio-Economic Impact of the National Fuelwood Conservation Programme on Sri Lankan Potters</em> (Crewe 1988).</td>
</tr>
<tr>
<td>Feb-March 1989</td>
<td>Carried out an evaluation of an ITDG stoves project in W. Kenya.</td>
</tr>
<tr>
<td>April-Sept 1989</td>
<td>Conducted fieldwork in a potter community in Ratnapura District, Sri Lanka.</td>
</tr>
<tr>
<td>Oct 1989 - Dec 1990</td>
<td>Worked as a social scientist for the Fuel For Food Programme at ITDG, in Finland, Germany, India, Kenya, Nepal, Sri Lanka, Switzerland, Tanzania, UK, and USA.</td>
</tr>
</tbody>
</table>

The key question to try and answer before describing my relationships with informants is: who were they? *They* were Europeans, Americans, Africans, and Asians; white and black; men and women; richer and poorer; upper, middle, and working class; older and younger; higher and lower caste; urbanites and ruralites; formally educated and informally educated, and so on. *They* can not be neatly classified into the customary social categories used by early social anthropologists, such as, primitives, tribal, traditional, non-western, southern, non-industrialised, preliterate, or non-literate. These categories are either derogatory, inaccurate, or uninteresting with regard to the people I stayed with in Sri Lanka and Kenya. They are completely irrelevant to those I worked with in ITDG Rugby, elsewhere in Europe, and in the USA. The people I am

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\(^3\) This is the Ceylon Electricity Board in Sri Lanka, which is part of the Ministry of Power and Energy.
writing about cut across geography, culture, race, class, and gender, and the only feature that draws them all together is their involvement in stove development projects. Since, my ethnography is thematic rather than culturally based, I will draw attention to comparative aspects among the different kinds of relationships I had with informants.

Although I engaged in ‘participant-observation fieldwork’ for almost all of my research, this bland phrase tells us very little. I ‘participated’ as a full member of the group while I was working as a social scientist in ITDG, whereas I was more of an observer when staying or visiting potters in Sri Lanka and Kenya. This was not only the result of simply spending more time in ITDG, or due merely to pressure of work (which often caused me to forget the necessity of some distance for reflection), but also because I already knew the cultural grammar of the English, middle class rules operating within ITDG, even if specific forms had to be learned. I absorbed more about how to practise as an ITDG member of staff than I ever could as a Sri Lankan potter, unless I was prepared to invent a potter identity (e.g., through marriage and many, many years of practice). Even then, I would always be foreign and middle class; they would be indigenous and lower class/caste.

In ITDG I learnt how to interpret the official and unofficial rules, I embraced or fought against the shared ideology, I carried out my job satisfactorily, I spoke fluently to the right people at the right time about the right things, in short I was considered ‘one of them’. While living in Sri Lanka, I only superficially became ‘one of them’, since I could never speak, act, or understand as a Sri Lankan. I became adept at enjoying Sinhalese food, washing under a waterfall without letting my redhdha fall down, carrying firewood, and so on. Nevertheless, I remained an outsider, clumsy at speaking Sinhala, a source of information about exotic places, and a particular cause for concern during unstable times. People generally agreed that foreigners were not a target for any political faction. But it was said in the village that if anything happened to me, as a white foreigner, the police would blame my elder brother and jail him immediately.

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4 *Sarong* or piece of cloth worn around the waist.
5 The man I addressed as my elder brother was the main stove-maker in the household I stayed with during fieldwork in Sri Lanka.
During 1989 the fear arising out of the civil war in Sri Lanka probably drew me emotionally close to people rather quickly. Out of the perpetual threat of death or attack, and the stories of murder and armed robbery, sprang either instant sympathy or distrust between strangers. I suspect that since it was thought that almost all those involved were male, women tended to confide in each other, while unknown men were objects of suspicion to men and women alike. In Kandy town, people seemed to assume that as a foreigner I could not be involved in politics, and so, as long as they could trust me to be discreet, I had very open conversations about the activities of the various militant factions. In the village, on the other hand, since foreigners were an unknown quantity, it took a long time before the family I stayed with would talk about the political situation in that area.

Any anxiety I experienced in ITDG was related to responsibility rather than coping with the horrors of civil war. The first time I was asked for an opinion about whether a particular project should continue or not, I tried to insist I was unqualified to answer. When pushed, I gave a 'yes', mainly because I could not bear the direct responsibility of depriving the intended beneficiaries of assistance. During the time spent working at ITDG, I was worried about making unwise decisions that would result in a waste of money, energy and time, or worse, have a direct detrimental effect on project beneficiaries. I was concerned about having insufficient time to complete my ITDG tasks, and collect information for my research at the same time. I was occasionally upset by arguments between individual staff within ITDG or clashes between groups (men/women, black/white, engineers/social scientists, local/expatriate, management/‘workers’). But these pale into insignificance against the sadness of living with people who feared for the lives of all their young male relatives, and had lost hope in ever living a normal life again.

The most obvious set of differences between the relationship with my two main groups of informants, English ITDG staff and Sri Lankan village potters, is revealed in our relative social, economic, and political positions. Within ITDG my official position was initially lower than most. My job was in the lowest grade of the non-secretarial categories in February 1990 when I was about a third of the way through fieldwork. My job was ranked in the 41st position out of 98 jobs, which placed me below the median. Several months later, when I took on the responsibility for managing a project, my job was elevated a grade, so that I stood just above the median position.
Aside from regular contact with one secretarial/administrative member of staff, most of my activities entailed working with people whose jobs were ranked higher than my own.

In the unofficial hierarchy, my relationships with people were partially defined by my social position: a social scientist, a woman, and a white, private school and university educated, middle class Londoner. Social scientists were respected for being able to advise, write and talk well, but were still not accepted by many parts of ITDG as capable of making the more important decisions. I was told by a social scientist soon after I arrived:

you should not try and fight for power but prove your worth and persuade the technical people to listen to you. We have to accept that we are in a technically based organisation so we have to play a secondary role to the technologists.

In my particular programme, social scientists became more readily accepted as equal contributors once they were fully integrated into a small team with technologists (just before my arrival). I gleaned a strong impression that in some other programmes they were seen as supporting technical work or, at their most effective, clearing away obstacles to success.

Working as a professional, travelling woman within ITDG had its tensions at times. One male member of staff explicitly stated on many occasions that he saw women as unsuitable professionals for ITDG work. They are bound to disrupt the project work, he claimed, because they take time off to have babies or their husbands do not like them going abroad. It was expected by many that, as a woman, I would inevitably be an aggressive feminist, trying to reduce the power of men and enforce positive discrimination for women. One male stated explicitly that he found one woman threatening when she talked about gender and he asked her to stop. Many appeared to be uneasy during discussions about gender because they were unfamiliar with the issues involved; others described it as ‘sexist to draw attention to women’.

At the same time, some men actively encouraged the women staff to develop their expertise in the area of gender in development, and to write a policy on gender for

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6 This was usually the term for non-secretarial staff.
ITDG. So, it would be misleading to generalise about the way that women are treated within ITDG. In different contexts, different women could be treated very differently by the same man. During one meeting with an overseas visitor the man who thought women could be disruptive, whom I shall call Max, defended my right to speak with some vehemence. It was decided in advance that I would talk about my project, but during the meeting an ITDG staff member began describing my work. Max cut in by saying: ‘I think Emma can speak for herself’. It might be argued that by taking control and speaking on my behalf, even Max was undermining my position. Even so, that form of control was preferable to the kind of treatment secretaries often received. At the very worst, they were subjected to sexual harassment; at best they were treated with respect, but by many ‘professionals’, probably only when it suited them. To give a more typical illustration of behaviour in between the two extremes, during a discussion about whether secretaries should attend sector meetings, one male manager exclaimed: ‘what is the point, either they talk too much and waste time, or they sit as quiet as mice and never say a word.’

Finally, my middle-class London background undoubtedly affected relationships with others within ITDG. Although most staff are middle class, my private school education combined with an upbringing in London was unusual amongst Rugby-based people. Class was rarely a subject of conversation although I was asked occasionally which kind of school I went to, comprehensive or private, which in England often appears to be a slightly veiled question about class membership. One colleague surprised me by announcing that I must be intelligent if I attended a private school, and another told me (half jokingly) that until he heard about my schooling he thought I had undergone elocution lessons! Otherwise, class membership acted as an unspoken mechanism for structuring behaviour towards each other, for example, ensuring that I conformed to the private school female stereotype of speaking in a self-depreciative and polite manner, even when expressing bitter criticism.

My identification with a particular class was constituted in relationships in Sri Lanka and Kenya in a very different way. My social status was not negotiated through birth or education, because simply being an educated white foreigner, and so relatively wealthy, took precedence over considerations of private education. In Kandy, or generally with urban middle class Sri Lankans, I felt that my relationships were characterised by relative equality. Although a mere young unmarried female student or
low-grade project officer, my white, European, educated background placed me in a very roughly equal position to middle-class Sri Lankans. This was not true in relationships with project partners in Kenya. My relationship with urban-based, middle-class Kenyans was often negotiated at first through the medium of colour, since there appeared to be a greater power imbalance constituted by being white/black than I was aware of in Sri Lanka. For example, one colleague told me that one of the most useful aspects of working with white development experts as a black African is that the racist stereotypic image of whites as efficient, honest, competent professionals usually collapses.

My relationships with potters, during interviews and while living in the potter village, were more unbalanced in terms of power. In Western Kenya potters tended to assume initially that, like most white development agency staff, I would bring financial assistance. When I proved hopelessly stingy as far as money was concerned, and it was obvious that I was not a technical expert, some potters asked what it was that I could bring. I usually said that I was there to find out their views on the project, so that I could make recommendations based on their demands, but I suspect that they assumed my visits were arranged to ‘check up’ on their work. I got to know a few potters quite well, but always felt considerably constrained by the fact that I could not speak Dhuluo. In the first group I met in 1989, Keyo Women’s Group, I established a relaxed acquaintance with several English-speaking women. In the new groups, however, I never met the same people more than thrice, and found that a polite distance was maintained. During the first visit to one group, the Chairlady horrified me by announcing: ‘did you know that you white people are the children of God.’ To accept it would have confirmed the statement in her eyes; to deny it would would have been read as Christian humility.

My foreignness in the Sri Lankan potter village was sufficiently interesting to draw visitors from up to five miles away. It also created much attention for my household, and in some instances extremely unwelcome responses from jealous neighbours, and once from the JVP (Janata Vimukti Peramuna or People’s Liberation Front) (see section 1.2). I note that in writing up my first experience of fieldwork in India, I declared naively that in order to fit into the community I ‘refrained from smoking, drinking and noisy, unrefined behaviour in public places’ (Crewe 1985:12). In Sri Lanka I did the same for different reasons. Younger people and women, in particular, seemed very
timid in my company to begin with. In order to counter my strange and frighteningly independent image, not only did I do what women should do (wear a redhdha, collect water and firewood, sweep the house, and so on) but I also gave up drinking alcohol and smoking. At the same time, I decided that I could only be part of the community as an outsider. Rather than denigrating this position and implying that a failure to conceal ‘otherness’ compromises ‘participant-observation’, I let cultural differences emerge continually so that we could discuss them explicitly. If anything, the more we discussed cultural differences, the more my extended ‘family’ and neighbours in Boranama and I understood about our respective historical and social context, and the more the ‘otherness’ faded from both sides.

Nevertheless, as a foreigner I received an uncomfortable amount of overt deference, if not fear, at times from all strangers in and around the village, though thankfully less from those I got to know well. Evidence of my wealth was openly discussed, since not only had I flown from the UK at great cost, but also I had a car. Although this interfered with being treated as an equal, in some ways it was less awkward than Kothari’s experiences in Gujarat, India (1990). As an unmarried black woman, who did not always know how to behave ‘correctly’ because she was British, male farmers did not treat her with particular respect. In order to ensure their co-operation, she had to ‘play down’ her political sympathies (ibid:37). In contrast, as a university educated, white foreigner, I was assumed to hold important knowledge. Consequently, during conversations I never refrained from voicing my opinions, unless I thought they would offend on moral grounds (for example, I held discussions about sex only with very close female friends). On the other hand, the villagers marvelled at my (English) family for letting me, as a young woman, travel on my own, and fretted about my safety night and day. My classificatory ‘mother’ took responsibility for protecting me, and would

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7 Although the latter was extremely difficult, and sometimes I would have to drive into town on the slightest pretext for a ‘cigarette break’, I was not too concerned with the ethics of dishonestly adjusting my behaviour, since I was grateful to be forced to break my nicotine addiction!

8 I would explain that the British government paid for all my expenses, but they would quite rightly point out that having access to such funds in itself made me a rich person. Although I was unhappy about having a car due to the ostentatious display of wealth, it was necessary for practical reasons. I had been waiting in Kandy for the bus strike to finish, and there seemed no prospect for a settlement. Furthermore, since the JVP instigated hartals (strikes) on buses at less than twelve hours notice, with death threats for anyone who disobeyed, I decided it would be safer to have my own transport.

9 She was also unique in openly teasing me, usually with a mixture of affection and exasperation, about being astonishingly ignorant, bad at speaking Sinhala, and always reading or writing.
never let me leave the immediate space around the house, initially without her, and later, without at least one of the boys of the household.

In some ways I found living amongst potters very comfortable. I had no direct responsibility for anyone else, I was in an unabashed, lowly position of ignorance about their world from which I could only climb, and I was a source of entertainment to the people who were teaching me. On the other hand, Rabinow has pointed out that it can be easier to write about powerful people rather than ‘giving voice’ to those who are supposed to be under-represented or vulnerable (1986:259). My proposed role as researcher was originally to study the impact of a project on producers, with a view to putting forward their perspectives to project staff. I was uncomfortable with the idea that my role as an intermediary would be merely a substitute for planning with the potters rather than for them. I suspected that it could even allow project staff to claim that since beneficiaries had been consulted by a researcher, it was not necessary to base further plans on their views.

I am not saying that I could never have ‘understood’ the position of potters. In fact, I do not believe that it is even necessarily more difficult for an ‘outsider’ to understand the culture of ‘insiders’. Firstly ‘us’ and ‘them’ are socially constructed within relationships and not to be found as observable, objective facts. They arise out of the perception of similarities and differences from the position of the observer, which will be shaped in part by whether s/he is an outsider or an insider. When Kothari states that black women’s interpretations of their own situation are more ‘legitimate’ than that of white, I think the concept of legitimacy needs elucidation (1990:3-4). Whereas whites will not understand race relationships in the same way as blacks, because they experience the black/white relationship in different ways, I would not say that blacks have access to more objective knowledge. I think the importance of legitimacy arises not in understanding or interpretation but in the area of political control. A white will not be an appropriate person to represent blacks politically, any more than a man would be any good at representing women. On the other hand, I would consider Barbara Cartland highly unqualified to ‘represent’ my viewpoint as a woman. Belonging to any particular social category is no guarantee for legitimacy. It may be that if women need a political representative, they will choose a woman because she has particular experience in the practice of being classified within the same social category. However, in my
view, membership to a particular social category should not automatically imbue your opinion with a special status.

I have implied that I was more comfortable in the oppositional role that emerged while I was employed by ITDG. This was partly created by my lower social place in the organisation, defined in opposition to the more powerful managers, and also by the different explanatory schemes used by social scientists and engineers. Most of the ITDG engineering staff I worked with behaved according to a model of development that portrayed a combination of technology and a respect for traditionalism as the best solution to poverty. Meanwhile, as a social scientist, I was interested in the role of ideology and material relations in the construction of power relations. During my time at ITDG my worldview, through the practice of working for technology projects, shifted away from an interest in ideology to a focus on power and materialism. I began, through my relationships with others, to interpret the world around me through a ‘functionalist’ filter. In the abstract I invented conspiratorial motivations for any actions, while in practice individuals never strictly obeyed my generalised assumptions about human nature. For example, in my mental constructions, consultants appeared to structure their behaviour entirely in order to secure further contracts. In practice, individual people refused to do consultancies, or did them because they were asked to, or did them because they wanted to change a government’s policy, or for any number of other reasons which could not be easily reduced to simple material-based rules.

Although I enjoyed the oppositional role while I was there, as I began writing up my research the role of critic became harder. As I unravelled more and more of my own invented theoretical models, I realised that my oppositional position was more social fiction than objective fact. The more I recaptured a sense of people responding to relationships with others, rather than to inanimate objects acquired with money, the more I remembered that I should contextualise my own authorship in terms of relationships. For example, I wanted to portray my critique of Schumacher within the context of my personal perspective as a woman, as someone who questions the primacy of technology, and as someone observing his books from a distance of over two decades (see chapter 2). It becomes laborious, however, to account for even a small proportion of the textual stance on every page. Therefore, in the role of critic I
am pleased that my informants can argue back, and apologise to them if they do not always know where I am ‘coming from’.

Finally, in commenting on my relationships with informants, and though this may be a post hoc rationalisation, I express the hope that my research addresses an omission pointed out by Robertson:

Anthropologists delight in telling each other that no behaviour is more exotic than our own, and that beyond our enthusiasm for faraway places and peoples is the challenge of explicating the world in which we ourselves live. If this is a serious anthropological interest, it is one we have gravey neglected... A critical self-awareness is impaired by the fact that social scientists themselves are deeply involved in devising and implementing plans: those who are best placed to observe and analyse are inhibited by their own engagement in the processes of development (1984:304).

1.2. Staying in Sri Lanka

My original research proposal, written for the purpose of applying to the Economic and Social Research Council by Dr A. Good at the University of Edinburgh in 1987, stated that I would carry out fieldwork with the Potter community of Sri Lanka.

The student will investigate the socio-economic impact on the Potter community of Sri Lanka of the ITDG stoves project, whereby potters are being trained by the Ceylon Electricity Board to manufacture a more efficient ceramic cooking stove, introduced by ITDG to help solve the national fuel-wood crisis. The research will examine the degree of success in implementing the new technology, and assess its effects on the domestic economy, social relations and marketing strategies of the approximately 8,000 Potters in Sri Lanka. Actual manufacture is done by women and marketing by men, yet the CEB training programme is directed at men, on the assumption that they will disseminate this knowledge efficiently to their wives. One of the principal aims of this research will be to investigate the validity of this assumption.

As with any research proposal, I found that the situation was rather different once I reached my place of fieldwork. The ceramic cooking stove made by rural potters was introduced by Sarvodaya and not ITDG; and the latter was not involved in the rural project in any way. Due to substantial land clearances, there was no immediate

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10 As Talal Asad pointed out: ‘for criticism to be responsible, it must always be addressed to someone who can contest it’ (1986:156).
11 When referring to the Potter caste, I use a capital P, while people who make pots are described as ‘potters’ with a lower case p.
12 Sarvodaya Shramadana Sangamaya is a Sri Lankan non-government organisation working for integrated rural development. See section 5.2 for more details.
fuelwood crisis; though, a shortage of fuel was predicted for the 1990s. There were 5,483 pot-making potters, according to a census in 1981, and although the number may have increased by 1987, the figure of 8,000 is likely to be an exaggeration. Actual manufacture of stoves and pots is shared by men and women, with the former playing a larger role in pottery work, while the latter are responsible for almost all of the household work.

My fieldwork was planned in two phases. The ‘social-economic impact of stove production on Sri Lankan potters’ was to be the subject of a preliminary three month study. Once I had returned to Britain, to write a report on this survey for ITDG, I then intended to return to Sri Lanka for 18 months, participant-observation fieldwork to compile an ethnography of one potter village. Initially, it was proposed that a potter village in Hambantota should be my place of short- and long-term fieldwork. When I reached Sri Lanka, however, my supervisor at the CEB in Sri Lanka, Mr Amarasekera, decided that Kandy would be a more appropriate district for two reasons. During 1988 the militant action of the Janata Vimukti Peramuna (JVP), and counter-action by the government forces, had steadily increased in Hambantota District, making the area potentially unsafe. Consequently, the stoves programme in the central districts was further advanced, since the first activities were started in Kandy by Sarvodaya in 1979.

Consequently, my focus shifted from southern to central Sri Lanka. From July to September 1988, I stayed in a guest house in Kandy, and travelled to potter households in Central Sri Lanka with my interpreter and research assistant, Mallika Rajapakse. We visited 22 villages in 5 districts, trying to take considerable regional, and even local, variation into account. The villages were located in six different administrative districts, and the following number of households were visited in each: Kandy 17, Kurunegala 9, Kegalle 6, Hambantota 5, Ratnapura 3, and Matale 1. The interviews in Hambantota were conducted to gather only general information about the pottery and

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13 The leader of the JVP was originally from the town of Matale in Hambantota District, and was reputedly based in that area at this time.

14 Mallika was studying part-time at the Open University in Polgolla at the time, and was contacted through Sarvodaya Kandy District Headquarters. The amount of information I gathered during these interviews can be largely attributed to her skill as an interviewer and interpreter. Although inexperienced in such work, and not completely fluent in English at the beginning, she was sensitive, tactful, and respectful to informants. We were rewarded with incredible hospitality and patience, candid and outspoken discussions, and many enjoyable days spent in people’s homes and pottery workshops. I found her style an interesting contrast to a sociology graduate who interpreted for me during fieldwork in 1984 in a Pahari village in India, and who spoke impeccable English but often answered the questions himself rather than putting them to the informants (Crewe 1985:11).
stove industry in the area, and the material was not included in the subsequent socio-economic survey of potter households.

Informal interviews were conducted for between 30 minutes and 7 hours in each potter household, over a period of up to 2 days. Members of 36 households were interviewed for the survey, 9 were revisited, and of those, 5 were visited more than twice. We talked to 85 household-based potters, 16 potter labourers, and 66 potter household members (mainly young adults and children) not engaged in pottery or stove production. 28 households are situated in large Potter villages or communities, and 8 reside in multi-caste villages with few other potter households. A wide cross-section of potters was interviewed, including: women, men, children, elderly potters, employers, labourers, assistants, pot-makers, handicraft-makers, stove-makers, combination producers, and households with extremely varied income levels, ranging from a monthly per capita income of approximately Rs.120 to Rs.2,000. In addition to talking to potters, we held discussions with ceramic retailers, wholesalers, pottery cooperative managers and workers, Sarvodaya staff, improved cookstove users, U chula users, CEB staff, District Co-ordinating Officers, and officials in the Department of Small Industries.

Chambers has warned about the bias of rural development ‘tourists’ and researchers who are urban based, short of time, and concerned with only one or two aspects of a project (1983:13). Appraisals and evaluations usually focus on places directly involved in the project, which tend to be urban or near to the road; and on those people directly affected, who are usually wealthier, male and leaders of the community. Evaluators often conduct their research during the day and in the dry season, avoid seeking out the poor, and are confined to the concerns of their professional specialisation (ibid:13-23). Fortunately, this survey could be arranged so that we talked to people in rural areas, in villages up to three miles from the road, during the wet season, and at all times of the day. The people contacted were men, women and children; producers and non-producers of the new technology; and from a range of households of different economic status. As two ‘low-powered’ young, female students, travelling by public

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15 That is potters who combine stove-making with the production of other clay products, see section 5.4.
16 U chulas are simple, cheap, pottery, wood-burning stoves made in the shape of a U by potters, and used mainly in rural households in Sri Lanka and India. See section 4.1.
17 Since potters cannot work as intensively during the rainy season, for them it is a relatively convenient time to be interviewed.
transport with no project staff, and with far more time than most development researchers have for evaluations, it was relatively easy to avoid most of the biases of development 'tourism'.

During the course of the interviews with potters we compiled three ‘checklists’ of questions, to ensure that we acquired information about certain subjects from all informants. The first was a summary of all the main topics we hoped to discuss during the day (see Appendix 11.4). The second and third were lists of questions for (1) stove-makers and (2) pot-makers, which would give us the minimum amount of information necessary for comparing the socio-economic position of different households. As a result the income levels of 31 stove-making, pot-making, or stove-and pot-making production units were estimated. When Mallika wished to ask questions, she did so and interpreted both her question and the respondent’s answer. After about 10 visits to potter households, we hardly referred to the lists, since between us we could easily remember the questions. Discussions were considerably more flowing and interesting when we did not follow the questionnaire checklist, partly for the following reasons:

- An inflexible, structured questionnaire does not allow for transgressions that initially appear irrelevant, but in fact may prove to be important. For example, one male potter when talking about types of pots drifted off on a tangent about the importance of clay pots in Buddhist rituals. It then emerged that he wanted to become a Buddhist monk, and was making stoves in order to provide for his family in advance.

- The checklists would have had to be impossibly long to take proper account of the enormous variability of circumstances between communities (e.g. access to resources and marketing outlets; production roles; wealth; relationships with the different CEB officials and so on). In

18 Mallika translated the questions into Sinhala for herself so that she too could easily check that all the topics and questions had been addressed.

19 The stove-makers’ list covered questions for those producing: (1) stoves only, or (2) both stoves and other clay products together. ‘Pot-makers’ is a slightly inaccurate abbreviation for potters who make any clay products other than new improved stoves, which might include six different sizes of cooking pots, water and food storage pots, oil burning dishes, dishes for cleaning food or crockery, pots for ritual use, flowerpots, moneypots, toys, lamps, drainage basins, drainage pipes, and/or *U chulas* (Crewe 1988:15). For copies of both these checklists, see Appendix 11.4.
each household some topics merited expansive discussion, while others were less complex, unusual, or important to the informant.

Finally, a formal questionnaire inhibits the individuality of both the interviewer and the interviewee. It allows less space for small talk, smiling, joking, frowning, pausing, disagreeing, laughing, new questions, drinking tea, responding spontaneously, in short the stuff of human conversation. For example, on leaving one potter, out of spontaneous nosiness and possibly not much tact, I asked why he was wearing a yantra. (a protective necklace holding mystic geometric designs and letters). He explained that it was to ward demons away from his ailing wife, and added that they had spent Rs.15,000 on medicine and astrologers to treat her illness. This revealed where much of their surplus income had been channelled, an explanation which was withheld earlier when the question was put directly in the context of their business affairs.

The experience of research as a Ph.D student is beautifully captured in Seth’s poem, Research in Jiangsu Province, where the woman being interviewed only talks about what matters to her once the questionnaire is over and the tape machine has been turned off (1985:19-21) (see Appendix 11.3, no. 1). It forcefully brings to light the power imbalance created by a questionnaire, which inevitably ensures that the interviewer is entirely in control of all aspects of the interview. S/he sets the questions, decides how they will be posed and answered, and analyses the responses away from the informant. An ‘unstructured’ discussion can be controlled by an authoritarian interviewer, or can be a more flexible dialogue in which the informant is given space to have equal control over the course of the conversation.

I noted the conversations when I thought I would have difficulty remembering details of what was said (especially when numbers were mentioned). Since most comments were addressed to Mallika, and I put the book away while confidential subjects were discussed, I doubt that my scribbling interrupted the flow. Mallika and I would consult in English about the kinds of topics we could introduce in each context, which was not understood by informants because none of them spoke English. Being a Sri Lankan and speaking Sinhala placed her in an infinitely better position to judge when people would react favourably. Even I could tell that some interviewees seemed suspicious of
our motives, while others seemed more than happy to divulge personal information about their income, expenditure, marital relationships, caste problems, and so on. As with any conversation, it was clear from people’s answers whether they wished to dwell on one subject rather than another.

Mallika taught me how to behave appropriately. We usually arrived with fruit and cake to a new household, accepted tea or fruit juice in return, but took our own ‘lunch packets’ of rice and curry each day. This allowed us to avoid rudely refusing lunch from households which we suspected could not easily afford the extra time for preparation and the expense. We would ask if we could eat our lunch under their roof, with very useful consequences. The crowds that gathered to listen to the interviews, and sometimes made people talk with circumspection, dispersed the moment we brought out food, since it is deemed impolite to watch strangers eat. To the household, we became young guests rather than officials. Thus, it served the purpose of alleviating the atmosphere of tense formality, that inevitably emerges out of the strangeness of uninvited outsiders arriving to ask questions (especially since one was foreign). Discussion after lunch was invariably more relaxed. When women seemed reluctant to talk openly in the presence of others, Mallika usually found an opportunity for us to talk away from others, which probably would not have been possible if either of us had been men.

After my return to Britain in September, I wrote a report on this fieldwork entitled: Sri Lankan Potters. The Socio-Economic Impact of the Sri Lankan National Fuelwood Conservation Programme on Stove Producers (Crewe 1988) (see section 1.4). I submitted this to ITDG and the CEB, and prepared to return to Sri Lanka. By December 1988, however, the political situation had become graver in Sri Lanka, following increasing resentment at the presence of the Indian army in the North and East, and due to the elections planned for February. On the advice of the British Foreign Office, the ESRC decided that I could not begin fieldwork until the situation in Sri Lanka had improved. My grant was temporarily suspended, and I agreed to carry out some consultancy work for ITDG in Kenya. I evaluated a project in Western Kenya, and then carried out some ‘data analysis’ on the results of a wood-burning stove field-test survey (see section 6.2). By the end of March, the situation in Sri

20 The Indian Peace-Keeping Force (IPKF) had controlled the North and East since July 1987, when Jayewardena and R. Gandhi signed a peace agreement. See section 5.1.
Lanka seemed more stable, and so in the first week of April I set off for Colombo once again.

Whereas my stay in Kandy in 1988 had been challenging, dynamic, and fun, my second stint was a time of waiting and worrying. I was waiting (in the same guest house in Kandy) while the frequent government curfews and JVP hartals kept us from venturing beyond our doorstep. I was also waiting for the libraries and universities to open once more, so that I could borrow books to while away the waiting time. More optimistically, I was waiting for the bus strike to end so that I could travel to my chosen fieldwork village in Ratnapura District. I was worrying about all the families I knew, living in fear for all their male relatives who were being threatened by both the JVP and government forces; about whether there would be a JVP or army coup, with unknown and possibly terrifying consequences; about someone knocking on our door late at night, looking for money or, worse, for revenge or retribution.

It was an anxious and depressing time to live in Sri Lanka: a time of killing at night, charred corpses on the road side, arrest and confinement, armed robbery, and curfews - with a sinister quiet and then a sudden rumble of army tanks or noisy whirr of helicopters. By the summer of 1989, the centre of JVP operations was reputedly in Kandy District, and the government counter-offensive was led from the town. The rumours told us that the leader of the government’s forces was a policeman, whose family had been murdered in the South, and was inevitably bent on revenge. One night the JVP posted a statement saying that one Sri Lankan army personnel would die for each Indian soldier that remained in Sri Lanka. Another poster was plastered on the walls of the town at night, attributed to the police, stating that for every armed forces personnel that died, 12 terrorists and their relatives would be shot. The leader of the forces apparently believed that there were 1,000 JVP activists in the rural areas of Kandy district, so to ensure that he rid Sri Lanka of them all, during 1989 he rounded up 12,000 young men and shot or imprisoned them. Although public sympathy for the JVP had almost dissolved in central areas by 1989, most families were far more frightened of the night attacks by armed forces. It was frequently claimed that the JVP had political reasons for violence, even if they were wrong, whereas the armed forces were motivated by crazed fear and retribution. According to rumour, the JVP would
only take money, punish,\textsuperscript{21} or shoot those who had committed wrongs; the police and army would shoot thousands of innocent men in revenge simply because they lived in areas of reputed JVP support.\textsuperscript{22}

Ironically, Hambantota would have been a safer choice than one of the Central Districts after all. The first Kandyan village I thought of was dismissed when it became obvious that it was in the middle of a JVP heartland. The second village I chose, in Kurunegala, was rejected when the family who invited me to stay were robbed and one of the women of the household raped. The third and final choice was a multi-caste village in Ratnapura District, where I had established a particularly good rapport with a stove-making potter family. After three months of waiting, reading, and language learning in Kandy, I decided to ignore the bus strike and bought a car.\textsuperscript{23} In July 1989 I made my way, during another JVP hartal, to a village several miles from the main road, and not a great distance from Ratnapura town, which I shall call Boranama.

I spend three, mostly delightful, months in Boranama. I lived with a stove-making Potter family, in a pink brick house, built with the proceeds of selling stoves to the government. While I was staying there, the household consisted of an middle-aged couple (my ‘parents’ or Amma and Thatthha\textsuperscript{24}), their daughter (my Akka\textsuperscript{25}) and her very young baby (my Putha\textsuperscript{26}), and another daughter (my Nangi\textsuperscript{26}) and her husband (my Mali\textsuperscript{27}). Next door, in an older cajun\textsuperscript{26} hut, lived the middle-aged couple’s son (my Ayya\textsuperscript{26}), his wife (my Akka\textsuperscript{27}), and their two sons (my Puththa\textsuperscript{28}). The elder daughter

\textsuperscript{21} I was given frequent examples of the JVP humiliating people as a disciplinary action for bad behaviour. Maltreatment of women and labourers were most worthy of punishment. One man at the end of our street was apparently visited by the JVP one night and told to go to a particular public place the next morning at six. He was told to wear only a towel and a sign around his neck on which the JVP had written: ‘I have beaten and mistreated my wife and shall never do it again’. He did as instructed, knowing that he would be shot if he refused.

\textsuperscript{22} Young male relatives and friends would stay in our household as a refuge from the threat of armed forces not out of fear of the JVP.

\textsuperscript{23} Before I could use it I had to learn to drive for the first time. I paid for a series of lessons, which were kindly given in defiance of the JVP hartal because we decided that a foreigner would be exempt. Judging by the ease with which I passed the test, I have since wondered whether the price of the test included a financial ‘incentive’ for the examiner to pass me!

\textsuperscript{24} Sinhala for mother and father respectively. Other kinships terms used in this section include: Akka for elder sister; Putha for son, sibling’s son, or daughter’s husband; Nangi for younger sister; Mali for younger brother; and Ayya for elder brother.

\textsuperscript{25} Although I called him my Mali, the term to describe his relationship to me is massina.

\textsuperscript{26} Woven dried coconut leaves.

\textsuperscript{27} Although I called her my Akka, the term to describe her relationship to me is nana.

\textsuperscript{28} The plural for Putha is Puththa.
A potter beating pots in Boranama, Ratnapura
was the first to make stoves, but had since married and moved to Kelaniya, and was only staying for a brief period following the birth of her son. Thus, she was no longer involved in stove production, and her elder brother was the main stove producer, with his father’s and wife’s assistance.

If I had any ‘methods’ during my stay in Boranama, they were connected to a routine which emerged gradually over the months. In a typical day I would rise at 5.30 or 6.00 am and Amma would bring me a cup of coffee from the kitchen, a separate cajun hut just next door to the house. She would tell me the early morning news or compliment me on getting fat from all the rice she was giving me. I might become aware that I was being bitten by cane bugs, a problem which no one else in the house appeared to suffer from, and perch on the very edge of my chair until Amma went away when I would swop it quickly for another. Then I would sweep the house, flinging the dust into their forested garden just in front of the tiny cement porch. The towering coconut, banana, and papaya trees hid the rest of the village, mostly scattered down the hill below us, but I could smell the smoke from the cooking fires burning wood, and hear the crunching sound of people moving about, children crying, dogs yapping, the odd radio announcing the latest goings-on of President Premadasa. After listening to the world service, and eating breakfast, (my favourite being ‘string hoppers’, pol sambol, and dhal ²⁹), I would go to the next door house and greet my elder brother and his family. We would swop news and I would return to my room to type up fieldnotes or write letters for a few hours. By mid-morning there was usually some work to do, cutting paddi in a relative’s field, walking to Ayya’s rubber plantation to collect some firewood, picking our way down a slippery path to the well to fetch water, or helping in the pottery workshop.

At midday I would walk about a mile across paddi fields and past hamlets to a waterfall. It was built so that the water streaming down a sharp slope would splash through a hollowed out tree trunk and fall from a height of about 10 feet. We would stand under the fall in the pool below, the small children naked, the women with their redhi wrapped tightly across their chests, and men with their pieces of cloth around their waists. We scrubbed ourselves with brushes made of twigs, beat our clothes against the rocks to get all the clay out, and donned ourselves in clean clothes without

²⁹ Noodles made with rice flour, chili, coconut and lime; and lentils respectively.
exposing any indecent bits of skin. The sun was usually bright and hot, except on the
odd cloudy monsoon day, so we would dry quickly as we dressed. I would usually
walk home with my Puththu who had time on their hands, since the schools were
closed, to teach me the Sinhala names of all the flora and fauna we came across. In
return, at their request, after a rice and curry lunch, I would teach them how to read and
write English and how to use my typewriter.

In the afternoon, something always seemed to be happening. It was the time of day for
endless visitors to arrive, or for Amma and I to go visiting the neighbours. Women
and children would appear from up to five miles away to see the white nona,30 always
bringing fruit or sweet dishes to eat. I would be summoned by a neighbouring family
to take a photograph of their new baby, by another to take tea, by a friend offering to
give me a pottery lesson, or by another asking me to go to the temple with them. The
elderly English teacher would often visit me; the son of the richest Potter family up the
hill would occasionally arrive with a gem mining friend; and once or twice a week an
American Peace Corps Volunteer would appear from Ratnapura town to give an
English lesson to the children.

As it got dark I sometimes sat in the kitchen and talked to Nangi, who usually did the
cooking, and helped her when she would let me. After everyone had eaten, and the
kitchen was cleaned, the late evenings were the time for discussion within our
household. Ayya and Akka from next door would always come to our house, and
other relatives would join us. We would talk about politics, cultural differences,
divorce in Europe, Buddhism, the price of food, British houses, scientific discoveries,
arguments within the village, the size of different cities, the stoves programme, the past
and present government, colonialism, relationships between men and women, and so
on. Finally, around midnight, the whole house would be locked, and everyone would
go to bed.

This routine continued peacefully, sometimes to the point of boredom or exhaustion,
until one day when the Peace Corps Volunteer and I decided to give formal English
lessons three times a week while the schools were closed.31 Although the lessons were

30 Respectful form of address for a woman.
31 They were reputedly closed by the government to prevent JVP sympathisers in schools inciting children
to join in the campaign to overthrow the government.
open to all the children in the village, I realised later that most of those attending belonged to Potter caste households. By the third lesson, according to Potters, some Goyigama adults sent their teenaged children to the class in order to disrupt it, and so a fight broke out between some of the children. After we stopped the fight, and in response to a previous invitation, the Volunteer and I visited a Goyigama household for tea. The Puthhu of my household stood above the house, apparently not daring to come close, and called to me to come home. They took us a long route back to our house, presumably to avoid crossing the land of the Goyigama household, and we were greeted by an anxious Amma who thought that we might have been poisoned. I decided that Amma was being over-protective as usual, and tried to explain that it was important for me to be able to visit all the households in Boranama so that I could understand every possible perspective on village life.

Next a rumour started up that the JVP would punish our family if I continued to organise the classes, but according to a local school teacher, the threat was likely to be a fabrication by Goyigama people. He added that resentment was provoked by a foreigner living with lower caste Potters, thereby giving them more prestige than they deserved. My family agreed with the speculation. They talked about the threat as just one in a series of episodes which were all giving vent to Goyigama annoyance at the favourable attention Potters were receiving from outsiders in general. My family, in particular, had been visited regularly by government officials for several years, and had plainly become relatively rich on the proceeds of selling stoves.

Finally, unwelcome visitors came to our house in the middle of the night to ask for money. A thovī\(^{32}\) was in action, to rid Akka’s young baby of suspected demon possession. Everyone was dozing, except the exorcist, who stood behind a table with a bamboo arch, on which he had arranged Pali texts on white cloth, plantain and coconut leaves, flowers, young coconuts, and little oil-burning lamps. At two in the morning, we were woken by people knocking at the door. Eight men came into the house, each wearing a black balaclava and carrying a gun or machete, and they introduced themselves, rather politely as the People’s Liberation Army. We lit a kerosene lamp which cast shadows of the gunmen against the wall. One sat down (I wondered whether he would be bitten by cane bugs) while another passed a sticker to

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\(^{32}\) Sinhala for exorcism.
me which said: ‘Indian Imperialists Out’. They asked Amma for Rs. 200 but she refused, and simply glared at them defiantly. They asked me for Rs. 500, and I was so relieved that they only wanted money, that I happily parted with the equivalent of about £9.

Even before this visit from the robbers, I had already decided to leave the village, but the intrusion confirmed that my choice was a wise one. The previous week I had met an ITDG member of staff in Colombo, who offered me a post in the stoves programme at ITDG in Rugby. After a few days of discussion with the family in Boranama, we decided that I should accept for the following reasons: the JVP activities in the area were becoming more intense, and threats or visits from them were likely in view of my perceived relative wealth as a foreigner and my links with the government; the stoves programme I was studying had been stopped by the CEB (because it was considered too dangerous for their staff to drive in government vehicles to remote rural areas to collect stoves); and I felt that the prospect of writing a conventional ethnography about the social life of potters would not fulfil my, the potters, or ITDG’s direct interests. By this time I had spent one year producing reports for ITDG, and writing articles for their journal about stoves, and was impatient to become more actively involved in project work. Also, I had the impression, rightly or wrongly, that any further comments on the stoves programme from the potters’ perspective would be ignored until the recommendations I had already made were put into practice (Crewe 1988:57-60). I decided that if the potters’ perspective needed to be expressed in more detail, it would be achieved with greater effect if the potters themselves were given some representation during project planning (see section 1.1). Finally, I suspected that it was not a study of the impact of technology on beneficiaries that was needed, but a study of the relationship between all the actors in the ‘development process’. I hoped that understanding the social behaviour of the technology ‘experts’ might be as, or even more, useful to the intended development beneficiaries in the long-run.

33 It appeared that neither the armed forces nor the JVP were particularly politically interested in foreigners, but their perceived wealth made them potential targets for raising funds. This idea was not only uncomfortable for me, but could have been dangerous for my family.
1.3. Working in ITDG

During my main job interview at ITDG in Rugby in September 1989, one of the panel referred to my particular interest in women:

Panelist: 'I notice from your application that you are interested in women. What do you think about ITDG's policy on gender?'
Me: 'The only reference to women in my application arises when I mention the evaluation of a women's potter training project, which I carried out for ITDG in March 1989. Actually, I do have an interest in gender relations, which is probably inevitable for most women working in the field of development, because they are more likely to notice that women are still being ignored. Anyway, I thought that ITDG didn't have a policy on gender.'
Panelist: 'But you're still prepared to work for us?'
Me: 'Yes, I see it as a challenge rather than something which would give me a nervous breakdown.'

I find at least two aspects of this exchange interesting. My defensiveness about being concerned about women, and the claim that most women working in overseas development are interested in gender relations. My indignation was fired by assuming that the interviewer had guessed that I was interested in women merely because I am a woman. This was probably unjustified on my part. The panelist may have read my initial report on Sri Lanka, a large proportion of which dealt with socio-economic aspects of gender relations in potter households, and so had good reason to suggest that I was interested in gender. S/he may have thought I wanted to talk about it, and had to introduce the topic somehow. This did not occur to me at the time because I had assumed that feminism was threatening to almost all ITDG staff and had not made allowances for exceptions. The claim that most women working in development must be interested in gender, which is probably not even true, reveals how much I am concerned about feminism. I could not believe that any woman, faced by depressingly frequent sexual discrimination against other women, could be anything but keenly involved in feminism. On the other hand, I am disappointed when I find that I am predictably practising according to my own mentally constructed norm, and giving gender primacy over all other structures.

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34 It would be more accurate to say that the majority of those working in gender in development are women rather than men.
In September 1989, I accepted the job of socio-scientist working for the Fuel For Food Programme (FFFP) in the Agro-Processing Sector of the Operations Division in ITDG Headquarters, Rugby, UK (see Appendix 11.8 for a copy of my job description). Working at ITDG was a hugely enjoyable fifteen months, spent talking, travelling, writing, giving lectures and presentations, reading endless memos, arguing about development policy, and attending and organising meetings as if they were the guaranteed answer to every problem. For most of the time I was working in Rugby, but I also made five major trips outside Europe (including one as a consultant before I was a permanent employee) to:

- Kenya (20 February to 19 March 1989)
- Kenya (21 November to 16 December 1989)
- Nepal, India, and Sri Lanka (16 February to 1 March 1990)
- USA (17 June to 30 June 1990)
- Tanzania and Kenya (21 July to 9 September 1990)

My informants during my time at ITDG can be divided very roughly into four groups: beneficiaries, staff in recipient organisations, technical ‘experts’, and staff in donor organisations. The beneficiaries, intended beneficiaries or non-beneficiaries I spoke to in India, Kenya, Nepal, Sri Lanka, and Tanzania included: stove producers and non-producers in same community, stove users and non-users in same community, and stove distributors and retailers. In Africa and Asia I also had face-to-face contact with individuals in commercial agencies, research institutes, universities, and staff in recipient government and non-government organisations based in: Guatemala, India, Kenya, Nepal, Sri Lanka, The Philippines, Somalia, Sri Lanka, The Sudan, Tanzania, and Zimbabwe. I worked on a regular basis with staff in five main project partner agencies in Sri Lanka, India, and Kenya. These were: the Ceylon Electricity Board and Sarvodaya (Sri Lanka); the Centre for Appropriate Technology and the Gandhiniketan Ashram (India); and the Foundation for Woodstove Dissemination (Kenya). I also worked regularly with expatriate technical ‘experts’, researchers and consultants from

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35 Galbraith is apparently highly sceptical of the value of meetings: ‘Meetings are a great trap, soon you will find yourself trying to get an agreement and then people who disagree come to think that they have the right to be persuaded. Thus they acquire power, thus meetings become a source of opposition and trouble. However, they are indispensable when you don’t want to do anything’ (as quoted by Shaffer 1984:155). To my mind, he is going too far: meetings are necessary for taking team decisions, but will only serve a useful purpose if organised efficiently and democratically.
Participants at an international seminar on monitoring and evaluation, held in Arusha, Tanzania, July 1990

ITDG office in Rugby, UK, with two stoves members
France, Germany, the UK, and the USA, and had meetings with Finns and Swedes. The main American and European organisations I worked with included: Association Bois-De-Feu (France), East-West Center (USA), GTZ (Germany), and ITDG (Sri Lanka, Kenya, UK). Finally, in the category of donor, I had discussions with staff from Christian Aid, ESMAP (World Bank), FAO, FINNIDA, GTZ, ITDG, ODA, UNDP, UNIFEM, USAID, WHO, and WID in the World Bank.36

My secondary sources of information, aside from published material found during my year of preparation at Edinburgh University and in Sri Lanka, were provided by a substantial amount of external and internal correspondence. The internal mail included: ITDG policy documents; documents about working groups; group, sector, and programme plans; project proposals, appraisals, reports, and evaluations; requests for information/advice; documents requiring comments or editing; news about other departments; papers on personnel and union issues; and so on. The external mail usually concerned particular projects on which I worked, requests for information/advice, invitations to seminars, journals, articles, magazines, and newsletters. Partly because I was an assistant editor on Boiling Point, ITDG’s journal about stoves, I also received many papers and articles specifically on the following topics: biomass fuel and health, development policy, energy, deforestation, gender and development, improved stoves, participatory development approaches, particular stoves projects, market research, monitoring and evaluation, and social science methods.

While based in Rugby my role was to be responsible for ‘social science’ inputs into the work of the FFFP team (see Appendix 11.8 for details). Social scientists were seen as staff who should be ‘experts’ in so-called ‘project cycle methodologies’. The cycle relates to the standardised route that projects follow from planning (identification and appraisal or feasibility assessment), to implementation (including monitoring), and finally to evaluation. The actual ‘technical’ assistance or training is seen to be in the domain of the ‘technical’ people, that does not generally include social scientists,

36 The full names of the organisational acronyms mentioned in this paragraph are as follows: ESMAP is the Energy Sector Management Assistance Program, World Bank/UNDP; FAO is the Food and Agriculture Organisation of the United Nations; FINNIDA is the Finnish Development Corporation; GTZ is Deutsche Gesellschaft für Technische Zusammenarbeit; ODA is the Overseas Development Administration in Great Britain; UNDP is the United Nations Development Programme; UNIFEM is the United Nations Development Fund for Women; USAID is the United States Agency for International Development; WHO is the World Health Organisation; and WID is Women In Development. For future reference acronyms are listed in Appendix 11.1.
whereas the specialist expertise of the latter relates to methods for collecting information. I was employed to do, or train 'project partners' to carry out, socio-economic and economic fieldwork, including an investigation of the marketing aspects of programme work.

At the time the job description was written the programme was advocating that commercialising stove programmes was the most effective path to sustainability, which partially accounts for the emphasis on economics and marketing. ITDG has had economists working in Operations for much longer than social anthropologists. Their work is assumed to be very similar, with economic concerns apparently providing the cornerstone of all social science disciplines, while anthropologists are perceived to take greater account of social and cultural matters. Although ITDG policy explores key political issues arising out of distribution of resources, within Operations there is almost no acknowledgement that social scientists are also concerned about political processes. As a social scientist, you are expected to be a 'custodian' of moral values, ensuring, for example, that projects always benefit the poor.37 This was conceptually separated from politics because it was only access to, and not control over, resources which was allowed to be discussed during project work. If the poor did not have access to a piece of technology, the solution was not to look at the politics of poverty, but to make the technology cheaper. Consequently, it was wrongly assumed that as a social scientist I was an expert in all the appropriate data collection techniques for planning, monitoring and evaluation, but, on the other hand, that I did not need to consider political relations within the context of project work.

If I had any 'methods' during my stay in Rugby they emerged, as in Boranama, through participating in a routine that was at least partly of my making. I rose each morning at 7.30 am in order to get the 8.20 am train from London Euston to Rugby. Commuting each day from London, though tiring, had its rewards. Though I was not always aware of it at the time, the other ITDG commuters were important sources of information. All but one worked in other departments, and since there was little formal co-operation between one Operations Programme and another, let alone those in different sectors or divisions on a separate floor, I would not have had this regular contact with people outside the FFFP if I had not commuted. In particular, I talked

37 This phrase has been adapted from Fruzzetti's idea of women acting as 'custodians of symbolic values', in contrast to men accruing status through the acquisition of consumer goods (1985:85).
regularly with staff from the Production Resources Unit, Development Education, the Press Office, Fundraising, Minerals and Shelter, and Agriculture and Fisheries (see section 3.1). I heard the latest news from their respective departments, and absorbed some of the diversity of opinion from different parts of ITDG.

I arrived in the FFFP office at 9.25 am and would greet each person, ensuring that my presence was acknowledged. Then I usually made myself, and any team member who wanted one, a cup of coffee. It was considered lazy and impolite not to offer to make coffee for everyone in the office, and the task was shared amongst every member irrespective of their rank. In the FFFP ‘open-plan’ office, for most of my fieldwork eight people 38 sat at the same desks each day around the edge of the room. There were two secretaries, three engineers, one ceramicist, one management specialist, and one social scientist. I would sit at my desk, in between a secretary and an engineer, and banter with the person on my left, until one of us told the other to be quiet, and we would settle down to un-finished tasks from the day before. I might be editing an article for the stove’s journal, or commenting on a proposal for an extension to the Sri Lanka project, or phoning GTZ to discuss arrangements for our joint workshop, or reading a newsletter about energy in India. By mid-morning the post arrived, and I would read it rapidly and divide the mail into two categories: immediate response and pending. On Mondays, at 11 am, we would all move our chairs into the middle of the room and hold a weekly team meeting. We would hear about a team member’s trip, if they had recently returned from overseas or from an important meeting; discuss group, sector or programme matters which needed a consensus response from the whole team; and plan our work for the next week.

At lunchtime I would go to the nearby shop and buy a sandwich, go for a walk into town, or meet someone for lunch. The team often went out for lunch after the Monday meetings or whenever we had visitors, and sometimes I would meet ITDG staff from other departments in the pub. If someone was leaving the organisation, then everyone was invited to meet at lunchtime in their office to give presents, and then in a pub to say goodbye. Far more often, since the train from London brought me to work 25 minutes late each morning, I would read the newspaper for a few minutes and work through the lunch-hour.

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38 One was part-time and so in the office only two days a week.
The afternoon, from 2 pm until 5.20 pm, always seemed to pass very quickly. For most of the time I would be at my desk, editing, phoning, commenting, drafting, reading and so on, but attending meetings away from my desk with non-team members consumed a fair proportion. For example, during 1990 I spent almost one quarter of my Rugby-based working time attending meetings outside the FFFP office,\(^{39}\) especially to review the work of the sector, talk to visitors from outside ITDG, to attend union meetings, hear progress reports on the Management Information Systems Project, and contribute to the Gender Working Group (see chapter 3). I played a particularly active part in the latter, which involved not only working group meetings, but sub-group meetings of a smaller committee as well. At 5.20 pm I would normally throw a few papers into my bag, and run to the station in time to catch the 5.29 pm to Euston. I would either continue to work, or more usually, talk to the other ITDG commuters, while the train took us across the flat and green landscape of Warwickshire, Northamptonshire, and into Middlesex. It would be late, more often than not, and so I would reach home by 7.30 pm if I was lucky. This routine was broken on Fridays, when I would work at home in London, and remain accessible to ITDG by phone.

Soon after I arrived, I attended a union\(^ {40}\) meeting which carved a large chip out of my naive perception of ITDG as a bunch of romantic idealists who treated each other as one big happy family.\(^ {41}\) On the other hand, I was also dazzled by the intense commitment

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\(^{39}\) During 1990 I spent 120 days in Rugby (excluding days spent working at home, training, on overseas trips, and on holiday) and worked for about 7.5 hours per day. I have recorded in my diary that I spent at least 218 hours in meetings during those days, which amounts to just over 24%. This does not include brief meetings held spontaneously at short notice, and so not noted in my diary.

\(^{40}\) ITDG’s union is Manufacturing, Science and Finance, whose General Secretary is Ken Gill.

\(^{41}\) Following the job grading scheme, salary ranges were calculated for each grade by the management. The union, which had sole negotiating rights with management, favoured a smaller difference between the highest and lowest salaries than the management was proposing. The union representative prepared a proposal for discussion which was put to the members for approval prior to taking it to the management. However, when a union vote was taken, the management position was accepted, even though almost all the voters in favour would receive a lower salary in relation to the top grades. Even stranger, many of the voters did not even belong to the union. Since the membership of the union was rumoured to be just below 50% of total staff (in fact it has always been just over 50%), and there was a concern that the union’s position would not be considered ‘representative’, the members accepted this vote. Only one union member complained. He pointed out that the union was there to represent its members, and there were line-management channels available to everyone else. If voting was open to all staff in the group, then there was little point in having a union, and a staff association would be more appropriate. I was not so surprised by the defence of higher salaries for senior management. I did not agree with it. I felt that as a potentially idealistic, charitable organisation ITDG should attract managers who were morally and politically motivated, rather than primarily concerned about financial remuneration. I thought that building ITDG’s reputation as an effective and radical development agency would have acted as a greater
of most ITDG staff to their work, and to what they saw as ITDG’s appropriate technology vision. A few of the staff were committed Christians, which they saw as an important part of their attitude to work, but most appeared to derive satisfaction from ‘doing something useful’ for secular reasons. A large proportion of ITDG staff, especially those travelling overseas on a regular basis, were single and did not have children to look after. Whether the substantial amount of time and energy taken up by work prevented people from developing long-term relationships outside work, or their relationships could not cope with the strain caused by work, or single people were attracted to travelling and working in development in the first place, is difficult to say. A pattern is evident in many overseas development agencies, however, whereby many of the travelling staff are not as socially integrated into their own societies (e.g., through marriage, long-term relationships, or large social networks) as those who stay in one place.

There was no patterned practice when I made overseas trips for ITDG, because the circumstances in each country were radically different. The trips to Europe and America usually consisted almost entirely of meetings with other ‘technical experts’ or donor representatives. In most instances I was holding discussions with people working in the field of household energy and improved stoves, but in the USA, Finland, and universities in the UK, I also attended meetings or gave presentations on the theme of gender and appropriate technology. During meetings with the large aid agencies, as a representative of a small non-governmental British organisation, I was seen to be in almost no position of power at all. The energy-related meetings were usually dominated by men, and on some occasions, judging by eye contact and the direction of responses, comments were usually directed to men. On the other hand, I worked on a regular basis with people from Germany’s largest aid agency GTZ, where men and women alike treated me with far more respect than I deserved. Other individuals were also exceptional and even seemed prejudiced in favour of women, perhaps in an effort to counteract the discrimination they usually receive.

Not surprisingly, there was an enormous difference between my relationship with expatriate technical ‘experts’, and indigenous project staff. I have mentioned that
whereas I was treated as socially inferior to the touring white, male, technical ‘experts’, and relatively socially equal to black, male or female, middle class, Sri Lankan urbanites, this was merely my perception, taken out of the context of institutional power structures (see section 1.1). Later in this thesis I describe how I was imbued with an obvious position of power when representing ITDG as a donor offering funds (see chapter 9). In addition, within ITDG my knowledge as a social scientist was assumed by decision-makers to be more powerful than that of my African or Asian counterparts. While the latter two groups did not necessarily agree with this, there was no way for them to assert their perspectives because project management was entirely controlled from Rugby (see chapter 8).

After October 1989, my contact with ‘beneficiaries’ was shaped by my position as a project officer, and visiting ‘expert’ on stove projects, rather than researcher. In the countries where I already knew many of the potters involved in stove programmes, Kenya and Sri Lanka, I could act with considerable independence. In Kenya I could drive myself to visit the women’s groups, and though it was not ideal to arrive in a car, the transport in the rural areas was so infrequent that I could rarely rely on it. I would travel with two Kenyan ITDG staff, one ‘officer’ guiding and translating and one trainer from a women’s potter group to advise on technical matters. We would ensure that we had enough time to talk to women’s groups at their convenience and for as long as they wished.

A difficult dilemma confronted the project officer every time we visited a group. If we wished to be considerate, and to allow the stove makers to gather in the place we were visiting, we should announce our arrival at least a day in advance. On the other hand, if we gave a warning, then households would be likely to insist that ‘something must die’ and be offered to us as a feast. The food would be offered in the spirit of hospitality, and to refuse it would be impolite, but cooking for visitors would become embarrassingly expensive if food was accepted every time project staff made a visit. In my experience, the project officer usually decided that we should appear unannounced, which meant that fairly often we could not find the stove-makers at all. On several occasions people persuaded us to accept food anyway, and on one day, when we heard
a chicken screech in the back-yard, we realised that a fresh lunch we could not refuse was being prepared for us at a cost of at least Ksh.50.42

After October 1989, I always visited potter villages in Sri Lanka on my own, since I could easily travel by bus and could speak enough Sinhala to get by. Nevertheless, I rarely had direct contact with beneficiaries. The social scientist inputs in Sri Lanka were the responsibility of the Sri Lankan staff, and so I only visited potter households out of working hours and to maintain links with the friends I had made as a student. I stayed in Boranama for one weekend and discovered, to my horror, that three of the gunmen who had visited us had been tracked down to the neighbouring village and shot by the army.

In the countries that were relatively new to me, that is, Nepal, India, and Tanzania,43 I made short visits to stove producers and stove users with project staff. In Nepal and India the accompanying project staff were mainly male, so discussion with women stove users was restrained. In any case, since visits to people’s kitchens did not usually last for more than an hour, we did not even have time to break through the barrier of formality between strangers, which is often even more acute when a foreigner is lurking awkwardly in the background. During one field-trip in Nepal, four foreigner visitors and two Nepali project staff were driven a total of ten hours in one day, through sheets of monsoon rain, with the jeep heaving and skidding over the deepest, muddiest ruts I have ever seen. Occasionally, we would all troop into someone’s kitchen, take snapshots, ask questions about the advantages and disadvantages of their new stoves, make a dash for the vehicle, and bounce along to the next village.

In the three projects I visited in India, the pace was more leisurely and the touring groups rather smaller, but the interviews held with stove producers and users were also fairly superficial. Of course there were exceptions. One morning, I became enrapt in a particularly lively discussion about the past and the future with a 65-year-old woman potter, even though we were communicating through an interpreter. Since I was ‘almost a family member’ within a few hours, she offered me rice. I refused,

42 At the time Ksh. 50 was worth about £1.
43 Although I had been to both Nepal and India before as a student, I had only been for a brief holiday to Nepal and stayed in Himachal Pradesh in North India (as opposed to Tamil Nadu, at the opposite end of the country, where all the projects were).
deceitfully claiming that I had to follow strict meal times for health reasons, but still she declared as I left:

Nobody talked to me like this before and also I have never had an opportunity to meet foreigners. This is the greatest day of my life. Please warn me next time you come so that we can organise a festival.

The point I am making is that I find that it usually takes more than an hour to establish a relaxed rapport with someone (in any country). The instances of engaging in open, intimate conversation almost immediately were exceptional, in my experience, and were undoubtedly the result of personal compatibility rather than professional competence.

Before visiting Tanzania in 1990, to organise a workshop in Arusha (see page 30) and conduct a review of stove programmes in Zanzibar and Morogoro, I had never been to the country before. I naively assumed that it would remind me of neighbouring Kenya, but found that the ideology, rules and practice were utterly different. In Luo households in Western Kenya I had become accustomed to bold oratory, lively humour, vigorous complaints, a preoccupation with commerce, and prayers before I left the village. There was a new set of rules to learn in Tanzania. The women I spoke to appeared to be more reserved, or even diffident at times, their humour was quieter, they never uttered complaints, hardly spoke about commerce, and never prayed in my presence. Whether my foreignness or awkwardness at not knowing how to behave accounted for some of the shyness, I could not judge. However, it can be safely assumed that there are not only these, but many other differences between behaviour in rural Kenya and Tanzania. On reflection, it would have been more extraordinary if behaviour between the groups seemed similar, since, not only were the political ideologies of their nations in opposition to each other, but the groups have different ethnic identities, languages, and histories.

My ethical position as a researcher was interestingly complicated during my time at ITDG. I have explained that I was not morally at ease with the idea of ‘representing’ the views of intended beneficiaries, crudely speaking, because, I was relatively powerful but ignorant. My position was reversed while I was working as a development ‘expert’ because though I felt I was unravelling a few layers of my ignorance, I remained relatively powerless within the organisation. From the very beginning of my contact with ITDG, I was known as a student from Edinburgh
University. According to informants in Rugby, I was trusted partly because I was known to have an easy-going, non-confrontational, even unassertive approach to people. While working in the organisation, I would remind people that I was still collecting information for my research about the political process of development, and would often discuss my latest observations. Even so, I suspect that people (including myself) often forgot that I was also a researcher, and much of my research material is written from memory. My interpretation of spoken and unspoken behaviour was often made at the time without taking my observing role into account.

It has occurred to me while writing that I would betray informants by naming them. When working with other development agencies (aside from project partners), informants in meetings may not have been aware that I was conducting research at all. Within ITDG, in some cases I was given information on the explicit assumption that I would exercise discretion when passing the information on. Individuals have the right to privacy and it is extremely difficult to distinguish between private and public behaviour in the work context. For these reasons I have concealed the identity of particular agents. My only exceptions to concealing individual identity can be found when I describe my own actions and when I refer to documents written by ITDG members of staff and circulated outside ITDG. Sadly, this has entailed leaving out some interesting information because it could not be given without compromising the position of particular agents.

1.4. Writing-up

I cannot point to an easily defined moment when I began writing my thesis. Much of the information in this piece of work has been taken from fieldnotes, letters, project reports, seminar presentations, and articles written during fieldwork. I wrote the first plan for structuring the contents of my thesis while drinking a cup of tea in an Ashram in Tamil Nadu at about 6.00 am in March 1990. During the formal writing-up period

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I should add that the fieldwork never quite petered out either. During my formal writing-up year, I attended several meetings at ITDG, had numerous telephone conversations and mail exchanges with colleagues, and represented ITDG at a WHO consultation. This has been enormously useful, not merely because it has given me an opportunity to gather new pieces of information, but also because I could discuss my ever-changing interpretations with informants. I returned to my job in January 1992, and continued to work as a social scientist at ITDG while I put the finishing touches on the thesis.
(the whole of 1991), I changed the plan again and again as I wrote each chapter. The first plan of 1991 reveals that I was still thinking according to the ideological constructs of my 'development expert' informants. The chapters were planned as follows: (1) Introduction, (2) Development and Technology, (3) Background to ITDG, (4) Stove Projects, (5) Benefits and Interests, (6) The Language of Development, (7) Power Relationships, (8) The Role of Social Scientists, and (9) Conclusions. I suspect that I thought I could deal mainly with material relations in chapter 5, and tackle politics in chapter 7, naively assuming that the two could be divorced from each other.

With the benefit of hindsight, I realise that my continual immersion in development ideology for 15 months of fieldwork was so powerful, that my world view shifted. On returning to university, and creating some distance from my informants, I began to deconstruct this ideological framework which was new to me. It was only after about a month away from the development agency, that I could even begin to question some of the fundamental assumptions shaping my own ideas.

When post-modernism took hold of social science, anthropologists seemed to become mistresses and masters of deconstruction. The value of this writing, I hope, will be seen in its challenge to the most fundamental premises on which development theorists and practitioners base their ideology. Judging by the warning of others, the dearth of solutions may disappoint some:

Planners expect crisp, quantitative and qualitative statements, but are usually given rambling ethnography with a few comments about what they should not do' (Robertson 1984:301).

and

Anthropology... often appears annoying to the development theorist working in South Asia. And development theory, to the working field ethnographer... wilfully misunderstanding the subtlety of ethnographic detail. Partially, of course this antagonism is simply the result of a difference in perspective. The development theorist is interested in generating models and theories whose goal is the transformation of societies that the ethnographer is merely trying to understand (Whitaker 1983:32).

Although I agree with the observation that ethnographers and development theorists usually have different perspectives, I would argue that their roles are not necessarily

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45 Preston describes the perspectives of philosophising social theorists and working development theorists rather differently. The former engage in philosophical debate about the nature of social theorising, while
opposed. It is still widely assumed that an ethnographer, through an understanding of social relationships in one location, inevitably takes the position of moral relativist. The presupposition is that since they understand and respect a group of people, they must have a conservative longing to keep them as they are. Within the discipline, it has long been argued that so-called ‘traditional’ societies are never static and are in the process of change, whether the ethnographer likes it or not. By simply living within a group, and developing relationships with others, a visitor may play a part in that change. The rhetorical goals of any political activist may be encoded in talk of Utopian change, but the impact of their work on intended beneficiaries may be negligible or even harmful. The rhetorical goals of a scholar may be comprehension and non-interference, but the influential impact of their writing can be enormous in practice.

I cannot sit comfortably for long in one category, activist or scholar. I see the world through political spectacles, horrified by violent and arrogant abuse of power, and at times gather enough of my own arrogance to think that I can change structures for the better. On the other hand, the recognition of my ignorance then holds me back, and it seems safer to try and dismantle what is there, rather than construct anew. To understand what is there, it is important to consider the position of all those involved in political processes. For this reason, I have written about the social, economic and political relationships of all the agents involved in giving and receiving technical assistance in development projects. Thus, it is with considerable clumsiness that I shrug off the old anthropological guise of cultural relativity and defend the validity of making moral and ideological statements throughout my thesis. Nevertheless, a thesis cannot, and should not, present a written interpretation as an objective representation of reality. Since writing constitutes an interpretation, rather than a mirror, of worldviews, perhaps it is the writer’s task to write a persuasive, honest, ethnographic story with an explicitly present story-teller. A convincing, fertile story is a greater contribution to knowledge than trying to transform the chaos of reality into neat but arbitrary boxes in the name of objective truth.

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the latter take part in empirically rich, but philosophically naive, political work (Preston 1987:30). Thus, while the ethnographer might complain that development theory abandons detail through generalisation, Preston, as a social theorist, implies that the construction of models has been conceptually unsophisticated (ibid:31).

46 Chalmers proposes that scientific progress is propelled or held back by the ‘degree of fertility’ which theories have in helping to answer particular questions (1990:117).
2. SMALL MEN MAKING MACHINES FOR PROGRESS?

Foreign journalist: ‘What do you think of modern civilisation?’

Gandhi: ‘That would be a good idea.’

It is difficult for Africans to fathom the workings of ‘western’ NGOs ‘not only because of their secrecy but also because their ideological and philosophical orientations are products of complex historical forces within their own countries which outsiders cannot fully understand’ (Tandon 1991:74). I would argue that it can be even harder for European ‘insiders’ to make sense of these complex forces. Rather than seeing their ideology as a product of history, their thinking is oriented by it. Ideology is automatically imbued with a character of objectivity for insiders, while outsiders are constantly reminded that historical forces behind the foreign ideology are very different from their own. As Bourdieu puts it: ‘what is essential goes without saying because it comes without saying: the tradition is silent, not least about itself as a tradition’ (1977:167 original emphasis). What appears as secrecy amongst ‘western’ NGOs is probably more likely to be the silence of tradition being taken for granted. In this chapter, by trying to unravel some of the layers of ITDG’s ideological and philosophical orientations, I hope to open my particular window onto ITDG’s traditional culture.
2.1. The Schumacher Heritage

One of the strengths of ITDG is perceived to be its Schumacher heritage. The details of its founder’s philosophical tenets are not known to the majority of staff, beyond his emphasis on training and small-scale technology development, and yet they supposedly form the kernel of ITDG’s approach. Does ITDG’s present policy still reflect Schumacher’s ideas? Yes, as far as many of its public supporters are concerned. It is perhaps assumed within ITDG that the respect given to its founder will be bestowed on the organisation by default, so that his ideas should not be explicitly challenged. Since the general orientation of his philosophy is still seen to be popular, non-political, but ethically ‘sound’, it is not considered useful or profitable to question publicly how relevant it continues to be. On the other hand, in policy and practice, it is taken for granted that some of Schumacher’s ideas are no longer acceptable. For example, his stress on the metaphysical appears to have almost evaporated and materialistic objectives have gained prominence. To understand the workings of ITDG, it is illuminating to explore this heritage within the context of other ideas about planned development, technology, gender, social change, and evolution.

E.F. Schumacher has been described as an ‘economist, journalist and progressive entrepreneur’ (1973). He taught economics at Columbia and Oxford Universities, worked as a journalist and farmer, and was Economic Adviser to the British Control Commission in Germany from 1946 to 1950, and to the National Coal Board from 1950 to 1970. He was President of the Soil Association, Britain’s largest organic farming organisation, and a Director of Scott-Bader, a chemical company which aimed to establish a ‘Christian way of life’ in business through common ownership (ibid:236). He was the principal author of the Beveridge Report (which advocated full employment), and advised many overseas governments on development planning, which took him to India, Burma, Peru, Tanzania, Zambia, South Africa, Swaziland, Botswana and Lesotho. Schumacher had tremendous influence through these organisations, his writings (principally his well-known book Small is Beautiful), his lectures, and his advisory overseas visits. George McRobie, a colleague at the Coal Board, described his ideas as radical, challenging conventional ways of thinking and

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47 This has been expressed by staff in ITDG, by many ‘outsiders’ and in policy documents.
48 Last year, one member of staff was asked over the telephone ‘how can I find out about Schumacher?’ to which the reply was ‘I’ll see if he is in his office’. He died in 1977.
doing, and most uncommonly, inviting action (Schumacher 1979:vii). One of his concepts, ‘intermediate technology’, led him to set up the organisation Intermediate Technology Development Group (ITDG) in 1965. Since then, one hundred and twenty seven Schumacher Societies, and Intermediate or Appropriate Technology Organisations have been founded (often in his name) all over the world.49

Schumacher is best known for the ideas he expresses in his book Small is Beautiful, which is a collection of lectures and articles, mainly presented or written in the 1960s and published in 1973. Early on in his life, his most important sources of inspiration were materialists, principally Marx and Keynes. During the Second World War he advocated socialist principles and according to his daughter: ‘he came down on the side of state planning, large-scale state monopolies, mass production, and standardisation’ (Wood 1985:139). He described himself as in close agreement with Keynes, although he tried to influence the latter to take a multilateral, rather than bilateral (macro and micro), view of economics. Until the middle of the 1950s, he vehemently rejected religion (ibid:123-4). However, he gradually became disillusioned with socialist proposals for the future. He decided that socialist analysts rightly argued that the evils of capitalism were driven by the private-enterprise-and-profit system, but that they mistakenly aimed to replace it with another materialist based system. Raising the standard of living of the less affluent classes does not in itself combat the evils of greed, envy and avarice, which are aggravated by the industrial system as much as by capitalism. Persuaded by R.H. Tawney’s assertion that industry must satisfy criteria that are not purely economic, he argued that it is the unwieldy scale of organisations and the repetitiveness of mechanised work that exploits workers, and that a better system requires a change of technology, and not just superstructure (Schumacher 1979:26-7,43).

49 In 1983 ITDG listed appropriate technology organisations in the following countries: Antigua (1), Australia (3), Bangladesh (7), Barbados (1), Belgium (2), Bolivia (1), Botswana (2), Brazil (1), Canada (2), Chile (1), Colombia (2), Costa Rica (1), Dominican Republic (1), Dominica (1), Ecuador (1), El Salvador (1), Ethiopia (1), Finland (2), France (2), Gambia (1), Federal Republic of Germany (1), Ghana (1), Guatemala (2), Guyana (2), Haiti (2), India (12), Indonesia (3), Italy (1), Ivory Coast (1), Jamaica (2), Kenya (6), Lesotho (2), Liberia (1), Malawi (2), Mauritius (1), Montserrat (1), Nepal (1), Netherlands (3), Nicaragua (4), Norway (1), Pakistan (1), Panama (1), Papua New Guinea (3), Peru (2), Philippines (3), Rwanda (2), St Kitts, Nevis (1), St Lucia (1) St Vincent (2), Sierra Leone (2), Sri Lanka (2), Swaziland (1), Switzerland (1), Tanzania (2), Thailand (2), Tunisia (1), United Kingdom (6), United States (4), Upper Volta (1), Zaire (1), Zambia (1), and Zimbabwe (4).
Schumacher’s anti-materialism is connected with his critique of the thinking that lies behind Western science. In Small is Beautiful, he rejects the universality of the dominant scientific laws of the nineteenth century: evolutionism, natural selection, Marxist class struggle, Freudian subconscious, relativism, and positivism (Schumacher 1973:71). He adds that these ideas, to have taken hold of almost all 'educated' 'western' 'men' to this day, must contain elements of truth (ibid: 71-73). However, he criticises scientific traditions, primarily because they claim unwarranted universality and lack metaphysical and ethical awareness. Since all behaviour is reduced to universal laws, such as survival of the fittest or 'the dark stirrings of a subconscious mind', it is neither possible to account for variation nor to distinguish between higher and lower orders. For example, where Schumacher may wish to talk of high cultural achievements, or of following ethical principles, he claims that scientific thought does not attach metaphysical value to anything other than its basic tenets.

Thus, higher ideas are dismissed, for example, as material self-interest or sexual frustration. The relativist perspective, according to Schumacher, dictates that 'to say "should" is just a sign of authoritarian megalomania' (ibid:73). He points to the non-empirical nature of these laws, which have relied on imaginative jumps rather than narrow experimental studies. Observing endless cases could never prove a Freudian, Marxist or Darwinian law to be literally universal, and yet each is presented as if all phenomena in its field should be subordinated to it. This critique is less conclusive than Popper’s argument that universal laws do not have to be proved beyond doubt, but constructed so that it is possible to subject them to testing (and therefore falsification). If a social trend is presented with no explanation of its 'initial conditions' (e.g.,

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50 Schumacher appears to be using 'education' as referring to formal schooling, 'men' as a generic term for human, and the 'West' as Europe/America as opposed to the 'Third World'. There are obviously problems with all these terms, which I will dwell on in section 2.2. and 2.3.

51 I would disagree with the assumption that the truth of a statement can be judged by the number of people who adhere to it. For an ideology to be convincing to large numbers of people it has to be internally coherent and logical, but not necessarily 'true' in an absolute sense, as can be seen in the example of crude racial stereotyping.

52 Schumacher is not always consistent in his critique of science. For example, he writes on another occasion that although he rejects Western apparatus and machinery, which have been produced by applied science, he does not reject scientific principles (1971:92). Thus, 'intermediate technology' does not rely on returning to an outdated, inferior system, but on rethinking the applications of modern science (ibid).

53 Although Marx does introduce ethical judgements into his work and attaches an evolutionary order to his idea of progress, whereby the earlier modes of production are more exploitative and less just, these can not be validated by scientific method.
dialectical materialism), then it is not a law but an unconditional prophecy (Popper 1986:128).

Schumacher’s viewpoint can be defined partly in opposition to the nineteenth century ideas, and partly with reference to the systems of thought connected to Buddhism, structuralism and Christianity. By the time he wrote Small is Beautiful his acceptance of Christian ethics was obvious, but Buddhist and Hindu philosophy still had an important place. In the late 1950s, he had begun a study of the East - particularly reading the writings and speeches of Mahatma Gandhi. In 1955, on his return from a visit to Burma, he declared himself to be a Buddhist but he became progressively more involved in Christianity becoming a Catholic in 1971 (Wood 1985). Schumacher pays greatest tribute to the influence of Gandhi, but it has been pointed out that he belongs to a neo-populist intellectual tradition whose contributors have included Owen, the Ricardian socialists, Sismondi, Proudhon, Huxley, Tolstoy and Tawney (Kitching 1989:97).

How are these influences revealed in his explanatory scheme? He constructs an ethical code based on metaphysical ideas:

All subjects, no matter how specialised, are connected with a centre; they are like rays emanating from a sun. The centre is constituted by our most basic conviction, by those ideas which really have the power to move us. In other words, the centre consists of metaphysics and ethics, of ideas that - whether we like it or not - transcend the world of facts (Schumacher 1973:77).

He explains the ‘centre’ in terms of three ideas: hierarchy, opposition, and ethics (ibid:78-83). Firstly, in contrast to a relativist mode of thinking, Schumacher asserts that recognising hierarchical levels (or ‘Levels of Being’) is essential to an understanding of our position in the universe. He draws a picture of ‘man placed on a ladder, which stretches towards the ‘realisation of his potentialities’ and a sense of purpose, and encourages us to acknowledge that some people have climbed further than others (ibid:79-81). Secondly, structuralist ideas are expressed in his description of our mode of classification:

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If the mind cannot bring to the world a set - or shall we say, a tool-box - of powerful ideas, the world must appear to it as a chaos, a mass of unrelated phenomena, of meaningless events... All traditional philosophy is an attempt to create an orderly system of ideas by which to live and to interpret the world... the nature of our thinking is such that we cannot help thinking in opposites (ibid:68-9, 79).

This observation shares much in common with those structuralist linguists and social anthropologists who portray classification as a universal structuring system, which makes sense of objective reality through binary oppositions. The Buddhist influence returns, with Schumacher arguing that a reconciliation of the opposites is possible by stretching towards the higher level and finding a 'Middle Way', a path between the extremes.

Thirdly, he discusses the necessity for a reconstruction of morality to redefine good and evil, and to put the present day gods of usury, avarice and precaution in their rightful place. He recommends that we should be guided by 'our great classical-Christian heritage', especially the Four Cardinal Virtues of prudencia, justitia, fortitudo, and temperantia and strive to understand the world and the central convictions of its peoples (ibid:82-3, 248-9). Thus, the present vacuum should be filled with knowledge and values rather than materialistic struggles.

With regard to 'Third World' aid specifically, Schumacher criticises most development theorists for taking a materialistic stand-point, which is grounded in an obsession with economics (ibid:140, 33). He argues that this is expressed in their belief that aid has failed for material reasons, such as a lack of capital or infrastructure, and a view that 'what is best for the rich is best for the poor' (ibid:139). He characterises this view as valuing means above ends, whereby the development of means dictates the choice of ends. For example, better machines are sometimes taken to be an indicator of development, which is manifested in a focus on technical intervention rather than training people. He concludes:

Could it be that the relative failure of aid, or at least our disappointment with the effectiveness of aid, has something to do with our materialist philosophy which makes us liable to overlook the most important preconditions of success, which are generally invisible?... we tend to think of development, not in terms of evolution, but in terms of creation... development does not start with goods, it starts with people and their

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55 For example: 'It is a question of finding the right path of development, the Middle Way between materialist heedlessness and traditionalist immobility, in short, of finding 'Right Livelihood' (Schumacher 1973:49, 51).
education, organisation, and discipline... All three must evolve step by step, and the foremost task of development policy must be to speed this evolution (ibid: 138, 140-1).

So, not only does Schumacher complain about applying universal scientific laws in general, but more specifically he criticises reductionism in development theory, a position with which I have much sympathy. Then, ironically, like so many influential writers, he ignores his own implicit advice and creates a universal law. He sees the key to his development philosophy as the assertion that education is infinitely more useful to the poor than material gifts (ibid: 165). Practical know-how is not lodged in the minds of ‘experts’ apparently, but in the experiences of ordinary people. Constructing principles, which is beyond the reach of the ordinary people, is the job of the clear-thinking, educated experts who then have the responsibility of sharing their knowledge (see chapter 8 for a critique of this view). Schumacher pays tribute to Mao Tse-Tung for his explanation of the process of acquiring knowledge. He suggests going to practical people to learn from them, synthesizing their experiences into theories, and then returning to the practical people to put the theories into practice to solve problems (ibid: 211). The ‘gift of knowledge’ does not entail a transfer of technology or expertise from North to South, but involves supporting the processes of ‘practical’ people learning from their own experiences.

Schumacher appears to be showing respect to the practical people by giving value to their experience but then undermines their knowledge by assuming that it contains no ‘theory’. It conjures up an image of unthinking agricultural workers harvesting their rice as opposed to well-educated engineers in their laboratories designing fuel-efficient stoves according to the laws of physics. There are several problems with this picture. The construction of them (practical people) and us (expert theoreticians/designers) is artificial, and reminiscent of Hallpike’s unconvincing assertion that cognitive thought of ‘primitives’ is like that of children, pre-operatory and devoid of analytic process such as abstract taxonomies (1979: 39, 487).

In reality, everyone is concerned with practical matters, and practice is meaningless without theory or explanatory schemes. Bourdieu points out that even though practices are not the straightforward product of explicit consciously formed principles or laws, theories accompany even the most ‘automatic’ practices (1977: 20). The teaching of tennis, the violin, or chess may consist of explaining individual moves, but the practice
integrates ‘all these artificially isolated elementary units of behaviour into the unity of an organised activity’ (ibid: 18). The repeated practice of any action or skill requires the integration of schemes which becomes automatic knowledge to the agent, or what Bourdieu calls ‘learned ignorance (docta ignorantia), a mode of practical knowledge not comprising knowledge of its own principles’ (ibid: 19) (original emphasis). Therefore, an absence of explicit theorising about the principles behind practical knowledge does not betray an inability to think on an abstract plane. It merely indicates that the explanatory schemes are so deeply a part of the agent’s perception of objective reality that they are taken for granted and apparently too obvious to require rationalisation.

When either a Sri Lankan potter or an ITDG engineer try out a new clay composition, they are both working according to a set of assumptions about how mud and sand react to heat. The sets of assumptions do not have to be identical to be workable. Many Sri Lankan potters assume that physical or chemical reactions are not the whole story, since demons can cause clay to crack in the kiln. The relevant point is that demons are no more practical, impractical, true or false than physical laws. Whether the clay ‘expert’ is reacting to physical or spiritual knowledge, the practical decisions are made on the basis of theoretical schemes. Finally, Schumacher mistakenly implies that expertise is associated with abstracted principles which are then transmitted linguistically. Bloch points out that it is ‘only when they do not think about what they are doing in words’ that people become truly experts (1991:187) (for a more detailed description of this view see section 7.5). Thus, potters are experts not because they explicitly expound upon the principles behind transforming clay into ceramic, but as a result of developing a cognitive mechanism through practical experience. This enables them to work efficiently and skilfully without the ‘intrusion of language’ (ibid).

Schumacher goes on to recommend the four following propositions for planning development projects:

1. development should benefit those in greatest need, and since the vast majority live outside metropolitan areas, work-places should be created in rural areas and small towns;
2. work-places should be capital saving rather than capital intensive and cheap enough to allow the establishment of a large number of enterprises;
3. production methods should be simple, so that skills required can be accessible to all;
4. production should rely mainly on local materials and products should be promoted mainly for local use.

The focus on work is paramount. Development should concentrate on the introduction of appropriate technology leading to rural, cheap, simple and local production. In countries with a labour surplus, chronic unemployment, and underemployment, he sees the creation of work opportunities for the poor as the main priority. In the early 1960s he became more regularly involved in overseas development for the rural poor, and expressed his ideas in an article on ‘How to Help People Help Themselves’, published by the Observer in August 1965. The response was so considerable that Schumacher and his colleagues were able to found an organisation with the following task: find out what the people are doing and help them to do it better (Wood 1985: 326). He explains that its aim was to bring knowledge of intermediate technology, systematise it and organise a world-wide system of ‘knowledge-centres’ so that it can be readily found (Schumacher 1979:96). In 1971 he claimed that:

Intermediate Technology Development Group... is engaged in the systematic study of how to help people to help themselves... They show that an intermediate technology, a technology with a human face, is in fact possible; that it is viable; that it reintegrates the human being, with his skilful hands and creative brain, into the productive process. It serves production by the masses, instead of mass production... I have no doubt that it is possible to give a new direction to technological development, a direction that shall lead it back to the real needs of man, and that also means; to the actual size of man. Man is small, and, therefore, small is beautiful (ibid:132-3).

Although Schumacher appears to be using the word ‘man’ to refer to people in general, it is no coincidence that women are hardly mentioned. He saw technical innovation as a male domain whereby all boys are naturally interested in technical gadgets. Significantly he adds: ‘I mentioned before the little boy in every man; I suppose there is a little boy in every woman, not only a little girl’ (Schumacher 1974:55-6). This is akin to saying that while it is natural for men to invent machines, technology is not the domain of women, so their interest in technical things must be boyish. Furthermore, the statement that the main task of ‘intermediate technology’ is to create millions of new workplaces in the Third World, excludes an enormous proportion of people in the South, mainly women, whose work takes place primarily in the fields and the house (Schumacher 1977:146). When you consider his implicit premises, the call for
technological development to respond to the 'real needs of man', takes on a literal androcentric meaning. Though it may not be his explicit intention, it is clear that he excludes women not only linguistically, but practically as well (see section 2.2).

He would like his ideas to be contrasted with nineteenth century scientific laws and yet one of these laws, evolutionism, finds its way into much of his writing. He portrays 'traditional' devices as being less advanced than Western machines or even in a 'state of decay' (Schumacher 1965:17). It is the task of Westerners, with their better access to organisational resources, to speed up the process of technological discovery so that 'poor people' can be helped to find their way out of poverty. The final cause of their poverty is explained in terms of their lack of education, discipline and organisation. He rejects the materialist focus on goods and finance rather than people, but embraces the ethnocentric premise that Western societies are more highly developed (e.g., Schumacher 1973:138-41).

This evolutionary position is unconvincing, for the same reasons that all evolutionary schemes since Spencer have been found to be (see section 2.3). The method for arriving at such an interpretation of history begins with the decision that the West is the most advanced society. The next step is to identify the key characteristics of Western societies as the most modern form of organisation. Then, the final jump is to chart the history of the West and locate other societies along the ever-advancing scale of social organisation according to their existing forms. Recent innovations in the West are assumed to be modern. Existing innovations in 'developing countries' are assumed to be traditional or prior to modern, irrespective of their age. This scheme for explaining history is logical within its own frame of reference, but only if you go along with a series of unwarranted, unsubstantiated presuppositions. Firstly, there is no objective reason for the a priori assumption that the West is more advanced. Economic, educational or technological criteria for assessing development (such as Gross National Product (GNP), or literacy rates, or average number of goods per household) conflict with ideologies which give value to different aspects of life (such as leisure, or spiritual knowledge, or systems of exchange). Secondly, there appears to be no empirical evidence to support the claim that all societies are inevitably moving towards a particular social organisation. Even according to conventional economic criteria, many Sub-Saharan 'developing' countries are not developing at all, but regressing towards greater poverty in terms of GNP (Hoogvelt 1982).
Despite their lack of credibility amongst academic social theorists, male biased and evolutionary schemes still influence much of development planning. They can be seen in evidence in the classificatory constructs that give meaning to policy formulation within ITDG. Before turning to the concept of what makes technology appropriate, the history of two strands of ideology - man-made technology and development as evolution - will be reinterpreted.

2.2 Is Technology Man-Made?

Did Schumacher only write about technology for men? When he writes of ‘men’, in many instances we might suppose that he means to use it as a generic term for humans referring to both men and women. Here are some examples from Small is Beautiful: ‘education can only help us if it produces whole “men” ’ (Schumacher 1973:77), ‘man, the highest of his creatures, was given ‘dominion’, not the right to tyrannise, to ruin and exterminate’ (ibid:89), ‘the changes introduced by man into the household of nature’ (ibid:112), with intermediate, rather than high, technology, ‘men are more easily trained’ (ibid:151), and so on. If ‘man’ were an uncomplicated neutral word for human in a world where sexual equality prevailed, then possibly the repeated use of such a term would not warrant debate. However, not only did Schumacher live and write in a patriarchal society, he reveals in at least some references that he is not referring to women at all. When he writes about the need for workplaces in view of the inevitability that ‘an unemployed man is a desperate man’, he cannot be thinking of rural women in the ‘Third World’ (ibid:145). Women do not necessarily see themselves as unemployed at all, but are frequently overworked in agricultural production, household maintenance, and, in many instances, waged labour as well (see section 7.3). When he warns that family life collapses ‘if the nature of change is such that nothing is left for the fathers to teach their sons, or for the sons to accept from their fathers’, it appears that mothers and daughters are irrelevant (ibid:161). Fathers and sons are unambiguously male, and so, in these instances, he is explicitly excluding women.

What about specific references to women? There is an aside that household goods are needed by the poor (ibid:155), which could affect more women than men, and that
every Indian ‘man, woman and child’ should plant a tree (ibid:183). Apart from these passing remarks, he hardly mentions women or gender differentiation. Bearing in mind that he chooses not to challenge the commonly held western assumption that technology is man-made, and given the examples above, I deduce that he writes about men and for men.

As a writer, Schumacher is far from unusual in treating women as invisible, and/or encompassed by men, as has been well-documented by feminists, anthropologists, and political economists (Ardener 1975; Rogers 1980; Beneria 1982; Afshar 1985; Charlton 1987; Moser 1989; and so on). In fact, Smith claims that appropriate technology in particular is written about and promoted by men, who adhere to the same old androcentric values that dictate that ‘men have the technical skills and make the technical decisions’ (1983:66). Why do those working in appropriate technology assume that inventors and technology producers are male? Is there any empirical evidence for such statements? The answer to such a question predictably depends upon how you define technology. Until recently, the boundaries of technology have been constructed so that women have been almost completely marginalised. The textual evidence gives the impression that technical invention has been the domain of men, because history has largely been written about men by men.

For some writers, leaving women out does not present a problem. For example, Hamlyn writes in the *Penguin History of Western Philosophy*:

> For historical and social reasons philosophy has been an almost exclusively male-dominated discipline. I shall mention only one female philosopher in the following and she is not entirely typical. I could perhaps have mentioned one or two more in modern times, but that would not really have affected the fact that philosophy has been a male preserve. It forms part of the social setting, and a history of thought and culture would have to take note of it. But, although feminists may not like my saying so, it is a point of no importance for the history of philosophy (1987:11 original gloss).

There are at least two interesting aspects to this statement. Firstly, I would argue that if he defines philosophy as the understanding of ideas, problems and solutions (ibid:12), then the influential feminists who have written about these in relation to gender surely

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56 The one female philosopher is given a paragraph because, as Hamlyn concedes: ‘it would be wrong for me to close my survey of recent continental philosophy without at least mentioning a philosopher who lies outside nearly everything that I have discussed, Simone Weil’ (ibid:331). He does not explicitly explain why she is not typical and ‘lies outside’, so we are left to deduce that it is due to her femaleness, her death by voluntary starvation, and the ‘sentimental’ and religious aspects of her writings.
qualify, at least in part, as philosophers. Not to mention Simone de Beauvoir is an extraordinary omission. Secondly, even if he had included the more influential public women, he should still have made the point that history is inevitably incomplete. Plainly, there have been women who philosophize in every epoch, though they may not have been called philosophers. Their ideas could have been influential but unrecorded, so that philosophy has been male-dominated in text rather than in every corner of society. In conclusion, Hamlyn, since he refuses to describe the social and historical context of philosophical ideas, is writing one interpretation of the ideas of most famous western philosophers and not a history of philosophy in general. His interpretation acts as a reinvention of philosophy as a male preserve.

This pattern occurs outside philosophy. Spender elucidates:

Women have not been the influential philosophers, the orators or poets, the politicians or rhetoricians, the grammarians, the linguists or the educators, and they have not had the same opportunity to influence the language, to introduce new meanings where they will be taken up, to define the objects or events of the world. This is not to suggest that women have not philosophized, made speeches, written poetry, held theories about language, education or the world, but only to emphasize that the outlets for their talents have been confined. The meanings which they have generated have not always been central to the culture, and have not been transmitted to the next generation (1980:53).

I would stress that women’s talents are not marginal in any objective sense, since there is nothing intrinsically culturally ‘central’ about written or spoken texts (except for those who write them). I would also diverge on the point about knowledge being transmitted to the next generation, since women’s interpretation of the world is directly communicated to their children, for a start. If those qualifications are taken into account, then Spender’s observations might be applied to women as technologists. There are very few famous female engineers or inventors in Europe or America, but that does not mean that women have been excluded from inventing or modifying technology. Stanley points out that:

If researching women’s history is like looking for needles in haystacks, and researching women inventors is like looking for needles in haystacks when everyone denies that needles exist, then researching black women inventors is like looking for those nonexistent needles in haystacks that have been scattered by the wind (1983:55).

Since it is difficult to find written reports about innovation, Stanley surmises from mythological sources and historical anthropological reports, that women were probably inventing tools and processes in the realm of food gathering and processing,
horticulture, agriculture, spinning, weaving, pottery, architecture, medicine, contraception, music, and possibly even mining and metallurgy (ibid:56). Where women have been responsible for these activities in particular parts of the world, they are likely to have been the ones developing the technology. For example, in the area of contraception it was presumably women who invented ancient methods (such as herbal oral contraceptives, sponges, and intra-uterine devices), but the history of contraception has been written starting from the nineteenth century, when male doctors began producing versions (ibid:58).

Some of Stanley’s evidence is tenuous, to put it mildly. She writes, it was the Goddess Isis who gave embalming to the Egyptians, so women must have been the first embalmers (ibid:55). Even if this connection is more full of hope than certainty, Stanley makes the convincing point that it is extremely unlikely, but theoretically possible, that men have always intervened in all areas of women’s work to devise new equipment (ibid:56-7). At presently, it is clear that women are engaged in a process of constant technical innovation, and there is no reason to suppose the past was very different. ITDG is supporting research into women as technical innovators. So far, in Asia, case studies have focused on food processing, carpet weaving, silk reeling, coir processing and agricultural techniques. Shekar found that women reelers in India have developed many improved versions of the hand reeling machines in order to increase their efficiency (Crewe and Appleton 1990:3). For example, the drive has been improved by introducing a gear system, or drum and axle, or by the addition of a chain drive. Also, women have not only been developing their stove technology for as long as they have been cooking, but some claim that their techniques for fuel conservation are better than the laboratory tested improved fuel-efficient stoves (Bennett 1990:20).

Is this messing around with three stone fires to do with technology? If we take the popular conception of technology as being equated with equipment, machines, or ‘hardware’, then the contributions of women will be ignored. It might be said that the fuel conserving techniques of women using stoves involve manipulating materials (the fuel and stones), but not necessarily creating new appliances. The absence of new equipment led some to suppose that there is no innovation in this process. Such a statement would be missing an essential point. The fuel and stones are materials in one context, that is, when they are not being used for a purpose. However, they are transformed into equipment once the cook has arranged them for a task. Innovation can
be involved either in developing new equipment, or creating ways of arranging equipment. Thus, Bush is right to distinguish between: (1) tools, such as appliances or equipment; (2) techniques, that is methods or skills for using tools; and (3) technology, which is the organisation of tools and techniques for the performance of tasks (1983:155).

So why do men define technology so that women’s contribution is forgotten? Spender claims that ‘males, as the dominant group, have produced language, thought and reality’ (ibid:143), and gives the impression that sexist language and ideas are tools constructed by men to maintain their dominance over women (ibid:12). Reality is not as simple or conspiratorial as that. It is not through a need for power, status, or economic strength that men conceive of technical matters as the male domain. Rather it is their way of explaining their experience of technology, and the result is that women are marginalised from the account. It is the interpretation of their practical experience which excludes women, and it is their social history that informs them rather than their desire to repress. Take technologists in Britain who have had a training in engineering. They often complain that they are accorded a lower status relative to their European engineering counterparts and also to scientists. For example, the perceived situation has hardly changed from the time when Gerstl and Hutton wrote in 1966 that ‘just as science has to compete with the arts, so engineering has to compete with science, which at the moment has more glamour and respectability’ (1966:12). They interpret history as follows:

Over the centuries the engineer has evolved from the simple craftsman who, as he was called upon to make larger and more complicated devices, developed increasingly refined practical techniques and eventually required all the resources of science to produce the sophisticated engineering designs of today (ibid:1)

So, engineers are given an ancient history (even if they were not called engineers in previous centuries), but at the same time are now presented as on a par with science in terms of sophistication. In fact, they are apparently better than scientists, because while the latter are only concerned with ‘knowledge for its own sake’, engineers apply their knowledge to make useful machines (ibid:6). It is tempting to portray such a description as an indignant attempt to jump up a few rungs on the status ladder to place engineers above scientists. However, such a position assumes that Gerstl and Hutton are creating their position in order to attain some interested end, an argument which
would bear a striking resemblance to Spender’s presupposition about men. Both men, as opposed to women, and engineers, as opposed to scientists, are responding to how they really see technology. If engineers see themselves as the technologists of this society, and only one in three hundred engineers are women (Pacey 1983:80), then it is hardly surprising that they jump to the conclusion that technology is a male business.57 The Warwick university course in engineering has been described as a course taught by men for men (ibid). They do not adopt such practices in order to keep women out of engineering courses, and their approach would undoubtedly change if half the course members were female. However, the fact remains that until either the definition of technology widens, or more women enrol in engineering, technology will be interpreted as man-made, and development will be perceived as men making machines for progress.

Schumacher should have heeded his own counsel against narrow-mindedness and thought about women as well as fellows when he said:

Perhaps a kind of technological snobbishness which regards with disdain anything less than ultra-modern? Perhaps a certain callousness in the attitudes of privileged minorities towards the immense suffering of their homeless, jobless, miserable fellows? or is it lack of imagination on the part of the planners in resplendent offices who find ratios and coefficients more significant than people? (1965:17 my emphasis).

2.3. Development as Evolution

Defining the boundaries of the meaning of “development” for this discussion is the obvious place to begin. In this context I use the word “development” to refer to ‘planned development’ as opposed to unplanned social change. Planned development entails the organisation of activities, by agencies or governments to achieve a desired goal (e.g., to redistribute wealth and power or, more commonly, to advance collective progress or welfare at the national, community, household, or individual level). The agency or government may be concerned with its own national development or with overseas development, usually in a country which is assessed as poorer than its own, in which case the assistance given is labelled as ‘development aid’. On the surface, it is part of the latter category which concerns this thesis. However, to define development

57 According to McRae, in 1978 women represented 2% of all professional engineers, scientists, and technologists, but by 1988 this figure had risen to 5% (1991:10).
aid in terms of its desired results (as activities which redistribute wealth from rich to poor countries, or as the empowerment of the poor), is to miss an important underlying rationale of what has been called the 'development industry'. Hancock puts it very bluntly:

The verb 'to develop' involves inevitable notions of making progress, or effecting a transformation from a primitive to a more elaborate form. Applied to countries, the basic concept of development does not change. ‘Underdeveloped countries’ must in some sense be stunted and backward; ‘developed countries’, by contrast, are fully grown and advanced. Once you start using such language, you cannot avoid the value judgement that the words contain... On the foundations of this kind of logic a giant international industry has been built... The Wall Street Journal once described it as 'the largest bureaucracy in history devoted to international good deeds. I prefer to think of it as Development Incorporated (Hancock 1989:41-2).

Ironically, plans for development have emerged out of a concept which has its roots in the colonial era - the idea of natural evolution. In the past, anthropologists and sociologists have been accused of being agents of imperialism, by using evolutionary schemes as a justification for colonizing primitive societies. Academic social scientists have rejected the concept of 'primitive' and yet it, or its equivalents, have a potent part to play in the way development aid workers classify their world.

'Traditional' is commonly used in the language of development workers. They talk about the traditional way of life, the traditional relationship between husband and wife, traditional skills, and the traditional three stone fire. Schumacher has advised that our first task as human beings is to learn from society and tradition (1979:115). On the other hand, he has described traditional technology as being in a 'state of decay' (1965:17). He implies that traditional technologies are from an earlier stage of our development, e.g., 'we develop technologies which are very much better then the decayed, mediaeval technologies of the poor' (1975:10; my emphasis), and 'their technological backwardness is an important reason for their poverty... their traditional methods of production, in their present condition of decay, lack essential vitality' (1971:88). This traditionalism is partly attributed to economic or ecological conditions, but is often conceived of as being linked to a psychological or cultural disposition. According to Foster, individuals in non-industrial or peasant societies are suspicious of new phenomena and value tradition very highly (1962:66). Planned development is described as a process of identifying and neutralising social, cultural and psychological barriers to change in cultures that would otherwise be static (ibid:144).
Traditions are sometimes portrayed as: obstacles to effective development, or backward but ‘natural’ customs which development should not attempt to change.

- In the first example of obstacles, it is often argued that rural women are slow to adopt new stoves, because they are accustomed to their traditional three stone fire. It is presupposed that this awkward ‘custom’ would remain, if the forces of ‘modernisation’ were not at work. In this view, poor people’s appreciation of the merits of improved technology is only realised when their suffering is great or the need to increase their status, through the acquisition of modern consumer goods, overcomes their adherence to traditional customs. Thus, it is the development worker’s job to accelerate this process, for instance, by persuading women to buy and adapt to a more advanced and modern stove.58 If they refuse, it is commonly seen as the job of the anthropologist to identify the ‘cultural customs or ideas’ obstructing adoption.

- In the second example, referring to natural customs, development workers often explicitly state that they should not interfere with the ‘traditions’ of a culture.59 By challenging gender relations, it is often felt that outsiders disrupt the traditional ways of an alien culture by imposing their own values and possibly precipitate a fundamental social upheaval. For example, I have been told that visitors, foreign or otherwise, should not interfere with the culture by training women as stove producers. For many within ITDG, technology is neutral and does not concern gender. As a result women’s position in relation to men is not seen to be a relevant consideration for a technology-based organisation.

In some contexts, the social order within traditional cultures is implicitly perceived to be closer to ‘nature’ than modern societies, and therefore governed by what some would

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58 In Kenya, the most common improved rural stove is called Maendeleo (Kiswahili for development).
59 ‘Tradition’ and ‘culture’ are associated, in people’s minds, with anthropology and so as an anthropologist you are expected to understand and agree. This is an example of the time lag between research and the application of ideas – by the time ideas have been accepted by practitioners, the researchers have moved on to new ideas, which have often involved rejecting the former ones.
describe as natural laws, such as male dominance in the public domain (see section 2.2). In others, the explicit argument is pragmatic. For example, Poston (an ITDG Programme Manager) recommends an approach that

capitalises upon existing skills, practices and social relationships rather than requiring the development of new practitioners, skills and social relationships and shows that by working with existing structures and skills rather than undermining them the sustainability of the enterprises which are developed is greatly enhanced (1990:168) ... To attempt to develop society, agriculture or industry in a way that is not in harmony with traditional or existing social patterns threatens to destabilise all aspects of the community concerned, since no change can be affected in isolation (ibid:94).

One implication is that it is possible to change the technical order while the social organisation remains the same. If traditional society is perceived as static and unchanging, or as Kirk puts it ‘preserved in the timeless aspic of tradition and custom’ (1983a:32), then where do the concepts of social change and development enter into this scheme? In effect, they have been expressed through the presupposition that the influence of more advanced outsiders will propel traditional societies out of their backwardness. The ideological constructs that have created the process of ‘modernisation’ go back to the colonial period and two prevalent ideas of the time: - evolutionism and diffusionism.

Darwin, who has been called the ‘father’ of evolution, never actually used the term - he wrote of ‘descent with modification’ but avoided any notion of progress, or higher and lower beings. Although the term was coined by the biologist Von Haller in 1744 (to refer to a process of ‘unrolling’ in genetic theory), it was Herbert Spencer who attached the idea of increased heterogeneity, and thereby progress, to evolution, which sowed the seeds for ‘Social Darwinism’ (1967). In its crudest form this ranks human groups, societies or cultures according to the evolutionary stage they have reached, whereby early stages are more ‘primitive’ and the last stage is the most ‘civilised’.

Early anthropologists in the last century argued that individuals, in their own embryonic and juvenile growth, repeat the adult stages of their evolutionary ancestors and so, measured by these criteria, the white race is biologically ahead of blacks (Gould 1977:214). This theory of recapitulation had its greatest political impact as an argument to justify imperialism, expressed, for example by Rev. Josiah Strong:
Modern science had shown that races develop in the course of centuries as individuals do in years, and that an underdeveloped race, which is incapable of self-government, is no more of a reflection on the Almighty than is an undeveloped child who is incapable of self-government (Strong as cited by Gould: 218-9).

Since ‘they’ were incapable of self-government, the compassionate Christian solution was to take control of the responsibilities of government on their behalf, according to European colonialists. More sophisticated social evolutionary schemes were put forward by sociologists, political economists, and anthropologists, such as Spencer, Morgan, Marx, Engels and Tylor. They vary most obviously in their criteria for measuring advancement towards higher forms of organisation. Spencer saw evolution in terms of increased differentiation:

society in its first and lowest form is a homogeneous aggregation of individuals having like powers and like functions: the only marked difference of function being that which accompanies difference of sex... Very early, however, in the process of social evolution, we find an incipient differentiation between the governing and the governed (Spencer 1972:42-4).

While Spencer writes of the stages as being simple, compound, doubly compound and trebly compound, Morgan and Tylor conceive of the evolutionary stages as: savagery, barbarism, and civilisation. Sanderson has pointed out that the main difference between the latter two is that Tylor stresses the religious characteristics of each stage, and Morgan relies on increasingly complex ideas of government, family and property (Sanderson 1990:13-16). Technological advances underpin both theories, with the invention of the alphabet and writing being the mark of civilisation. The distinctive assumption, which propels this brand of social evolutionism, is the idea of natural progress. Their methodology appears to involve surmising about the history of civilisations and projecting the same history onto the future of all societies. They appeal to the logic of nature, that is, that it is natural to develop more complicated forms of organisation, with no further explanation. The point has been made, by the American anthropologist Boas, that these evolutionists were dealing with the results of growth and not the processes (ibid:36). That is, that they created a picture of historical sequences by looking at the contemporary products of history, rather than trying to trace social change by looking at clues from the past.

The same kind of speculation can be discerned in the work of Marx, but he was more descriptive (than Tylor or Morgan) about what he saw as the natural laws of ‘historical
necessity'. Although, he mentions that the final cause of social change is population increase (e.g., Marx and Engels 1972:26), most of Marx’s writing dwells on a chain of causal processes which are lodged in historical circumstances. Impressed by Darwin\footnote{The influence of Darwin is clear when Marx writes that historical necessity arises partly because the ‘interests of the species assert themselves at the cost of the interests of individuals’ (Marx as cited by Sanderson 1990:56).} and Morgan, Marx and Engels created a progressive framework out of history which saw societies moving from the tribal to the ancient to the feudal, and, finally, to the capitalist mode of production. The dynamism for this ‘progress’ emerges out of the organisation of productive forces:

The relations of different nations among themselves depend upon the extent to which each has developed its productive forces, the division of labour and internal intercourse... The various stages of development in the division of labour are just so many different forms of property, i.e., the existing stage in the division of labour determines also the relations of individuals to one another with reference to the material, instrument and product of labour (ibid:26-7).

Development is used almost as a synonym for progress. It is also worth noting that this scheme of progress could be interpreted as essentially relying on technological development. A necessary condition for moving into the capitalist mode of production is the existence of ‘advanced’ tools which are owned and controlled by the dominant class. Similarly, Engels, in his seminal work *The Origin of the Family, Private Property and the State*, characterises stages of growth with reference to technological innovation, so that, for example, societies progress from a stage of savagery to barbarism when they discover pottery (Engels 1972:53). However, this book, which reinterprets Morgan’s research among the Iroquois, is better known for its historical account of the domination of women. He claims that in early societies men were responsible for obtaining food, and had control over the ‘instruments of labour’, but property inheritance was matrilineal, i.e., it was passed to ‘his blood relatives on the mother’s side’ (ibid:85-6). After the domestication of animals, considerable wealth was created for men, which elevated their position and incited them to abolish the mother right in favour of their ‘own children’, so that men could pass property directly to them (ibid:84-6). Thus, the proliferation of private property accounts for the creation of women’s oppression.

There are three obvious problems with Engel’s line of argument. The assumption that matriliny was common to all societies at a particular technological level is plainly
disputable when other studies are considered. For example, in West Africa there are patrilineal and matrilineal societies with identical technological achievements. The second point is that it does not follow that matrilineal inheritance rules necessarily confer high status on women. Bloch has pointed out that while the status of women may be relatively high amongst the Iroquois, within the matrilineal societies of New Guinea, women have a lower relative status than women in patrilineal societies in West Africa (1983:76). Finally, Engels is projecting Western dispositions onto ‘primitive’ peoples - in this case, the male desire to hand property onto their male offspring, rather than their classificatory sons (for example their sister’s sons in a matrilineal society). This highlights the difficulty with evolutionary schemes. If history is reconstructed on the basis of one example and contrasted with the author’s society, then, not surprisingly, claims for universality will be unfounded. It is the presupposition that all societies share inevitable natural historical laws which is not borne out in reality.

Evolutionism fell out of favour during the first half of the twentieth century, with functionalists in anthropology arguing that to use comparative methods in constructing universal schemes of change, was founded on ethnocentrism and a misunderstanding of social relations. This does not mean that anthropologists abruptly abandoned constructs that categorised colonised people as ‘primitive’. Asad, and others, have suggested convincingly that anthropologists indirectly contributed to maintaining the power structure of the colonial system (1979:92). This continued during the heyday of functionalist anthropology, with Malinowski, its leading British proponent, stating:

The practical value of such a theory is that it teaches us the relative importance of various customs, how they dovetail into each other, how they have to be handled by missionaries, colonial authorities, and those who economically have to exploit savage trade and savage labour (Malinowski 1927:40-41).

There was a revival of evolutionism in the 1960s, with the sociologist Parsons arguing, reminiscently of Spencer, that as societies advance they become increasingly differentiated and thereby develop their adaptive capacity. Primitive societies are characterised by their undifferentiated structure, immediate societies by their written language, and modern societies by their monotheism, ‘generalised universal norms’, and their ‘democratic’ associations (Sanderson 1990:108). The argument is familiar and predictable. The assumptive leap is that the West is at the pinnacle of civilisation;
the method requires a description of its attributes; and the application consists of using those attributes as indicators of civilisation.

In anthropology, evolution once more creeps into a position of prominence in America, in the early work of Sahlins and Harris. Harris maintains that the impulse for development is population growth, whereby more developed societies intensify their modes of economic production in order to protect themselves against inevitable resource depletion and lowered living standards. He claims that pre-state societies control their population growth through prolonged weaning, body-trauma abortion, and infanticide, which has psycho-biological costs. To overcome the psychological distress, they develop new technology, which increases productivity, which in turns causes population growth and resource depletion, the society then develops more effective forms of population control (such as warfare), and the spiralling process begins once again (Harris 1968:66-70). Whereas the nineteenth century evolutionists, and Parsons in the 1960s, assumed that societies were evolving towards the Western model, which stood at the top of the hierarchy, Harris does not portray progress as inevitable. Societies can progress or regress, become more or less developed, depending upon the political, social, economic or ecological circumstances at the time.

In contrast to Harris's environmental marxism, and turning to the literature on neo-classical economics, Rostow had a substantial influence on American overseas development policy with his well-known book, The Process of Economic Growth (1960), which traces the transition from a ‘traditional’ to a ‘growing’ society (Service 1971:52). He aims to provide an alternative to what he calls ‘Marx’s somewhat romantic vision’ and a return to the classical ideas of Adam Smith, as expressed in his Wealth of Nations, with some modifications (Rostow 1960:5,331). He sums up his theory as follows:

The argument hinges on one version of a simple, classical relationship. Output is taken as determined by the scale and productivity of the working force and of capital. Included within capital, for purposes of this analysis, is land and other natural resources, as well as scientific, technical, and organisational knowledge. The rate of growth of an economy is thus viewed as a function of changes in two enormously complex variables (ibid:5).

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61 Sahlins has since moved away from evolutionary schemes, see, e.g., Culture and Practical Reason (1976).
The relevance for planned development is that he charts the growth of Western economies and claims that they disclose the necessary preconditions for growth in 'traditional' societies. In particular, they require: (1) a high demand for products, which can be attained through capital imports, an increase in productivity (and so consumers' income), and high productive investment; (2) an expansion of productive capacity; (3) the generation of capital and subsequent investment; and (4) the expansion of the productive sectors and technical transformation (ibid:304-5). He portrays the backwardness of 'traditional' societies in terms of a lack of understanding about their physical environment, which has inhibited their ability to invent the necessary tools (ibid:311). Rostow echoes Parson’s methodology by assuming that Western societies are the most civilised, looking for attributes of those societies (such as growing economies and high consumer demand for products), and then arguing that the 'traditional' societies should strive towards these conditions in order to catch up. However, an important difference lies in the purpose of his writing - he is not only referring to natural laws of social change, he is theorising about how financially to engineer faster development.

The underlying assumption, which places this book firmly in the category of 'modernisation' theory, is that traditional societies should be transformed into modern societies by adopting the types of technology and social organisation that characterise the 'advanced' nations of the western world. Not surprisingly, particular modernisation theories vary as much as they share this element in common. Some, like Rostow, assume that the process of modernisation is slowed down by a deficiency in their knowledge (ibid; ITDG 1990b:32), others that the irrational and conservative psychological disposition of 'traditional' peoples holds them back (Foster 1962:143-4). Some political economists claim that conflicting economic interests and macro exploitative systems render development for poor countries structurally impossible (Frank 1978; Hoogvelt 1982). Or they look at material and/or power relations at the micro level and assert that it is antagonistic national or local interests defined by class, gender, and caste that create an obstacle to the diffusion of technology (Agarwal 1986:73). Finally, ecological and demographic circumstances, such as food shortages, lack of resources, and over-population are seen to perpetuate poverty and are blamed for holding up development (Chambers 1983).
How does Schumacher’s vision fit into this scheme? He proposed that there are limits to growth\textsuperscript{62} and that development should not be founded on a material base, so in his writings he is clearly not a political economist. On the other hand, it appears that he conceives of the world as divided up into ‘developed’ and ‘developing’ countries; or the ‘First’, ‘Second’ and ‘Third’ World; or ‘western’ and ‘traditional’ economies. The first category of each division apparently manifest characteristics which classify them as more advanced, for Schumacher, primarily in relation to technology, and knowledge (or education, organisation, and discipline 1973:141).

Is he an evolutionist? What do I mean by the term exactly? Sanderson makes a distinction between evolutionists and evolutionary theorists (1990:3). He claims that the former are people who portray society as changing or unfolding logically through inevitable stages, while the latter have no concept of necessity. Their schemes are merely explaining change as responses to specific historical circumstances. However, his description of ‘evolutionary’ fits equally well to the word historical, which leaves evolutionary with no distinguishing meaning. The interesting difference between social evolutionists and historians relates to a question of value, which goes back to the nineteenth century when evolutionists wrote about higher and lower orders. It is the creation of a hierarchical classification of societies, with features such as complex versus simple or static versus growing, which is the mark of evolutionism. If I assume that evolutionism entails classifying societies hierarchically, then Schumacher belongs to this category. He does not regard progress as an ‘historical necessity’, as Marx did, but he does describe the necessary preconditions for development, and his evolutionism is revealed by grading societies according to how far they have attained these conditions. The interpretation of progress that many development planners follow assumes that ‘traditional’ societies belong to a lower order and it is the job of ‘developed’ societies to assist them in the process of catching up.

\textsuperscript{62} Meadows \textit{et al.} brought out their \textit{Limits to Growth} in 1972, one year before Schumacher’s \textit{Small is Beautiful}. On the other hand, most of Schumacher’s writing was taken from lectures given during the 1960s, long before his publications came out.
2.4. What is Appropriate for Intermediate Technology?

In 1979, McRobie claimed that 'those who wish to make contact with organisations seeking to embody in action the values and concepts expressed in Good Work\(^{63}\) may write to ITDG, the Soil Association, and Intermediate Technology in America' (1979:preface). Is it still true that ITDG embodies these values? Schumacher stated in Good Work that ITDG's activities were based on five convictions:

1. the centre of world poverty lies primarily in the rural areas;
2. rural areas will continue to be by-passed, and immigration to towns will increase, unless small-scale technologies are made available;
3. donor countries and agencies do not have the necessary knowledge of adapted, appropriate technology, and the communication channels to assist the rural poor;
4. the level of technology used by affluent societies is not necessarily best for poor societies;
5. most appropriate technology is intermediate, that is, somewhere between a tractor and a hoe, or a pang\(d\)\(^{64}\) and a combine harvester.

ITDG's present project work does not adhere to these five rhetorical rules. Recently, there have been ITDG-funded urban projects in Negombo (Sri Lanka), Lima (Peru), and Nairobi (Kenya). For example, in the Urban Stoves Project in Sri Lanka, nearly all the producers, wholesalers, retailers and users of the technology reside in the urban areas of Colombo District (primarily Colombo and Negombo). Both of the first two claims made by Schumacher have been challenged by ITDG staff. They point out that poverty can be chronic within urban areas, and that rural areas are no longer completely neglected by development agencies. They justify working in urban areas, especially where small enterprise development is involved, by arguing that it is easier to succeed in places with high population density, high potential demand for products, well-developed and cheaper transport systems, and established marketing and promotion

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63 This book consists of a series of lectures given in the United States during the mid-1970s and three essays which had already been published.
64 Panga is the Kiswahili word for a large curved knife.
networks. This is not yet reflected in the information and policy material which continue to present the organisation as working in rural areas.

The other three policy statements have not been explicitly rejected. The rationale for ITDG, at least partly, rests on its claim to have more knowledge about appropriate technology (AT), and better communication channels, especially through IT Publications and the Technical Enquiries Unit (see section 3.1), than any other European agency. As far as knowledge is concerned, it is really the 'recipient' agencies which are seen as lacking the necessary skills, information and communication channels. It is the claim that ITDG exists to train agencies in developing countries in AT development, which provides the justification for its model of development.

The fourth policy statement, which runs through much of Schumacher's writings, is that what is best for the rich is not necessarily best for the poor. On the surface, it sounds as though he is saying the poor should not be rich. In fact, he is referring to his anti-materialist stand-point, which dictates that material wealth alone does not satisfy people. Furthermore, the advanced level of technology in the Western societies, according to Schumacher, is dehumanising and exploitative, so the poorer nations should not aspire to it (1973:122-133). Leading on from that premise, the most human and appropriate technology is not more advanced, capital-intensive and mechanised, but technology which is intermediate. This position has been criticised, for example by Emmanuel who dismisses Schumacher's talk of creativity by saying that it has nothing to do with economic development (1982:62). He elucidates:

If western technology carries with it the social relations of a developed capitalism, the indigenous technology which is going to be supplanted by it, carries, according to the same conception of technology's non-neutrality, other social relations which turn out to be much more inhuman and retrograde... If capitalism is hell there exists a still more frightful hell: that of less developed capitalism... Cultural authenticity is also the tourist picturesqueness of underdevelopment. We can do without this. Humanity is neither a zoo nor a museum of the anthropologically exotic (ibid:105-6).

I would agree that humanity is not intrinsically exotic (it is foreignness that initially makes potters exotic to me, and me exotic to potters) and there is nothing picturesque

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65 There are other agencies in the USA, such as Appropriate Technology International in Washington, which has had a volatile, and not particularly co-operative, relationship with ITDG.

66 For a comprehensive discussion of the critiques of appropriate and intermediate technology, see Willoughby 1990.
about poverty. On the other hand, by whose standards is Emmanuel judging the merits of different social relations? I have heard myself make value judgements about social relations many times in conversation. A Pahari woman in Himachal Pradesh, India has more support in her role as a child carer from other relatives, including her husband, than many isolated, housebound women in capitalist Britain. On the other hand, a lower caste share-cropping farmer from the same village, who gets less than 50% of his own produce from the higher caste landowner, is in a pitifully vulnerable position compared to a trade union member working for British Gas (even given the erosion of the strength of unions in Britain over the last ten years). But I do not then ask - 'so who comes out on top, East or West, feudalism or capitalism?' I would argue that it is not the whole systems that should be evaluated, it is particular practices that appear to be relatively just or inequitable.

The current ITDG premise for AT is political and economic rather than metaphysical. It is not so much that 'money alone does not make people happy', but more that small-scale rural enterprise development is the most effective, if not the only, way to reach the poor. Strengthening the rural informal sector to support agriculture, rather than developing urban-based industry for export, has advantages, as Poston elaborates. Planned development that increases rural productivity will: lead to higher cash incomes for poorer producers and greater circulation of money in rural areas; reduce the need for imports; side-step the corruption and bureaucracy that accompanies large-scale aid; dissuade rural dwellers from migrating to towns for employment; and build on rather than undermine indigenous capability and knowledge (Poston 1990:20-35). This provides another counter argument to Emmanuel’s marxist position. His proposal for ‘technology transfer’, if necessary importing technology, will repeat the mistake made by development agencies for decades, that is, that economic growth will inevitably reach the poor. Not only is the assumption that ‘west is best’ far from validated objectively, but importing technology undermines national or local technology, and escalating economic growth is environmentally untenable.

In practice, ITDG is still developing and promoting in-between or intermediate technology, such as hand-made carpenters tools, fibre-concrete bricks, a donkey-drawn chisel plough, and improved biomass stoves. But, interestingly, the policy explanation for choosing this level of technology is somewhat different from Schumacher’s. It is accepted that poorer people would probably rather have a ‘Black-and-Decker’, cement
bricks, a mechanised plough, and a micro-wave. The key constraint is poverty, not a concern about the dehumanising aspect of machinery. An important difference is that Schumacher was usually looking at IT from the point of view of production with the overriding aim of employment creation. Currently, ITDG promotes technology from three, often conflicting, perspectives - production, distribution, and use. This widening of aims is presented in the information and policy material.

The information material stresses the Schumacher connection. The 1988 Information leaflet67, a short pamphlet which ITDG staff send or give out to introduce the organisation, has the following quote from Small is Beautiful on the front:

Give a man a fish, as the saying goes, and you are helping him a little bit for a very short while; teach him the art of fishing, and he can help himself all his life... but teach him to make his own fishing tackle and you have helped him to become not only self-supporting but also self-reliant and independent (ITDG 1988).

This is probably the only Schumacher quote that is widely known within ITDG. It is not included in the 1990 leaflet, but the latest one does state that the agency was ‘founded in the 1960s by EF Schumacher, author of Small is Beautiful’. While the first one is more production and technology orientated, the latest one broadens the scope considerably. For example, the following extracts, from the 1988 and 1990 leaflets respectively, highlight a change in policy:

Intermediate Technology Development Group (ITDG) is a British Charity that helps the rural poor of the Third World to acquire the tools and techniques they need to work themselves out of poverty... it is a decentralised, smallscale approach to sustainable development, applying modern engineering to improve on traditional methods of production (ITDG 1988).

and

Intermediate Technology (IT) is an international development agency which works with rural communities in the Third World. Its aim is to enable poor people to develop and use productive technologies and methods which give them greater control over their own lives and which contribute to the long-term development of their communities... IT believes that sustainable development is achieved only if the participants in the process are its architects. It regards ‘development’ as a process of increasing people’s economic power by improving their access to technologies appropriate to their skills, incomes and environments... IT recognises that women’s technical knowledge and skills have been undervalued in the past and is promoting strategies to ensure the equal access of women as well as men to resources, services and training (ITDG 1990a).

67 This is called the 'pink leaflet' within ITDG.
Aside from the incorporation of technology use, as well as production, and the 'internationalisation'\(^{68}\) of the agency, the most noticeable difference about the language used in the more recent leaflet is the use of the word *enable* rather than *help*. In place of the older claim that ITDG helps 'project partners' to develop intermediate technology, based on traditional designs, in the 1990 description, the process loses its technology-driven foundation.\(^{69}\) The present overall aim is to increase economic power by enabling them to develop their own technology, instead of the earlier idea of *helping* the poor by giving them tools. The focus of ITDG's rhetoric, and resource allocation, is moving from technology development, to advocacy, primarily through 'informing' and 'influencing' other agencies to follow similar policies (ITDG 1990b:4). These policies range from putting forward a general approach, which supports poor people in their efforts to develop better technologies, to recommending practical strategies for particular technology areas (such as not subsidising improved stoves programmes).

This shift draws attention to a contradiction within Schumacher's recommendations. There are two strands within his proposal: (1) poor people do not have the education, discipline or organisation to develop their own improved technologies, so they need the help of others; (2) since poor societies are evolving, they are already engaged in a process of technology development, which can be supported by others. The first emphasises the vulnerability and backwardness of the poor, while the second portrays them as innovative but constrained by political structures. ITDG's policy aim has moved away from assuming that poor or 'local' people lack inventiveness, but has their model of development, consequently, become less evolutionist?

This question becomes more complicated when it is recognised that ITDG's model of development emerges from several divisions, with markedly different approaches, and five in-country offices,\(^{70}\) which are at present gaining more influence. Furthermore, do I tackle the question by looking at the practice of ITDG's overseas work or the classificatory constructs that inform the practices? I would argue that the two can not

\(^{68}\) See chapter 3 for an explanation of 'internationalisation' within ITDG.

\(^{69}\) This change is partly the result of a shift of influence from the Operations Division to the Policy and Country Representation Unit. While the majority in the Operations Division, which had more authority in 1988, have a more 'techno-fix' approach to development, the Policy Department portrays ITDG's role as more political and economic. The latter stresses that ITDG should build on 'local innovative capacity' rather than developing the technology itself, which takes the technology development process out of the hands of the producers and users. For more details, see chapter 3.

\(^{70}\) In Peru, Zimbabwe, Sudan, Sri Lanka, and Bangladesh.
be disassociated. There has been an assumption within ITDG in practice, that technological (engineering and social scientific) skills are mainly lodged in the Rugby headquarters. Overseas visits are usually made by Rugby-based staff because it is assumed that project tasks (such as, appraisals, testing equipment, or recruiting a new officer) cannot be carried out effectively by an ‘in-country’ member of staff in ITDG or project partner organisation (see section 8.2). Wisner draws our attention to the possible consequence of such a practice:

... the creation of intermediate technology - associated with the writings of Schumacher... - may well produce low-cost, simple rural workplaces which can use local materials and produce for local consumption... while by-passing or even degrading local people’s skills and values (1988:248).

Another rhetorical shift in ITDG information material is introduced by the mention of women. Schumacher’s ‘give a man a fish’ is clearly addressed exclusively to men, not only linguistically, but also because in general the overwhelming majority of people catching fish are men. In contrast, the latest information leaflet (see above) states that ITDG is working towards sexual equality in access to resources (ITDG 1990a). When seen in context, this statement becomes rather less promising. Firstly, the leaflet is primarily for the public, especially potential donors, rather than for internal consideration. Secondly, it was written by a member of the ‘gender working group’ which far from reflects the typical policy position. Thirdly, it is revealing that in the latest 29-page strategic overview for 1990-1995, men, women and/or gender are not explicitly mentioned once (ITDG 1990b). The document describes achievements, strengths, weaknesses, opportunities, threats, policy, objectives, methods, organisational implications, financial forecasts and timetables. Although a comment on gender might have been expected, especially in the first nine categories, the only information given about people is that the intended beneficiaries are ‘poor producers’. I will be arguing that not only has the practice and ideology of ITDG hardly moved from Schumacher’s male-biased position, but even the policy statements have not caught up with other development agencies either.

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71 If taken literally, it is easy to forget that many net-menders, fish processors, and fish sellers are women. Furthermore, if Schumacher is suggesting that you should teach ‘the man’ to fish and make his own equipment, then ‘the man’ presumably knows nothing about it, in which case it might also be overlooked that the trainee could be male or female.
When not directly concerned with the proposals for intermediate technology, Schumacher made it clear that he did not see development merely in terms of progress with technology for material ends. He made it plain that he rejected the materialism of Marxism in his writings. He quoted Hill to put technology in its place:

To imagine that scientific and technical progress alone can solve all the problems that beset mankind is to believe in magic, and magic of the very unattractive kind that denies a place to the human spirit (Hill as quoted by Schumacher 1979:31).

However, he was addressing apparently technologically advanced countries when he said that: ‘the task of our generation, I have no doubt, is one of metaphysical reconstruction’ (Schumacher 1973:83). The main benefits of intermediate technology for the poor have been described as material rather than metaphysical. Schumacher specifies, when he writes about ITDG, that it is mainly employment opportunities that are needed in the Third World, and today, this remains one of the main objectives of project work. It appears that while the rich need to relearn metaphysical values, the poor need assistance with their basic requirements (ibid:167). At present, in policy and practice, intermediate technology is developed largely in order to increase productivity (e.g., of farmers, fishworkers, miners or stove users) or to generate income (food-processors, miners, silk-reelers and stove producers). The problems people face are perceived to be economic, technological, ecological and demographic. In the case of biomass stoves the rationale for improved stoves relates to these main areas, so that, for example, energy problems have been the result of poor traditional technology, and population growth (and consequent fuel shortages and pressure on land). Improved stoves have been promoted by ITDG largely for their material benefit to users (e.g., they save money and time\(^{72}\)) and for producers (income generation).

It is clear, in the example mentioned above, that ITDG’s work is not dealing with the metaphysical to any great extent and that ITDG is not concerned with revolutionary political change, or even challenging the existing social, political or economic order. In some respects, the latest stove projects follow a micro-level version of Rostow’s model fairly closely, and certainly more closely than a Marxist-based proposal. The success

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72 ITDG staff sometimes recognise that time savings do not necessarily lead to material benefit (such as, an increase in time available for productive work) but might be valued because they allow women more time for leisure, sleep, community work and so on. However, this is rarely specified in their documents: proposals tend to emphasise the, albeit indirect, material benefits of time saving. For example, the latest proposal for marketing stoves in Sri Lanka states that time saving will be considered an important project objective where that time is spent for ‘other productive purposes’ (ITDG 1991: Appendix(i)).
of a stove programme is seen to rely upon developing small enterprises, utilising existing marketing networks, generating a demand for the product (in this case stoves) and reaching an adequate level of production. The most important difference is that Rostow stresses the importance of capital investment, whereas ITDG claim that expanding small-scale production is a matter of building on existing skills, training and responding to demand.

Why do IT staff see themselves as supporters of technology development, rather than political change? A Marxist interpretation would be inclined to portray this 'liberal' approach as a reflection of ITDG’s place in the international economic and political structure. It receives more than 50% of its funds from the ODA, and is under pressure to follow their policy ‘advice’, which in effect acts as a precondition for the funding. Their policy line for improved stoves work will serve as an example of such advice. An adviser within ODA has recommended that the Stoves Team should promote stoves as a fuel-efficient product through existing marketing channels (personal communication). The stoves should not be subsidised, because such a policy would jeopardise sustainability. If removing the subsidy prevents poorer people from buying stoves, the argument goes, there is no cause for concern. Stoves may be bought initially by the rich, but subsequently, as production expands, and the production technology improves, the price will fall and poorer people will eventually buy them. He explains that whereas ODA cannot reach the poorer directly, ITDG with its grassroots connections, can implement programmes that benefit them. The poorest, on the other hand, cannot be helped directly apparently, because you have to prove the success of an enterprise on the middle classes first. So, the benefits will eventually reach (or ‘trickle down’) to the poorest, once the project is mature (personal communication).

The market orientation of the stoves programme is not typical of all the programmes. Some of the programmes within the Agricultural and Fisheries Sector work with pastoralists who are hardly involved with the market economy at all. However, as a general tendency, most of ITDG’s work is firmly rooted in small enterprise development, and this approach is, at the least, strongly supported by ODA (for a

73 In 1989/90 ODA ‘core-funding’ constituted about 45%, and they donated just under 13% to particular projects and research initiatives.
74 For example, in Turkana and Samburu, both in Kenya.
discussion on the contradictions in ODA policy see chapter 9). Some might argue that since ITDG follows ODA’s approach in most of its work, it may represent the same economic interests. To return to a Marxist interpretation, it might be said that ITDG is adhering to a policy that maintains Britain’s dominant position in relation to aid receiving countries. By refusing to challenge the international capitalist order, their ‘paternalistic’ approach is part of an acceptance of the ‘underdevelopment’ of the Third World. According to Hoogvelt, the main aim of the capitalist countries is to: (1) exploit developing countries as a source of cheap and abundant labour, and raw materials, and (2) create a new market for their own products (Hoogvelt 1982:162). Planned development which increases the buying power of the developing countries would be highly acceptable to a capitalist country such as Britain. A refusal to comply with the process of incorporating developing countries into the international capitalist economy might not be received so favourably by ODA.

Such an analysis, as it stands, is far too simplistic. While ODA can plainly influence ITDG policy (e.g., by threatening to withhold funds if it does not follow advice), it is certainly not contriving to pursue Britain’s interests through ITDG. The latter does not directly contribute to either of the aims described by Hoogvelt above, i.e., intermediate technology results in no increase in trade or exploitation between Britain and ‘developing’ countries. Furthermore, if income is increased through ITDG’s projects, and the technology users or producers cause a minimal increase in the level of British imports, then this should be viewed as an unintended result of ITDG’s efforts and not as an ODA motivated rationale for their work. While historical materialistic observations about the results of development can be illuminating, it is revealing to follow other marxian avenues when exploring the roots of ITDG political ideology and the process of social practice.

ITDG’s model of development is given shape by a series of assumptions about the ‘nature’ of technology, progress, knowledge, women and men, ‘locals’ and ‘expatriates’, and so on. ITDG staff rationalise their behaviour by referring to these constructs. These interpretations are a way of making sense of the past, but also have a history themselves. The assumption that technology brings progress, is naturally male, and requires theoretical assistance from Westerners, is in part a reinterpretation of statements made in the past, for example by writers such as Schumacher. It is the explicit emphasis on technology for progress in ITDG’s model, to the apparent
exclusion of everything else, that sets the organisation apart from most development agencies. It constructs the concept of appropriate technology as a value free, politically neutral global developmental end in itself, and it goes without saying that technology improves people’s incomes and access to resources.

This background to ITDG’s model of development has introduced some of the concepts that I intend to explore more fully in the subsequent chapters. As an anthropologist I was bound to pay special attention to setting ITDG’s modernisation theory within the context of past evolutionary constructs. As a woman, it would have been strange if I did not emphasise the male-biased roots of ITDG’s assumption that technology is man-made. Finally, as a social scientist employed by ITDG, questioning its focus on technology as the embodiment of progress is just as inevitable. Before I move on to look at one particular technological area - improved biomass stoves - I shall provide a background to the social order of the organisation.
3. SOCIAL ORGANISATION IN ITDG

'Every established order tends to produce... the naturalization of its own arbitrariness'
(Bourdieu 1977:165)

Within every organisation, as with any community of people, there is a social order created by the agents within it. Through the construction of a social order, by means of exclusions and inclusions, unions and divisions, we define our social being - our idea of ourselves in relation to others (Bourdieu 1984:470-71). This creative process is dialectical in the sense that social order is constructed by agents, and the experience of agents is given shape by the social order. Bourdieu proposes the following relationship between structure and practice:

...this structuring activity is not, as intellectualist and anti-genetic idealism would have it, a system of universal forms and categories but a system of internalised, embodied schemes, which have been constituted in the course of collective history, are acquired in the course of individual history and function in their practical state, for practice (and not for the sake of pure knowledge) (1984:467).

Can evidence of this structuring activity be found in ITDG? Can I trace a collective history within an organisation that defines only the working life of its staff and (in theory) commands their attention only from 9 am to 5 pm? In this chapter, I intend to address these questions by commenting on some of the aspects of the social order within ITDG. In particular, I will describe ITDG's classificatory schemes that define groups within groups, its division of labour according to gender, and the particular group I worked with - ITDG's 'stoves team'.
3.1. Groups Within Groups

Superficially, the organisation of ITDG might remind Evans-Pritchard of the political system of the Nuer (1940). He argues that ‘segments of a tribe have many of the characteristics of the tribe itself... Each segment is itself segmented and there is opposition between its parts’ (ibid:142). Segmentary lineages appear to have their structural equivalent in ITDG, but that is as far as the analogy will take us, for the groupings relate to each other in an entirely different way. ITDG divides the organisation into divisions, with sectors or departments, which are then sub-divided once more (e.g., into programmes in the Operations Division). Unlike Nuer units, however, each programme within ITDG varies (according to its function, structure, ideology, policy, practice, and so on) with the different parts being organically independent from each other in many respects. So, whereas it is true that ITDG staff see themselves in opposition to other groups within each level, the substance and form of the oppositions vary according to context. Before explaining this in more detail, I will give the names of the main groups with which I am concerned.

The whole organisation - Intermediate Technology Development Group - is referred to internally as ‘the group’.\textsuperscript{75} It is divided into four main divisions:

- Operations (including the Technical Enquiry Unit) (Ops)
- Communications (Comms)
- Finance and Administration
- Policy and Country Representation Unit (PCRU)

In addition, Intermediate Technology Consultants (ITC) and Intermediate Technology Publications (IT Pubs - including the bookshop in London) are affiliated, non-charitable organisations, which channel their profits back to the central fund of the Group. The Manager of ITC is accountable to the Director of Operations, and the Head

\textsuperscript{75} By Aristotle’s definition, ITDG would be a state: ‘Our observation tells us that every state is an association of persons formed with a view to some good purpose’ (as quoted by Clay and Shaffer 1984:1).
of IT Pubs is responsible to the Chief Executive. ITC have a list of consultants which includes most of the Ops staff (see section 8.2). Their developmental aim is similar to IT Pubs, that is, to spread information about appropriate technology and influence other development agencies to adopt similar policies.

Ops division has permanent staff in Bangladesh, India, Kenya, Nepal, Peru, Sri Lanka, Sudan, the United Kingdom, and Zimbabwe. The division is responsible for planning, implementing, monitoring and evaluating projects to promote appropriate technology in ‘developing countries’. It is composed of four Sectors and a Technical Enquiry Unit (TEU). The Sectors (in bold), and programmes within them, are organised as follows:

**ITDG’s Sectors and Programmes in Operations (UK)**

<table>
<thead>
<tr>
<th>Rural Manufacturing</th>
<th>Agriculture and Fisheries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural Transport</td>
<td>Livestock</td>
</tr>
<tr>
<td>Micro-Hydro Energy</td>
<td>Dryland Food Security</td>
</tr>
<tr>
<td>Rural Workshops</td>
<td>Fisheries</td>
</tr>
<tr>
<td>Textiles</td>
<td>Agricultural Engineering</td>
</tr>
<tr>
<td><strong>Mineral Industries and Shelter</strong></td>
<td><strong>Agro-Processing (A-P)</strong></td>
</tr>
<tr>
<td>Mining</td>
<td>Food Processing</td>
</tr>
<tr>
<td>Building Materials</td>
<td>Food For Fuel</td>
</tr>
<tr>
<td>Shelter</td>
<td>Biomass</td>
</tr>
</tbody>
</table>

The size of the sectors is not truly reflected in the number of programmes. Firstly, the proportion of ITDG’s total funding received by each of the sectors in 1989 was: Rural Manufacturing 17.2%, Agriculture and Fisheries 12%, Mineral Industries and Shelter 12.2%, and Agro-processing 18.9%. Secondly, the number of staff employed in 1991 in Rugby by each sector is as follows: Rural Manufacturing - 11, Agriculture and Fisheries - 8, Minerals and Shelter 9, Agro-processing - 14.
The Comms Division is composed of the Production Resources Unit (PRU), the Public Information and Education (PIE), and Fundraising. Finance and Administration is one centralised unit dealing with all budgets, accounts, and personnel (including recruitment policy, induction and staff training). PCRU is divided into two sections: (1) Policy and Planning Unit (PPU); and (2) Country Representation, with offices in Peru, Sri Lanka, Zimbabwe, Bangladesh, and Sudan and a co-ordinating central office in Rugby.

As with any classificatory system, people within ITDG define their group identity differently according to the context. For example, officially, I was the social scientist for the Fuel For Food (FFF) and Biomass Programme, within the A-P sector, in the Ops Division, in Rugby Head Office. Unofficially, I was a stovie working on the third floor. If I was asked where I worked by someone who had recently joined Ops, I would say, in an informal way, which subject and place I was involved in at the time - for example, 'I'm working in stoves, mainly in Sri Lanka and Kenya'. When someone from outside the division, but within ITDG, asked me who I was, I would give the official name of my programme and sector, and place my sector in the context of the others, perhaps explaining some of the differences between them. If a non-specialist from outside ITDG, asked me what I did, I would explain the function of each division, and explain my role within Ops. Plainly, group identity is partly defined in each instance according to the identity of those present. Since Ops is located on the third floor of a large building, and all the other divisions are on the ground floor, Ops members often referred to all other divisions simply as 'the ground floor'. If surrounded by Ops people, it may be said of someone from another division: 'they are ground floor people.' In the presence of non-Ops staff, the emphasis would be changed to a more personal, and less objectifying phrase, such as 'she works in x department on the ground floor.'

An interesting pattern emerges if I return to a more protracted consideration of whether Evans-Pritchard's view of the Nuer system applies to ITDG. Is each segment split so that there is always equivalent opposition between its parts (1940:142)? We have seen that patterns cannot be meaningfully divorced from their context and retain meaning. Once seen in context, it becomes apparent that the opposition of segments is not a merely intellectual scheme, but a creative process linked to practice. To be more specific, the significance of the oppositions vary over time, according to changes in group interaction and perceptions about power within groups. Starting with my own
smallest segment, within the FFF Team we talked about the differences between our team and the rest of Ops (for a detailed description of the stoves team see section 3.4). For example, in relation to others in Ops, we prided ourselves on always keeping each other informed about everything (though at other times we complained about this behaviour), holding weekly meetings, and staying in cheaper hotels when travelling abroad. Conversely, we did not identify with the A-P Sector, to which we belonged, or even refer to it except when a sector meeting was called.

The strength of the programme identity may be connected to the fact that, whereas A-P was perceived as relatively powerful in terms of securing more external funds than other sectors, funding for stoves seemed to be in a decline. On the other hand, the spatial arrangements that defined group interaction were probably just as relevant. In A-P, there were four offices - one for FFF, two for food-processing, and one for the Sector Manager and Administrator. The Rugby FFF team consisted of two Senior Technical Managers, three Project Officers (one engineer, one ceramicist, one social scientist), one editor, and two secretaries. For much of the time, this group sat together in the same room every day, chatting about work or other matters, over hearing each other’s telephone conversations, calling ad hoc meetings, solving specific work-related problems, swopping jokes, complaining about the size of one’s in-tray, reacting to memos, making each other coffee, and, at least once a week, going out to lunch. We sometimes travelled together (usually in pairs), or at least overlapped for some time on project visits. For example, I have spent time overseas with both Senior Technical Managers, and the ceramicist. In contrast we spent only two hours a month all together as a sector. It is hardly surprising that team identity made more of an impression on me than sector membership.

At the level of the larger segments - the divisions - a spatial distinction was sometimes drawn by Ops members to distinguish them from the ‘paper pushers’ on the ground floor. Sometimes Ops staff said that the ‘ground floor’ were not keeping people informed; at other times there were taking up too much of their time with memos and meetings. The people on the ‘third floor’ were doing the ‘real’ work, in the words of many Ops members, and the implication was that the more time you spent with the ‘beneficiaries’, and the closer you were to the technology, the more ‘real’ your work became. During the first part of my stay it was those who were processing information (the press, information, publicity, development education, and so on) who were merely
talking and writing about the ‘real’ work. Towards the end part of my stay it was ‘the policy people’ who were seen as trying give too much control to the in-country staff, who were even undermining the ‘real’ work. According to some, the stereotypes voiced upstairs, the ‘ground floor’ people were either supporting Ops project work, or building empires to satisfy their own career ambitions on the backs of the proper technical work carried out by Rugby technical experts working overseas. Some stressed the point that the ‘ground floor’ needed the ‘third floor’ more than vice versa, and the arrangement whereby Ops staff raise their own funds for most of the project work confirmed the point in their own eyes.76

I would argue that the content of what is said about another group is not the most important aspect. During my stay, I would get into debates with Ops staff about the behaviour of ‘ground floor’ staff, during which comments like the ones above would be explicitly expressed. But in other contexts, one might hear the same Ops members explaining the importance of publicising AT through the radio, books, consultancies, conferences and so on, and the merits of giving more responsibility to the in-country staff. The comments about what is ‘real’ work appeared to be fluid, transitory interpretations which were often a response to the current perceived power relations between different departments. The reason that Ops staff talked critically about communicators during the first half of my stay, and subsequently about policy makers, is linked to an interpretation of behaviour as driven (in part) by a thirst for power.

When I arrived, many Ops staff were convinced that plans were afoot to weaken the Ops division and strengthen the Comms division, principally through changing the balance of resource allocation (especially money and staff). As Comms expanded and secured a greater proportion of funds and staff appointments, Ops staff perceived their division withering in comparison. During my stay, at least the following new posts were created within Comms: press officer for radio, publicity and events officer, proposal writer, graphics designer, and editor. Most of Ops staff remained co-operative with individual Comms staff in practice, but talked about the Comms division as failing to recognise that technical project work was the essential key to ITDG’s success. Ops complained that the journalistic style of Comms specialists entailed too

76 The reason for that was at least three-fold: (1) it is easier to secure funds for specific projects than for general administration and support, (2) Ops knew more about the up-to-date details than the fund-raising staff, and (3) it was thought that project staff would be more responsible about money that they had raised themselves.
many generalisations and exaggerations; Comms complained that the technical style of Ops. specialists was impenetrable and boring. Disagreements brewed fairly frequently over the accuracy of information relating to projects, for example, with Ops staff complaining that the Press Office would get technical details wrong. Ops was responsible for conveying and checking information sent to the press, but they would still blame the ‘communicators’ for distorting the truth.

To give an example of misinformation, the *Daily News* in Tanzania published an article about one of my visits, which said:

> A press statement by the British High Commission in the city said the researcher, Emma Crewe, of the British Intermediate Technology Development Group (ITDG), would investigate on alternative sources of clay and other aspects of manufacture to combat cracking of stoves when being moved from the city to other urban areas... (*Daily News* 1990:5).

On my return, I explained to the Press Office that not only was I completely unqualified to look into cracking, but the problem, which used to occur in rural areas, had been solved before I even arranged the trip. The reference to the city implied that it was stoves promoted by the government which often cracked. This was noticed by project staff involved and may have caused offence. During the conversation with our Press Office, I adopted a mildly accusatory tone, despite the fact that I was the one who talked to the British High Commission, and they passed information on to Tanzania. To hold Press staff implicitly responsible for faulty communication between diplomats and journalists gave me a convenient outlet, but ignored the fact that such typical criticism added fuel to the tension between our respective divisions.

In Ops, during the second half of 1990, the talk about other divisions shifted from discussing Comms, to dissecting the behaviour of PCRU. Initially, the planners and those supporting country representatives were seen as an unknown quantity, with Ops staff unsure about what the substance of their work entailed. The change of emphasis followed meetings held to discuss a project which aimed to establish an efficient ‘Management Information System’ (MIS) for the whole organisation. During a discussion in Ops of the MIS proposal, one staff member asked how it was possible to arrange an information system without first devising a permanent structure for ITDG. The question referred to the 1990-1995 PCRU plans, which charted the devolution of project management and financial control to the countries of representation.
(Bangladesh, Peru, Sri Lanka, Sudan, and Zimbabwe). From this point, the MIS and question of devolution became married (or at least entangled) in the eyes of Ops.

Following a meeting on MIS with country representatives in 1990, a timetable for devolution was agreed, and the principles for a ‘charter’ were discussed. When a memo was sent to all staff explaining that the meeting had taken place, and that the roles of some Rugby-based project staff would probably change, intense speculation set in. On the one hand the logic of in-country management in countries of representation was clear to everyone. The national offices were in a better position to plan, implement, and evaluate projects, and manage budgets and staff. On the other hand, the Ops concerns were expressed publicly in comments, such as the following:

*The in-country offices are not ready for this, it is all happening too quickly...*

*What about our project partners? No one has asked how they feel about this charter business. How can we maintain the same relationship with them if we have no managerial control?*

*This has been discussed by senior management from Rugby and in-country offices, but not by in-country programme staff, and target groups.*

*How can Rugby technical staff shift towards more informing and influencing if they do not spend as much time on the projects? They will not know enough to stay on top of all the latest technical developments.*

The more private worries were connected with job security. They would not be voiced publicly, because they might have seemed too self-interested and individualistic in a charitable organisation that puts the aims of the group first. People were concerned that, as in-country staff took over more and more of the technical work and management was transferred to in-country, the demand for assistance from Rugby project staff would decline. Although new staff were not being recruited in Rugby, Ops staff thought that their existing employment contracts would not be renewed. Some resited the idea of doing more consultancies (on ideological grounds), which they felt might leave them with little to do. In view of the policy regulation that 80% of project funding should be spent in countries of concentration, where the need for expatriate advice and managerial control would eventually vanish, project staff were worried that their jobs would lose their technical content and become more orientated towards writing papers and attending meetings. In public the rhetorically voiced concerns centred upon the rights of project partners and target groups; in private, the
explanations for discontented reactions hinged on the perceived power games being played out by different groups, but never by oneself.

The analogy with segmentary lineage did not go far. When looking at Evans-Pritchard’s neat system, and the groups within groups at ITDG, the differences are more revealing than the similarities. In contrast to the idea of predictable fission and fusion with the Nuer, the alliances within ITDG are fluid, complicated, and in a state of constant flux. Just as the Comms division devised a plan to improve relations with Ops by pairing members of its staff with particular programmes on the ‘third floor’, the latter had stopped talking about the expansion of Comms at the cost of Ops. Firstly, the practice of working with recently recruited Comms staff over time had established their place within the institutional system, and so their presence no longer merited discussion. Secondly, the proposed changes within PCRU overshadowed slight differences in the rate of staff recruitment between Comms and Ops.

Indeed, the PCRU ‘charter’ might bring about a veritable revolution in the institutional hierarchy. Not surprisingly, the people who did not take a direct, active part in the negotiations, appeared to make up for it by constructing interpretations of the proposed changes. Many explanations hinged upon the idea of power battles between groups or individuals, which often consisted of imputing motivations in people which were unspoken if not unconscious. When I listened to (or constructed) these theories on individual motivation, they were often logical and convincing as abstract reflections on the past. When talking to a particular supposedly power-hungry person, however, or when trying to apply the same rationalisations to my own behaviour, speculation on power games did not seem to fit. While self-interest has a bearing on behaviour, behaviour is not merely the sum of accumulated interests (see chapter 9).

3.2. The Group is Growing

The total number of staff employed by ITDG more than doubled in the four years leading up to 1990 - from 83 staff in 1986 to about 180 by the end of 1990. By the middle of 1992 there were 246 members of staff employed by ITDG, exactly half in Rugby and half in other offices. How should I make sense of the substantial growth of ITDG? Weber wrote that in Western culture individuals devise strategies that are
guided by self-interests but that organisations are streamlined to serve the general good (1983:26-28). In particular, bureaucracies are structurally the most rational way of: (1) making the best use of specialised knowledge, (2) retaining power for the officeholders, and (3) setting aside irrational presuppositions and socio-economic differences amongst the governed (Weber 1947:214-228). He argues:

For though the development of economic rationalism is partly dependent on rational technique and law, it is at the same time determined by the ability and disposition of men to adopt certain types of practical rational conduct (1983:29).

A Weberian way of interpreting the expansion of ITDG would be to claim that for self-advancing reasons people within Comms and PCRU wanted to expand their divisions to capture more power for themselves. Since in both cases it was also rational for the organisation to do so, both strategies apparently gained ground. Except that this interpretation does not fit my experience. The Ops staff, the majority of whom have always agreed to the principal of devolution, were not acting in their own interests by co-operating at all. Rugby technical managers have employed in-country staff even when it is clear that the need for their own advice will be diminished by such recruitments.

At a structural rather than individual level, asking whether the growth of the organisation conforms to a Weberian rational principle becomes more complicated. How do I, as an observer, know what is rationally good for the organisation at any one time? A social psychologist, Handy, has created typologies of the results of organisational growth. He describes three possible kinds of regrouping - deliberation, reproduction, or differentiation (1981:196). He claims that the first two are far more common, and much less satisfactory, too often decided by 'political or personality factors or by administrative convenience' (ibid:197). Deliberation is characterised by an increase in size with the various divisions being linked by more teams, sub-groups, and liaison committees. Reproduction involves creating new offspring organisations which then conflict and compete, causing the 'parent' Head Office to justify its existence by imposing order. Finally, the differentiation model entails diversifying the structure in response to the environment, so that adaptation to circumstances for each part becomes the key to successful growth.
ITDG shows signs of all three of those types of growth. Over the past few years there has been a proliferation of committees and working groups. Aside from the Executive Committee, the Joint Negotiating Committee (management and the union), union meetings, divisional, sector and programme meetings, and various working groups for particular countries, more recent group formations have included - the environment working group, the training working group, the gender working group, several working groups for the MIS project, the energy working group, the job evaluation panel, one-off information briefings by departments or individuals, and so on. As far as the second model is concerned, the in-country offices might be described as 'offspring', but the organisation of each office is so entirely different (from each other and from the 'parent' organisation), that reproduction would hardly be an accurate description. What of differentiation? Each part of the structure certainly has diversified and adapted to changing circumstances, so that, as examples, the typical Ops Programme Manager spends increasing amounts of time on managerial rather than technical work, and the growing number of tasks performed by Comms have led to the recruitment of a number of specialists. Since all three traits are in evidence, this model does not serve its supposed evaluative purpose. I would go further and say that the model could never be that useful for evaluating growth, because there is nothing intrinsically inefficient about committees and producing organisational offspring, and nothing intrinsically good about adaptation, which could possibly apply to all organisations. I strongly suspect that there is no organisation that neatly corresponds to one of these ideal types, which fatally undermines the applicability of this scheme.

Is it true that, as Wood concludes, 'ITDG took off on a life of its own, so that today its problem has become its unwieldy size' (1985:327)? To appraise the growth of ITDG as an organisation, unlike Handy, I would not seek out the motivations of individuals involved (which could not be generalised in any case), or classify the logistical changes, but I might begin by asking whether the practice has been enhanced. Robertson draws our attention to the points that an organisation should not be judged by its rules alone, since a close correspondence between policy and action is no guarantee for an efficient bureaucracy (1984:151). I would go further and say that practice within organisations, as with any social order, usually only has to follow rules in retrospective interpretations of past behaviour. More often than not, in the present, practice is shaped by ideological constructs rather than obedience to social rules or organisational policy (Bourdieu 1977:16).
Judging from ITDG’s achievements in practice in the past three years, and their reputation among other agencies, I would argue that scale is not the critical factor in determining success or failure. Schumacher warns that in a large organisation the individual may lose autonomy and feels like a cog in a burgeoning bureaucracy (1973:201-2). On the other hand, even if staff feel they have lost the freedom to act with spontaneity, much may be gained through increased specialisation. For example, using the experience of more specialists should widen the scope of an organisation. ITDG is certainly now capable of handling a far wider range of specialist tasks in practice, especially in the social science-related areas, than it was ten years ago. In only the past few years, its publicity and information material have improved in content and design, and so on. Also, as the organisation expands, and more funds are raised, the capacity for subsidising the more costly departments grows. On the other hand, the links between the departments are not running smoothly yet. The mechanisms for decision-making remain unclear, and co-operation between sections occurs on a highly ad hoc basis as a result of alliances between individuals.

What about the particular kind of growth in ITDG - the increase in communications and the devolution of management to in-country offices? Whereas the growth of a profit-orientated commercial enterprise can be evaluated by measuring productivity, or profit against investment, ITDG’s successes and failures are social, moral and political, rather than financial, and cannot be measured quantitatively. I would argue that in both cases, many of the proposed changes will enhance ITDG’s work from a moral and political point of view. However, whether they are rational in the sense of improving ITDG’s efficiency or economy is another matter. The quality of work achieved by Comms will partly depend upon the success of the newly formulated MIS. The relationship between the various country offices will partly rely on an extraordinarily complex management structure, whereby outside Rugby the offices are autonomously managed by Directors who each have a place on the Executive Committee (ExCo).

77 Schumacher makes the point that small organisations are much easier to manage: ‘very small structures administer themselves... human mind encompasses the whole thing and can make decisions ad hoc, and consultation of course is very easy’ (1979:69). On the other hand, it appears that this is not necessarily so, since he also advises that if sections within an organisation are given considerable autonomy then creativity can be encouraged at every level (Schumacher 1973:204). He recommends a structure that is equivalent to a ‘man’ standing beneath a large number of balloons which he holds firmly but does not ‘lord it over’. In contrast, a monolithic organisation is symbolised by a Christmas tree where freedom and entrepreneurship can exist only at the top.
Since ExCo makes decisions about resource allocation for each country and the countries will be in competition for finance, the negotiations could become somewhat complicated. Ultimately, since it is easier to raise funds in the North than the South, Rugby might have considerable control. Even so, the proposals are politically radical for ITDG, and though they may not be rational in the Weberian use of the word, they are morally irresistible.

3.3. A Sexual Division of Labour

So far I have commented on the administrative structure of ITDG in terms of what are seen as functional groups set within a fluid and changeable hierarchy. In addition to the divisions described above, hierarchical relations are found within each group, so that alliances can cut across divisions, sectors, and programmes. In 1989 a job grading system was introduced, creating an official hierarchy that places Rugby-based jobs (below divisional director level) within eight grades. Although the grades were not given headings, all the job titles were grouped under each grade and can be roughly characterised as follows:

Grades and Salary Ranges for Rugby-based Staff

<table>
<thead>
<tr>
<th>Grade</th>
<th>Salary Range (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Secretarial Assistant</td>
<td>5948 - 7652</td>
</tr>
<tr>
<td>2 - Secretary/Receptionist</td>
<td>6870 - 9100</td>
</tr>
<tr>
<td>3 - Administrator</td>
<td>8130 - 10650</td>
</tr>
<tr>
<td>4 - Secretary/Personal Assistant</td>
<td>9414 - 12646</td>
</tr>
<tr>
<td>5 - Project/Information/Accounts Officer</td>
<td>10914 - 15000</td>
</tr>
<tr>
<td>6 - Project Manager/Press Officer</td>
<td>12920 - 17534</td>
</tr>
<tr>
<td>7 - Programme/Manager/Training Manager</td>
<td>15015 - 20775</td>
</tr>
<tr>
<td>8 - Sector Manager/Policy Economist</td>
<td>17785 - 24265</td>
</tr>
</tbody>
</table>

These jobs were graded by an internal Job Evaluation Steering Committee, on the basis of job descriptions and a questionnaire filled out by each member of staff about their

78 Within ITDG a programme is a collection of projects, usually run by one manager.
It was revealed after the gradings had been finalised that jobs were assessed according to seven factors. They were weighted to give relatively more importance to knowledge, responsibility, management, money and contact, and less to environment and effort. The ‘scores’ for various factors were allocated as follows: knowledge (25%); decision-making (23%); managing people (17%); finance and equipment (14%); contacts (13%); environment (4%); and effort (4%).

In March 1990, the first four categories were almost exclusively female, apart from two men who were both responsible for compiling information databases. Of these two men one was black and the other was an expatriate European, so neither fit into the white, middle class, English norm for ITDG men. There were two other black employees at this time, in grade (4) and (6), and the latter has since left the organisation. Of the women in non-secretarial grades (see table below), only four would have been considered ‘technical’ staff in the wider sense of the word, comprising three social anthropologists and one marketing specialist. The twenty six women in grade 6 and above constitute about 40% of all professional staff, which compares well for women against the World Bank’s figure of 25% in 1989 (ODA 1990), but badly against other British NGOs. As examples, Oxfam employs 54% women in non-secretarial grades (10-15) (pers. comm.), and Christian Aid has 65 men and 74 women in non-secretarial posts, so that women constitute 53% (pers. comm.).

In Rugby, the staff not included in the documented grading scheme include four male English divisional directors at grade (9) (two engineers, one economist, one accountant), and the male Chief Executive at grade (10) (engineer). The Patron, Chairman, President, Vice-Presidents, Committee and Executive Committee members, fourteen people in all, were all men in 1990. In summary, the gender composition of ITDG staff was as follows:

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79 Managing projects in Operations immediately increases your score for responsibility and money. It was typical that when I began, my job as social scientist was graded at five, but once I took on the management of a project it was raised to six.

80 The volunteers working for ITDG are not graded at all.
## Gender Composition in Rugby (by grade) - March 1990

<table>
<thead>
<tr>
<th>Grade</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>7</td>
<td>16</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>42</strong></td>
<td><strong>60</strong></td>
<td><strong>102</strong></td>
</tr>
</tbody>
</table>

The overall majority of jobs at ITDG are held by women. When looking at the kind of job each individual does, a clear sexual division of labour emerges. The higher status male-dominated jobs are deemed to entail longer experience, contacts, management, and decision-making, while the lower graded largely female secretarial jobs require concentrated effort and repetition, but less experience and responsibility. The middle grade (6) is more evenly distributed according to gender with a mixture of women from IT Pubs, Comms, PCRU and mainly male ‘technical’ staff from Ops. The percentage of women in management posts (grade 7 and above) is only 12.5% and there are no female committee members, which constitutes a pattern that is considerably more extreme than the average amongst voluntary organisations in the United States.\(^1\) In a survey of ninety eight agencies, conducted in 1989, they found an average of 44% of senior staff posts were held by women, and that women made up 29% of board

\(^1\) There are problems with making such comparisons because different definitions of management are bound to be used by different organisations. I include figures from other organisations because the contrast with ITDG is so clear that even allowing for enormous margins created by different definitions, ITDG is unusually male dominated.
memberships (InterAction 1989:2-3). There were only eight agencies with no women represented on their board (ibid:4). In British based Oxfam 40% of the managers (grade 12 and above) are women, and of those, two (out of a total of seven) are Directors (pers. comm.). In Christian Aid, 45% of the senior managers are women, and four (out of twelve) of those posts are held by women working in the staff management team (pers. comm.).

The sexual division of labour in ITDG is even more pronounced in Ops where the technical jobs are largely held by specialists from overwhelmingly male-dominated professions, and the majority of managers have a technical background.82

Social Organisation of the Operations Division,
ITDG Rugby, May 1991

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Gender</th>
<th>Specialisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director</td>
<td>M</td>
<td>Engineer (1)</td>
</tr>
<tr>
<td>Sector Managers</td>
<td>MMMF</td>
<td>Engineers (2)</td>
</tr>
<tr>
<td>Programme Managers</td>
<td>MMMMMMMMMMMMF</td>
<td>Economists (1)</td>
</tr>
<tr>
<td>Programme Staff</td>
<td>MMMMMMMMMMMMMMMFFFFFFF</td>
<td>Marketing Specialist (1)</td>
</tr>
<tr>
<td>Administrators</td>
<td>FFFFFF</td>
<td>Management Specialist (1) Social Anthropologist (1)</td>
</tr>
<tr>
<td>Secretaries</td>
<td>FFFFFFFF</td>
<td>Engineers (9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Economists (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Food Technologists (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social Anthropologists (2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Secretaries (5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Secretaries (9)</td>
</tr>
</tbody>
</table>

82 ITDG has one female engineer, but she is posted permanently in Kenya, which is why she does not appear in these figures.
That reflects the situation in 1991, just over a year after the job evaluation, and since 1990 more women have been employed at programme level in Ops. Even so, it will be no surprise that the last two categories are entirely composed of women, while the former four groups are dominated by men, mainly engineers, aside from three male economists and one management specialist. Women who belong to the programme staff level or above have the following roles: one marketing specialist sector manager, one social anthropologist programme manager, and at programme staff level - two food technologists, one textile specialist, and two social anthropologists. Amongst these anomalous women, one has subsequently left, one is a student on a short-term contract, and I am on study leave. It may be relevant that two have husbands in the organisation. The situation is rather different overseas, where two of the country directors are women, but similar trends persist.

Those so-called ‘professional’ women possibly fall into Plato’s ‘hybrid zone’, which, as Bourdieu suggests, ‘by challenging the principles of the incarnate social order, especially the socially constituted principles of the sexual division of labour and the division of sexual labour, violates the mental order, scandalously flouting common sense’ (1984:474-5). The social order within Ops constitutes men as the technical ‘experts’ and women as their clerical ‘servants’. Most of the anomalous women, as people dealing with ‘social’ issues, are treated as if they are in the arena of ‘soft’ rather than ‘hard’ science and so fall somewhere in between the two. Two of the most important commodities that recreate social relations are travel and attending meetings. Men make overseas trips and hold meetings, where the ‘real’ work takes place, and women arrange the travel and take minutes. When men meet, the most common greetings are: ‘where have you come back from?’ or ‘when is your next trip?’ (depending upon how tanned the traveller looks!). As an anomalous woman, with diluted ‘expertise’, as a trip or important meeting approached, I was often asked by one colleague: ‘what are you up to now, women again, is it?’ Even if I was doing something related to gender, I would sometimes deny it, and emphasise the technological content of my impending task.

When it is suggested that secretaries might travel to the in-country offices, for example, to advise on setting up an information system, it is usually argued that money should not be wasted on unnecessary travel. Occasionally, the subject of who should be allowed to attend meetings was raised in Ops. A manager once said that secretaries
never contribute so are not useful; another said that they talk too much and waste time. When one secretary started going to meetings about women in development, a senior manager warned, ‘don’t get too big for your boots, young lady’. The position of secretaries within ITDG, as in most British organisations, is explained by one: ‘I won’t say I’m a secretary because it’s demeaning. It’s to do with people’s idea of their own worth’ (for more comments on the position of secretaries see section 1.1).

One way of looking at this social order is to say that it is in the interests of the dominant class within ITDG, the white, male, English, experts, to retain the existing institutionalised hierarchy and patriarchy, which has frozen the power relations in their favour (Bourdieu 1984:480). According to Carter, the literature on clerical work suggests that patriarchal control has led to female secretaries becoming increasingly de-skilled and ‘deprived of an overall knowledge of the productive process’ (1987:202). I would argue, however, that relations are not propelled by a calculated male strategy to dominate women. Rather gender relations are given a pattern by the practice of working within or against shared ideological schemes that inform agents about male and female stereotypes. Since women and men continually reconstruct the stereotypes as they work, with women being unassertive and meek in relation to men, this particular set of gender power relations in Rugby is hardly challenged.

Away from men, of course, women can be assertive or even angry about the lack of respect they receive, but the source of their anger is rarely a challenge to the stereotypes. Secretaries sometimes complain about how tersely technical staff give instructions and how men impinge upon their area of specialisation. If male technical staff use the secretarial equipment, for example, or try to carry out all their own secretarial work, secretaries point out that their own expertise is being undermined. If women technical staff do so, the point is made far less strongly, if at all. I would argue that the resistance to gender divisions is so minimal that while it would be insulting to describe someone’s behaviour as racist, on the rare occasions a man is accused of sexism, it is considered relatively humorous by many. Several men have complained about sexual discrimination because they, unlike women, have not been sexually harassed. Since relations between men and women are considered a personal and not a work related matter, the discomfort caused by raising the apparently personal issue of gender is often dispelled through jokes rather than discussion. To resist this tone
would be talked about as a sense of humour failure. The Rugby staff perceive professionalism as being tied up with non-racist, rather than non-sexist, attitudes.

So these schemes amount to more than a functional system with people simply pursuing their own material interests. By reconstructing a social order through gender divisions for work roles and behaviour, they are defining their social positions, their idea of themselves in relation to others (ibid). This is relevant here because it provides a clue as to why Rugby staff take racism seriously, but laugh at ‘wimmin’. It is true that ‘Southern’ partners are often deemed to have less powerful expertise than the expatriate technical experts. However, since ITDG staff have adopted a form of modernisation theory in their work, whereby so-called ‘locals’ will one day catch up with the ‘North’, it is believed in theory that this balance of power through knowledge could change. Women’s knowledge, on the other hand, is tied up with what is seen as the ‘natural’ order. The existing gender power relations rely on women being defined and redefined as vulnerable, understanding, emotional, and caring; while men are technically knowledgeable, assertive, inventive, and consequently powerful. Women are sent on ‘assertiveness’ training courses and referred to as shy at meetings. One manager was described as unable to deal with conflict with a project partner agency because she was a woman. When women make overseas trips great efforts are often made to protect them, while men are left to their own devices. Challenging these stereotypes, at home or abroad, and revealing them as mental, rather than natural, physical constructions, is laughable because it is unnatural.

In this chapter so far I have argued that group membership varies according to context, that ITDG is growing due to the perceived need for specialisation rather than an objectively verifiable rational good or individual interest, and that there is a well-defined sexual division of labour. These patterns can also be clearly seen within my own team - the Fuel For Food and Biomass Programme Team, unofficially known as Stoves.
3.4. The Stoves Team

The ITDG Stoves Project, as it was once called, was initiated in 1979 by Stephen Joseph, an energy specialist with a background in engineering and social anthropology. He was employed as a consultant in late 1978 to write a ‘state of the art’ report about stoves, and then test and evaluate existing and new stove designs. In 1979 he became a permanent member of staff, and recruited a home economist, a potter/graphics designer, an administrator and a secretary. New objectives of the stoves project were set every four months, with a considerable stress on technical matters, such as developing procedures for comparative testing, and training staff in collaborating institutions. Early collaborating partners included Dian Desa in Indonesia, Tata Energy Institute in India, and Sarvodaya in Sri Lanka. Much of the early research and development (R&D) work was carried out in Shinfield, where the Ops workshops were located. By 1980 the project staff appear to have been concerned to encourage collaborators to carry out testing. Nevertheless, other staff in ITDG stressed the importance of developing technology as efficiently as possible, which is why one Ops engineer gave the stoves team the following advice:

My other worry is whether it is really realistic to expect that local institutions should and could perform these refractory tests. I would have thought that the prime value of a collaborating institution would be its ability to field test designs already partially developed and prototyped at Shinfield\(^3\) (internal report 1980).

The general aims shifted towards more training, but remained in the area of research and development, until about the middle of the 1980s, as summarised in one of ITDG’s information leaflets.

to provide assistance through collaborative research implementing stove projects in the Third World and to develop an information, advice and training service on improved stove designs, and make them available to large numbers of people in need (ITDG: 1985).

In January 1982 the stove project began its own journal - Boiling Point - with a volunteer acting as the main editor. The staff composition gradually increased. In 1983, two more engineers were employed to assist with the technical testing work, and other engineering consultants were taken on for short-term contracts. By 1984, the stove team also had an economist, who later became the programme manager for the

\(^3\) ITDG had workshops located at Shinfield, Oxfordshire, at the time.
renamed Fuel For Food Programme (FFFP). The original engineer/social anthropologist and home economist left in 1985 and 1986 respectively, but a marketing specialist was recruited in 1987. From the time of the economist being promoted to sector manager in the same year, a sector economist and sector social anthropologist both worked part-time for FFFP. In the same year, a new ceramicist joined the team, another engineer became partly involved in the general biomass work, a Sri Lankan social anthropologist and an economist were employed part-time in Colombo, and a British engineer was posted in Western Kenya on a full-time basis.

The Sri Lankan and Kenyan postings indicate that the programme was beginning to become involved with implementation. From 1987, FFFP gave regular technical assistance and funding to the Ministry of Power and Energy in Sri Lanka and KENGO in Kenya (see chapters 5 and 6). The recruitment of the marketing specialist, economists, and social anthropologists signal another shift in the strategy of the FFFP. The R&D focus was supplemented by a market orientated dissemination strategy, which aimed to achieve economic and social ends rather than technical or environmental benefits. The early assumption had been that fuel conservation would automatically lead to benefits for users which did not need to be explicitly stated. From the middle of the 1980s, the aims of the FFFP were expressed in terms of employment opportunities and income generation for producers, and time and fuel savings for users. This change in objectives was accompanied by a greater concern to monitor the benefits, which was partially achieved through an array of surveys (household fuel surveys, market research, purchasers and consumer surveys and so on).

In 1989 both social scientists left ITDG and a new social anthropologist was recruited to the team. During this period the marketing specialist was also the programme manager until she was promoted to sector manager. An engineer took on the role of programme manager for Asia, while, in Kenya a new project officer was taken on to run the stoves project in Kisumu District. An assistant secretary was also employed to work part-time. In early 1990, a management specialist became programme manager for Africa, and later in that year a Sri Lankan project manager was employed to run the Sri Lankan projects. By the time I left, at the end of 1990, both the ceramicist and the

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84 I was the new social anthropologist, recently back from fieldwork in Sri Lanka.
biomass engineer had left ITDG but a new socio-economist was scheduled to join the team.

During my stay, when the Rugby stoves team was at its largest it included:

Social Organisation of the Stoves Team in Rugby - May 1990

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Gender</th>
<th>Specialisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programme Managers</td>
<td>MM</td>
<td>Engineer (1) Management Specialist (1)</td>
</tr>
<tr>
<td>Programme Staff</td>
<td>MMMF</td>
<td>Engineer (1) Ceramicist</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1) Editor (1) Social Anthropologist (1)</td>
</tr>
<tr>
<td>Secretaries</td>
<td>FF</td>
<td>Secretary (1) Assistant Secretary (1)</td>
</tr>
</tbody>
</table>

Between 1979 and 1990, the stove team grew from one engineer/social anthropologist to eight members of staff in Rugby and three overseas. Although two Rugby staff were lost in 1990, another member was recruited in Sri Lanka. In accordance with the ITDG pattern described earlier, the team has expanded substantially, and once again this strategy was not necessarily pursued to increase the power of the managers. It was the information and procedural demands of an increasing bureaucracy which increased the workload, and led to a perception that more staff were needed. The recognition that technology can not simply be exported from North to South, and that the social and economic context of development must even be considered, necessitated the recruitment of social scientists. Their main function was to find out about the preferences of users and producers of the new technology (they were not necessarily hired to explore the political dimensions of project work within Ops). Finally, the complex information system that developed in ITDG required administrative and secretarial specialists as well. Since ITDG’s aims are extremely wide-ranging, and the scope of each staff
member's work is extremely flexible, a impression constantly emerges that more and more staff are required.

The sexual division of labour within the stoves team in Rugby is fairly typical of Ops in Rugby. As shown in the table above, the programme managers, the engineer, and the ceramicist were men; the social anthropologist and both the secretaries were women. Overseas, as with most programmes, it was quite different. The project officer and British engineer based in Kisumu, Kenya, are women, while the social anthropologist and project officer in Sri Lanka, are male. In what sense are these sexual divisions of labour significant? In such a small team it is difficult to make sweeping claims. Perhaps we can consider whether project work is affected by the gender of project staff. Plainly, it makes some kind of difference. For example, while the female staff in Kenya are determined that their stoves project should, above all, benefit women, the male Rugby managers are explicitly hoping that income is generated for the poor in Kenya irrespective of gender. The gender of staff is not incidental since the majority of female technical staff in ITDG are inclined towards accepting 'positive action' for women, while most male technical staff resist the idea. Even the work being undertaken for an equal opportunities policy is largely in the hands of women.

Since gender roles will re-emerge as a theme at various points in the thesis, I shall draw attention to the key questions arising out of this sexual division of labour, before moving on to the stove project case studies. The female technical staff in ITDG tend to work on projects that exclusively benefit both women and men (e.g., stoves, food-processing, textiles, and research into technical innovation by women); while the projects that are almost entirely androcentric in the field do not have women technical staff at all (micro-hydro, rural transport, rural workshops, fisheries, mining, building materials85). Does this mean that project work provides greater benefits to women if at least some of the project staff are female? Or are women are attracted to working on projects that are already committed to making certain that women have access to benefits? Do projects suffer if there are no women advisers or extension workers involved?

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85 Fisheries, mining and building materials are advised by female social anthropologists.
These questions are too simplistic as they stand, because one-way lineal cause and effect processes are implied. The underlying assumption is that women are more sympathetic than men to the aim of sexual equality because (1) it is in their own interests, or (2) they identify with their own gender group. The implication is that men cannot advance the cause of sexual equality because it would threaten their controlling position of dominance. Such assumptions about human motivation are not convincing as universal statements. In specific instances it may be true that women staff may make a greater effort than men to ensure that women beneficiaries have equal access to training. For example, two female social scientists in ITDG have insisted that women potters should be offered training in the Sri Lankan stoves programme. But femaleness is no guarantee for heightened gender awareness, any more than being black makes you an anti-racist at all times (see section 1.1). Within ITDG many women, especially in administrative posts, do not consider matters relating to gender to be within the boundaries of their work, and so they leave the subject to be tackled by social scientists. Since ITDG Rugby has a majority of women employees, simply employing more women does not appear to be an adequate solution. It is the role of women within ITDG, not the number of them, which needs to be looked at more carefully. I shall explore the different roles of men and women in stove projects in more detail in chapter 8, and comment on whether this is typical for ITDG in the final chapter.

In chapters 1 to 3 I introduced you to the researcher, informants in Sri Lanka and Kenya, and ITDG, the organisation I worked for as a social scientist. In chapter 2 I commented on ITDG’s intellectual heritage, and tried to introduce the idea that ideology plays a part in the divergence between policy and practice. In this chapter, I have presented the first episodes of an ethnographic story, beginning with a description of the social organisation of a development agency. I have portrayed ITDG as a rapidly growing bureaucracy, with an official classificatory hierarchy, and an unofficial sexual division of labour. Finally, in the last section, I have related the history of ITDG’s stoves team, recently named the Fuel For Food Programme, since 1979.

The case studies in the subsequent chapters are of ITDG’s stove programmes in Sri Lanka and Kenya, which are still managed by the stoves team in Rugby. Although there is considerable diversity in the ideologies, rules, and practices of the different departments within the Ops Division, I intend to propose the example of stoves work as a tendency within ITDG Rugby. Some programmes do not conform to the pattern at
all, but are consequently perceived as non-conformist rather than belonging to a rival ‘tendency’.86 I am less confident that my case studies of ITDG’s work reflect shared patterns amongst many British development agencies. I have very little experience of other agencies, and have merely attended short meetings with staff of ActionAid, Oxfam, Save the Children Fund, and Christian Aid. To other agencies, I would offer the case studies as food for thought about their own work, and not as an explicit commentary about development agencies in general. The case study material begins in the next chapter with a history of stove technology from the invention of fire to the present day commercial dissemination of improved biomass stoves.

86 For example, the increasing emphasis on small enterprise runs as a common thread through most programmes within ITDG, but stops when you reach the Agriculture Programme (some users/producers are hardly involved in the market economy at all).
4. A POTTED HISTORY OF STOVES

'Do not forget the millions of your sisters in the bondage of criminally unhygienic kitchens'
(Raju 1953).

4.1. In the Beginning...

Stove history begins about half a million years ago when people discovered fire (Lifshey 1973:21). The excavations at the Choukoutien cave in Peking have shown that fire was being used by Homo erectus some 400,000 years ago (Foley and Moss 1983:143). The domestication of fire, together with the first use of prehistoric flint tools, signalled that 'man... [had] entered the stage of humanity on his upward march to civilization', according to Lifshey (Lifshey 1973:20; my emphasis). Later, he explains in his history of 'housewares', the first culinary item was a stick - a simple wooden skewer on which 'prehistoric man' (or even woman?) hung pieces of meat to be broiled over the fire (ibid:19). Spit roasting, and baking by wrapping a piece of food in soft clay and placing in the fire, probably go back as far as the Middle or early part of the Upper Paleolithic period, around 100,000 years ago (Foley and Moss 1983:143).
Simple pottery vessels and mud stoves were probably used from 5000 B.C. onwards. Apparently, during the Chou Dynasty ‘the common folk’ in China were placing elaborate earthenware tripod vessels over the fire, while those in the richer palaces or temples used bronze designs, long before the birth of Christ (1100-200 B.C.). Those of the Han Dynasty (200 B.C. to 200 A.D.) built cast iron stoves, with five holes for cooking pots, and a chimney, the design of which is similar to stoves prevalent in Europe up to the present century. The Mochica civilisation in Peru were popping corn in earthenware containers at about the same time (ibid:21). Wood- and coal-burning stoves and ovens dominated history until the industrial revolution in Europe, which was followed by the invention of oil-burning equipment and electric stoves, as first demonstrated in America in 1893 (ibid:128). Finally, gas and then the microwave oven were introduced to Europe, Japan and America. A massive increase in sales of the latter was witnessed during the 1980s, so that 30 million have been sold world-wide to date (Young 1991:7).

Cooking, or transforming food from raw to cooked, has been portrayed as a fundamental civilising process. Lévi-Strauss proposes that the domestic fire has always been a mediatory agent between conjunction and disjunction, as represented by the sky and the earth respectively (1964:298). The sun (in the sky) represents the potential of a ‘burned world’ or total conjunction at one extreme, and the earth threatens total disjunction in the form of a ‘world of rottenness’ at the other extreme (ibid:294). The sky (which is seen as masculine) and the earth (which is associated with the feminine) are mediated through the interposition of a cooking fire which is the domain of women (ibid:330-2). So, women apparently transform food with fire from its natural raw state to its cultural cooked state, to unite sun and earth and prevent a ‘world of rottenness’ (ibid:293).87

There have been numerous deconstructions of such Lévi-Straussian structuralist models, to reveal the culture/nature and female/male dichotomy as a mental construct of

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87 Lévi-Strauss also compares the process of using fire to transform food with the art of burning clay to make pots (1988). The Indian potters of tropical America are reportedly mediating between the celestial people and aquatic or subterranean people by ‘cooking’ clay (ibid:11). He portrays the processes, however, as inverted rather than parallel: ‘potter’s clay undergoes extraction from the earth, then modeling, and then firing to become a container designed to receive a content: food. Food itself undergoes the same treatment, but in reverse: it is first placed in a clay container, then cooked, then processed in the body through the operation of digestion, and finally is ejected in the shape of excrement’ (ibid:175).
the observer (Stamp 1989:111-2) rather than an explanation of the way that female cooks think. The idea of culture being concerned with simply transforming food from the raw to the cooked state should place Japanese sushi in the unsatisfactory conceptual category of barbarism (as opposed to civilisation). This would not only be inappropriate from the perspective of a Japanese eater, but would offend many fashionable restaurant goers in London, New York and elsewhere. While *preparation* of food may a feature of all human societies, cooking is not necessarily the most significant activity that distinguishes humans from animals. A similar conceptual problem arises if the history of stoves is portrayed as a gradual, progressive advance from the use of unshielded fires to the development of the microwave.

It is common for economists to describe stove 'progress' in terms of fuel use in relation to supply and demand, rather than stove design, whereby it is claimed that populations move up the energy ladder as their societies develop. Whereas the poorest, and least developed countries are populated mainly by dung fuel users, as the country becomes more developed its households take a step upwards from agricultural residues, to wood, biogas, charcoal, kerosene, and, finally, gas and electricity. In most parts of Africa, South and Central America, and Asia, biomass is still the predominant fuel (especially in rural areas). At the same time, biomass fuel use remains one of the criteria for relegating the countries within these continents into the category of 'developing' or 'less developed'. Placed in a wider context Sahlins and Service characterise evolutionary advance as a process of increasing dominance over the environment through more effective exploitation of energy resources (1960:91). Thus, solar and atomic energy are more advanced than coal and oil, which are in turn more efficient and modern than wood (109). Meanwhile, engineers tend to portray stove progress in terms of technological design and the source of innovation (see section 8.1). The most 'primitive' wood-burning stove is seen to be the three-stone fire and more advanced metal or ceramic-made designs have a chimney and many pot-holes.

Can we draw such a simple line from three stone fires to microwaves, and describe one end as 'primitive' and the other as 'civilised'? Foley *et al.* have claimed that:

> Properly designed stoves, adapted to their environment, and meeting the needs of the users have been a mark of progress and rising quality of life through human history since the beginnings of settled habitation (1984:15).
On the other hand, they also point out that, although technologically simple, wood-burning cooking fires have many advantages over ‘improved’ stoves. Considerable diversity of cooking fires is illustrated with examples from three continents. Supports for the cooking fires are mostly composed of three or more stones, bricks, mounds of mud, or lumps of other fireproof material. But the arrangement varies according to location so that sometimes the pot rests part of the way down the supports, closer to the flame; in other places earth is scooped out so that the fire is sunk into the ground; or, alternatively, stoves are organised so that pots can be set back from the fire for slow cooking (ibid:16). In Ghana, the supports for the pots are made of mud, concrete, inverted clay pots and mud, old car wheels, or scrap metal. In Upper Volta, similar materials are used often to construct two fires for two pots. In Central America, the open fire is raised on a mud or wooden platform, while in Fiji broad corrugated-iron chimneys are often built above open fires, to draw the smoke out of the kitchen (ibid). Three-legged metal trivets or tripods are often used to hold a pot above the fire, as found in Senegal, Upper Volta, Nepal, India and elsewhere. Cooks in Zimbabwe prefer using a quicker four-stone fire with iron bars held in place by four mounds of clay, forming a square with two diagonal bars to hold the pot in place, even though it uses more fuel (ibid:17). Many African women cook outside during the dry season or in a specially built separate hut, while in polygamous households some co-wives share cooking equipment and others have separate hearths (ibid:18).

Turning to the advantages of open fires, as compared to improved biomass stoves, Foley et al. have pointed out that they:

- cost no money;
- can be easily moved;
- produce heat which can be easily controlled;
- can burn any size or type of fuel;
- can support any size or type of pot;
- can provide lighting and heating;
- release smoke, which preserves food, dries fuel or clothes, deters insects, and lengthens the life of thatch;
- offer a ‘social’ or ‘ritual’ focus (ibid:18-21).
Nevertheless, in most countries cooks have found open fires unsatisfactory in other respects, so artisans have developed new designs that also vary according to climate, fuel availability, household structure, types of food, economic position and so on (ibid:22). In some cases the improvements are so small that it is difficult to know when an open fire becomes a stove. For example, making a 'traditional' chula in Bangladesh involves no more than digging a tunnel in the ground with a pot-hole cut in the roof at the end, making a fire beneath the hole, and feeding it with wood from the open end of the tunnel.

More complicated constructions involve shielding the fire with ceramic, metal, brick, mud, or concrete surrounds, with the more elaborate ones having chimneys, fire doors, dampers, or other means of controlling the flow of air through the fire (ibid). Metal stoves mostly burn charcoal, or occasionally wood, and are commonly made out of scrap metal for urban households in Africa (see section 6.1). They are also found in India, where they are called angethie, and can be made out of a bucket and lined with a layer of mud and cement (ibid:23). A cylindrical version, with an outside wall of sheet metal and an inner lining of cement, is used in Indonesia; and since the 1920s Thailand has had a metal charcoal-burning stove with a lining and grate made of fired clay, known as the Thai Bucket Stove.

In West Africa the scrap metal fourneau malgache or Madagascar stove is commonly used for burning charcoal, while people in Upper Volta have a metal wood stove in the form of a squat cylinder (ibid:23-5). In Somalia artisans make a small charcoal-burning stove out of soapstone. The single pot ceramic horse-shoe shaped or cylindrical U chula, is a wood-burning stove used throughout Asia. These are generally easily portable, and can also burn straw, dung or agricultural residues, but when charcoal is used, a grate is necessary. Some of the Indian and Philippino versions have a base which increases stability and stops ashes from spilling onto the floor. Rice-husk-burning stoves are used in Bali and Java, and made from open-top oil drums and bricks respectively (ibid:25-6). In general, portable stoves are usually made by 'local' tinsmiths or potters and sold through established ceramic or metal product marketing channels. For example, many Sri Lankan potters sell U chulas to retailers, wholesalers, or directly to householders.
Foley et al. also describe various larger, fixed stoves which are made of mud, clay and mud bricks, mud and sand, or sand and cement, with straw, dung, or sometimes wire mesh or pieces of metal for reinforcement (ibid:27). They are normally built by cooks themselves with materials found locally. The simplest designs act as a mud shield on three sides of the fire, with an opening for fuel at the front and space for one cooking pot, as commonly found in Nepal and India. Ceramic linings or old earthenware vessels are sometimes used for making the fire chamber, which nearly always makes the stove last longer. More than one pot hole is popular, and some even have a chamber below the firebox for storing and drying fuel, as in Nigeria. In Central America stoves are built on a clay or brick platform (poyo), and fitted with a chimney or vent above them. In Korea and China highly elaborate ‘traditional’ systems of cooking and domestic central heating have been developed. The gases emitted by the fire are transferred through a flue, which passes below the floor of the dwelling, thereby providing heat, and finally through a chimney insulated with straw (ibid:29-30).

Although all these versions of cooking technology have been categorised as ‘traditional’ or ‘unimproved’ stoves (ibid:22), it is clearly an unsatisfactory generalisation. The implication is that ‘traditional’ technology is part of an old, established, inefficient, static technological set-up. Yet, this account of so-called ‘traditional’ models indicates that older systems are neither fixed nor inferior. Even the declared ‘thermal inefficiency’ of open fires has been taken out of context, since the heat that escapes between the stones, and that is not directed at the cooking pot, is far from wasted in cooler climes where warmth in the house is greatly valued. The ‘traditional’ ceramic stoves are considered by users to be efficient in other respects (e.g., they are portable and retain more heat), and so should not be described as ‘unimproved’ or inefficient in any absolute sense.

If so-called ‘traditional’ stoves are not necessarily inefficient, what are they? Traditional is apparently supposed to mean no more than ‘already in existence’, or ‘well-established’, or ‘prior to modern’. Even so, when you consider that the Megan Chula is described as an ‘improved’ stove, even though it was designed more than 40 years ago and has been superseded by many other wood-burning chimney stoves, you begin to realise that other assumptions enter into the classification. It appears that the label of tradition is more closely connected to ideas about ‘expert’ people than it is by
temporal considerations. If the technology has been designed by seeming non-experts (such as potters or cooks), then the stove is often described as ‘traditional’ irrespective of when it was created. For example, when a potter showed me his brand new design for a sawdust-burning stove in 1990, a colleague asked: ‘do you make any other traditional stoves?’ In contrast, when formally educated engineers or scientists develop technology, then the stoves are perceived as ‘improved’ or ‘modern’. Electric stoves are undoubtedly seen as ‘modern’ within Europe, even though they have been in use for almost a century. Earlier models are described as ‘old-fashioned’ but never ‘traditional’. Implicit in the phrase ‘traditional stoves’ is an evolutionist assumption that as societies become more advanced, its peoples move up the energy ladder from traditional biomass stoves, to expert-designed specialised, electric models. As ‘traditional’ is still used in development planning to convey an idea of backwardness and inferiority, I will try to avoid it and employ more precise, value-free adjectives when describing people and their cooking technology.

4.2. Fuel, Smoke, and Trees

Much of the ‘development’ literature focusing on improved stoves begins with dramatic statements about biomass use in poorer countries. The majority or at least half the world's people heat their houses and cook on fires fuelled by biomass fuels, i.e., wood, charcoal, agricultural or animal waste (e.g., Clarke 1985a:1; Agarwal 1986:vii; Smith 1989b:2). It has been claimed that over two billion people depend on biomass fuels for cooking (Karekezi 1989:22; Clarke 1985a:5). A FAO study argued that in 1980, 100 million people lived in areas of acute fuelwood scarcity, 1300 million people lived in areas of fuelwood ‘deficit’, and that both these figures would double by the year 2000 (1985a). At the same time, it has been assumed that as economies grow, householders will make a leap from ‘traditional’ biomass fuels to using ‘modern’ fossil fuels and electricity. Once countries in the South have reliable supplies of modern fuels, and people can afford to invest in the equipment, then ‘fuel switching’ is seen by many international agencies to be inevitable (e.g., World Bank 1990:6).

That should not be taken for granted. Although there is a striking paucity of information on energy demand and use, especially from Africa, it is clear that in some countries the use of biomass fuels is on the increase and poorer households are
becoming increasingly reliant on agricultural wastes and dung. Economic growth is not necessarily benefiting poorer biomass users. The stagnation of the real incomes of the majority of South-based populations, as well as unreliable procurement and distribution of higher-grade fuels, have prevented the transition (Karekezi 1989:22). It is the assumption that the majority in the South will continue to burn biomass fuels that underpins the rationale for introducing new biomass stoves, which should provide a better alternative to the three stone fire.

Smith has described three eras in stove development since the 1950s: (1) classic period; (2) energy period; (3) phoenix period (1989a:517). The classic period, initiated by work in India, emphasised the importance of removing smoke rather than designing fuel-efficient stoves. In contrast, during the energy period, with the oil crisis of the 1970s (in particular the rise in the price of petroleum provoking a concern about energy), stove designers turned their attention to household energy conservation through reduced fuel consumption. Smoke reduction, if considered at all, was often only a secondary aim (e.g., Khosla 1985:97). The current programmes of the third or ‘phoenix’ period reflect the need to adopt a more flexible approach and plan according to local conditions and priorities of users rather than a universal set of answers (Smith 1989a:517). The story of these eras will be told in a little more detail.

Although most current publications about stoves are primarily concerned with fuel shortages, as mentioned above, the earliest planned development work on improved stoves in the South was inspired by the goal of smoke removal to reduce the incidence of lung and eye diseases caused by inhaling biomass smoke (Smith 1989a:143; ITDG 1989:1). Stove work began in India in the late 1940s amongst Gandhian inspired organisations. They tried to reduce the level of smoke emissions from biomass fuelled fires through the introduction of mud and clay stoves with chimneys, such as the Magan Chula. This stove, developed in 1947 at the All-India Village Industries Association in Maganwadi, was probably the first improved smokeless stove to be promoted within a planned development context. It was not until the 1950s that improved stoves were first widely publicised by Raju in an article about the HERL Chula (1953). His article stressed the smokeless aspect and aimed to remind people that they were ‘working for the emancipation of women’ by improving hygiene in their

88 With notable exceptions, such as Smith (1987) and Pandey et al. (1989).
89 Hyderabad Engineering Research Laboratory.
kitchens. On the other hand, he may have been one of the first to make a connection between stoves and deforestation when he claimed that improved *chulas* could save 20 million trees per year in India (Foley *et al.* 1984:59-60).

According to a survey conducted by the National Building Organisation, over 55 improved designs had emerged by 1964 in India alone. During the 1960s stove development was initiated elsewhere, for example, the smokeless Ghanian Oven was built by the Department of Social Welfare and Community Development. Unfortunately, it was not particularly successful, mainly because it was not suited to local ways of cooking (ibid:62). Meanwhile, Singer designed several new models in Indonesia, which had chimneys to reduce smoke emissions but aimed to reduce wood consumption as well (Foley and Moss 1983:104-5). These early stoves were not disseminated in large numbers but laid the technical foundations for future designs with chimneys, such as the *Lorena* stove, the Thai moulded stove and the Nepali Insert stove. The *Lorena* model, designed in 1976 by the Aprovecho Institute in response to the earthquakes which afflicted the Guatemalan highlands, became particularly well known.90

The energy period, as described by Smith above, was characterised by even more ambitious aims. It was argued that fuel-efficient stoves could reduce the rate of deforestation (Masse 1985; Ki-Zerbo 1985; Carr 1985b; Soedjarwo 1985; Webber 1985; Amarasekera 1986; FWD 1987; Marwick 1987; Micuta 1989). The orthodoxy stated that domestic fuelwood consumption increases proportionately with population growth and that both are directly related to deforestation (Cline-Cole *et al.* 1990:514). The perception that the demand for fuelwood was outstripping supply in developing countries led to the ‘gap theory’. All of the sixty or more UNDP/World Bank energy sector assessments for development countries relied on gap theory calculations (Leach and Mearns 1988:6). Describing these estimates as wild would be greatly under-stating the case. To measure this gap an estimate is usually made of the level of fuelwood consumption which is then compared to the available tree stocks (allowing for the annual growth of tree resources). Since estimates of consumption nearly always exceed this annual growth, apparently by as much as 200 per cent in some Sahelian

90 They designed fuel-efficient stoves because the earthquakes caused chronic fuel shortages when large quantities of wood were required for rebuilding. Although the rationale was fuel conservation, the model is based on the Indian smokeless chimney designs.
countries, it is assumed that people overcome the problem by felling the stock of trees. Projections into the future assume that as the gap grows, the tree stocks dwindle until eventually none remains. In 1984 it was predicted that Tanzania would be completely stripped of trees by 1990 (ibid).

The reaction to these predictions of catastrophe was energy-related intervention on an enormous scale. The solution was usually seen to be in the form of large afforestation programmes, but it was also hoped that fuel-efficient stoves, by reducing fuelwood consumption, would avert the immediate fuelwood crisis. Claims like the following one about Senegal were not uncommon:

If stoves were used by 60% of the population they would save over half the annual forest deficit, estimated at 3 million cubic meters of wood annually, and reduce the national energy budget by 20% (Gern et al. 1981:2).

The underlying rationale was consistently linked to saving trees, because ‘fuelwood supplies have been rapidly depleted and the cutting of firewood has in turn been a major cause of excessive deforestation’ (FAO 1985:8a). Combating deforestation and desertification through stove dissemination greatly appealed to multilateral and bilateral donors during the 1970s and early 1980s, particularly DGIS, ESMAP, FAO, GTZ, NORAD, ODA, SIDA, USAID, UNDP, and UNSO.91

The cost-benefit analyses of stoves programmes could arrive at theoretically impressive returns on donors’ investments. An example of such a calculation can be seen in the project documents from the CEB’s Sri Lanka National Fuelwood Conservation Programme (NFCP):

Total individual financial benefits from 15,232 stoves for 4 years = Rs.3.0 million
Total economic benefit to the country for 4 years based on an analysis taking into consideration the opportunity costs of firewood = Rs.48.0 million.

(Amarasekera 1986:30)92

91 The full names of most of these acronyms are given in 1.3, and all of them are reproduced in Appendix 2. Those mentioned for the first time are the following: Directorate General for International Cooperation in the Netherlands, Norwegian Agency for Development, Swedish International Development Agency, and United Nations Sahelian Office.

92 For more details see section 5.3.
The value of these estimated benefits were compared to an approximate cost of Rs.80 for each stove, which would have amounted to a total project expenditure of just over Rs.1.2 million for four years (Amarasekera, pers. comm.).

Given these far reaching objectives, the technical performance of stoves became critical. Karekezi, of the Foundation for Woodstove Dissemination (FWD) in Nairobi, surmises that:

The socio-economic aspects of stove development and dissemination took a back seat. In the 1970s, technical and scientific parameters were perceived to be as important as (and probably more important than) the needs and aspirations of the stove user (1989:23).

Unfortunately, the emphasis on fuel-efficiency at the cost of users’ priorities often resulted in low acceptance amongst households. In many cases stoves were introduced to solve problems perceived by designers (such as fuel-inefficiency or high levels of smoke emissions), which were not necessarily considered to be troublesome by rural women. It has been found that in Senegal, Sri Lanka, Indonesia, and Zimbabwe women value the speed at which a stove cooks above all other features. In the mountainous areas of Nepal, Fiji, and Guatemala space heating is more important than fuel conservation to women, so well-insulated fuel-efficient stoves are not popular at all (Gill 1987:138).

Where stoves did not match cooking practices, fuel use patterns, and users’ preferences, and required an investment from the user, sales were predictably low. The new stoves were trying to compete with an existing arrangement that could be built by the user free of charge. The three stone fire is extremely versatile and serves a multitude of functions in addition to cooking and warming food or liquids (see section 5.1). Low cost improved fuel-efficient stoves cannot fulfil all these needs as effectively as the three stone fire.

It is the financial outlay required for new stoves which has put them beyond the reach of poorer households (Jones 1989:52). It has been found that stoves are usually purchased by higher or middle income households (Caceres 1989:xi). New stoves are competing with other priorities in low income households. For example, on being offered stoves, women near Nagercoil in Tamil Nadu told me that they would rather

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93 For more details about FWD see footnote 11.
spend money on latrines, and people in Burkino Faso are more concerned about water supplies, education, and employment than energy (Gill 1987:139). Stove development agencies have tried to overcome the financial constraints faced by users by offering direct subsidies.

All stove programmes involve a degree of subsidy, at the least to the extent of providing technical design R&D, training, assistance and product promotion. In addition, in many programmes, especially in Asia, governments have subsidised the price of the stove to the consumers. In China, it is claimed that over 110 million stoves have been built through the efforts of a government programme, although it is difficult to judge the quality of these stoves and how often they are being used (Young 1991:5). The NFCP in Sri Lanka has disseminated over 200,000 stoves with roughly a 75% subsidy to predominantly rural users. The National Programme on Improved Chula in India has reputedly distributed over 8 million stoves since 1983 (ibid). These subsidies have usually been rhetorically justified in terms of the substantial health and environmental benefits which can make an investment worthwhile from a national viewpoint. By the middle of the 1980s, however, the national, and even community, impact of stoves was being questioned.

In 1983 Foley and Moss concluded that not only were most improved stoves making very small reductions in fuelwood consumption, but that some were even increasing the consumption of fuel. They also pointed out that woodfuel consumers are the victims but not the root cause of deforestation. Clearing land for agriculture creates by far the greatest pressure on wood resources, and timber logging, charcoal-making, and industrial fuel use all account for substantially more depletion of the forests than domestic consumption (Foley and Moss 1983:19-21). It is claimed that ultimately it is population growth that causes ‘land hunger’, since land is needed for expanding agriculture and cattle ranching to feed growing populations. People cut trees primarily to clear land for cultivation or livestock, rather than to burn wood in their stoves, and thus deforestation is ultimately a land and not a fuel issue (Foley et al. 1984:11).

Several years before Foley et al. wrote about domestic fuelwood consumption, researchers with close contacts in rural areas had been pointing out that women do not cut green trees. For example, when researchers asked women in Rangpur, Gujarat,
about felling trees one of them said ‘who will cut the green trees? Don’t they give us our livelihood? It is outsiders who cut them’ (Nagabrahman and Sambrani 1980:14). Even so, it is Foley who is remembered for shattering delusions about deforestation, and not researchers at the grassroots level.

Ultimately, the agents of devastation are not rural fuel collectors but the debt-burdened governments in the South, whose policies encourage excessive timber logging and clearance of forested areas for agriculture. Governments keep the royalties and fees charged to timber-concession holders low, and reduce export taxes on processed timber. In the Philippines, for example, it has been estimated that only one-sixth of the timber revenues was collected in 1987 (Repetto 1990:21). ‘Industrialised countries’ have plainly contributed to and profited from interests in logging and processing enterprises, with Japan being the largest importer, accounting for 29% of the tropical-timber trade in 1986 (ibid:22). In addition, agricultural policy in many countries has actively encouraged the felling of trees (as seen in Brazil where rights of land occupancy are awarded on the basis of the area of land cleared). Furthermore, subsidies have been given for cattle ranching, and charcoal consuming industries which exacerbates regional deforestation (ibid:18-22; Anderson 1990:1194). The ‘grow more food’ campaign in India, in the 1960s, encouraged the conversion of forests into agricultural land, and rural people are still suffering from the consequent fuel shortages (Sarin 1989:10).

It has become clear that the universal tenets of fuelwood ‘orthodoxy’ have been challenged so thoroughly that any generalisations about fuelwood supply and demand should be questioned. Cline-Cole et al. reject several commonly held assumptions by showing that fuelwood demand decreases proportionately as household size becomes larger, that some communities devote more land to tree planting as their population increases, and that acute fuelwood shortages are usually extremely localised and connected to factors such as land management rather than population density. They reject the uniform picture of deforestation ‘spreading like ripples in a pond around large towns’ and concentrations of high population density (Cline-Cole et al. 1990:521).

During the middle and late 1980s the literature on fuel-efficient stoves became scattered with denials that deforestation is caused by rural fuelwood consumption (as examples, Aworry 1985:99; Burne 1988:13; Dankelman and Davidson 1988:67; Crewe
115

1988:57). Rural people usually collect dead wood rather than felling trees, because it is easier to cut, lighter to carry, and burns more effectively than green, fresh wood. Leach and Mearns list the main sources of fuel as follows:

- tree cutting directly for fuel, especially to make charcoal;
- dedicated woodfuel plantations;
- by-product wood from various tree growing activities;
- dead branches and twigs;

They add that the last two provide by far the most significant sources for fuel. Trees are cut and wood is sold for fuel in urban areas, it is only bought by rural households in unusual circumstances. If trees are cut occasionally in areas of extreme scarcity, this should be seen as a symptom of deforestation and not a cause. There are still a few claims that the main motivation for tree-cutting is domestic fuelwood consumption, but they are mainly to be found in newsletters and publicity material. For example, ODA’s newsletter on fuel for schools relates that ‘wood is being collected faster than it can grow. Forests are disappearing at a frightening speed’ (ODA 1991:1).

After it was widely perceived that trees were not generally felled for household energy needs, fuel-efficient stoves could no longer be held up as a solution to deforestation. The objectives of stove projects had to be adjusted. The statement of the 1983 Wolfeheze Meeting already reflects this shift in the perception of the relationship between stoves and deforestation:

Stove programmes have two purposes:
   i) to help combat the consequences of deforestation,
   ii) to promote the social and economic advancement of stove users (Clarke 1985a:195).

Rather than tackling the cause of deforestation, stoves were being promoted as a means of alleviating the shortages caused by diminishing forests. The swing away from the

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95 There may also be less functional reasons for preserving trees. Lévi-Strauss points out that in Central Brazil there is a taboo against felling living trees for firewood and that only dead wood is a legitimate fuel for American Indians. If the rule is broken it is tantamount to an act of ‘cannibalism’ against the vegetable kingdom (Lévi-Strauss 1964:151).

96 This was the first major international conference on woodstove dissemination, originally proposed by Stephen Joseph (ITDG) and held in The Netherlands in 1983. It led to the establishment of the Foundation for Woodstove Dissemination (FWD), which held the second international conference on stoves in Guatemala in 1987.
aim of saving trees has been so energetic at times that charcoal-making and rural 'headloading'\textsuperscript{97} to urban areas have been forgotten as causes of deforestation entirely. Although evidence is scanty, it is entirely conceivable that urban and/or institutional stoves, by reducing charcoal or wood consumption, do have an impact on the number of trees felled in rural areas (Caceres 1989:xii).\textsuperscript{98}

4.3. Money, Comfort, and Time

As the goal of solving national energy problems began to recede, different objectives for stove programmes took its place. They concern the potential advantages of improved stoves for users: in theory, they can cook faster, consume less fuel, emit less smoke, shield the flame, and contain the ashes. These advantages should benefit the users by 'saving' cooking, fuel collecting, and cleaning time, human energy and/or money, reducing the level of harmful smoke emissions, and decreasing the incidence of fires and burns. The stove-using beneficiaries are nearly always women, since they are nearly always responsible for food preparation and processing in the South. Children are also affected because they often assist in fuel collection and spend time near the fire or stove while their female relatives are preparing food.

Two of the main recommendations which emerged out of the second FWD Conference on stove dissemination, held in Guatemala in 1987, were that

- national programmes should encourage the continuation, expansion and participation of small, high quality women-centred rural and urban projects;

- women must be placed at the centre of any project, at the design, testing and dissemination phases (Caceres 1989:xiii).

\textsuperscript{97} Cutting trees and carrying wood for sale in urban areas, which is prevalent in Sub-Saharan Africa, India, Nepal, and elsewhere.

\textsuperscript{98} It is also pointed out, on the negative side, that this could adversely affect farmers and landless labourers who cut and sell fuel as a way of earning income.
The explicit reference to women can be contrasted to the ‘energy period’, when they were hardly mentioned in stove literature except by female energy specialists, most notably Madhu Sarin (Nada Chula Programme), Jacqueline Ki-Zerbo (CILSS99) and Marilyn Hoskins (FAO). In the proceedings of the first FWD Conference (held at Wolfheze) women are not mentioned, except in passing, until page 130.100

Not only do women nearly always perform the cooking tasks in the South, but they are usually responsible for fuelwood collection, frequently with assistance from children. There are very few instances of men collecting wood,101 but when ‘experts’ write that deforestation increases hardship for ‘populations’ relying on woodfuels, many have neglected to add that the main sufferers are women (e.g., Prasad 1985).102 The other main beneficiaries of stove programmes are those involved in the stove enterprises: male and female producers and installers, and predominantly male sellers (wholesalers, distributors, and retailers).

As the energy-related aims lost their precedence, and small enterprise became the most popular development fad in the late 1980s, stove workers followed the new fund-worthy fashion.103 This interest in enterprise was partly the result of a move away from ‘welfare’ and towards working within the market economy. Crouch104 declares that it has been learned from ‘stove projects and other technology transfer activities that a technology must work within the context of the market-place if it is going work at all’ (1989a:12). Using conventional marketing strategies became the hallmark of stove programmes, and employment creation was also put forward as a developmental aim, rather than merely a part of the process. For instance, it was suggested by Burne (ITDG) that developing enterprises in rural areas will encourage the circulation of

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99 Inter-State Committee for Drought Control in the Sahel.
100 On page 130 Sarin describes how the Nada Chula was only built and tested effectively by women because they are also the people who use the stove regularly (1985:130).
101 For examples of men collecting wood see section 7.3. In addition, it is men, rather than women, who carry out the work for charcoal production (for example in Africa and some parts of Asia such as Tamil Nadu, India).
102 This gender-related observation has been deemed irrelevant by many development ‘experts’ because, it is claimed, to mention women repeatedly would be stating the obvious. However, if women’s roles are so obvious, then we are left wondering why they have been regularly excluded from planning, design, training, monitoring, evaluation, and so on.
103 John Pickford has called these fashions the ‘teddy bear words’ of development. Words such as participatory, institutional building, empowerment, local innovation and so on, are popular because they are comforting but never really come alive (pers. comm.).
104 From Volunteers in Technical Assistance (VITA) based in Arlington, USA.
goods, resources and skills in the local rural economy (1989:2-4). This should apparently work against one of the main causes of 'underdevelopment', the syphoning of wealth from rural to urban areas. This arises through discriminatory low pricing for primary foods and the purchase of expensive urban manufactured goods by rural people. This rationale provides the justification for ITDG's stove production project in Western Kenya, where lack of income has been identified as one of women's greatest constraints in rural areas. Since 1989 selling stoves has provided a significant source of income for at least one group of women potters living near Kisumu (see section 6.3).

In addition to income generation for artisans, benefits for women were being stressed since they were one of the favoured 'target groups' of the late 1980s amongst some donors. More recently stove projects have aimed to achieve one or some of the following:

- Provide employment opportunities for stove producers and builders;
- Generate income for stove producers, builders, distributors and sellers;
- Enhance the technology development capacity of local artisans/research organisations/agencies;
- Reduce household fuel expenditure to alleviate poverty.
- Reduce women's heavy workload.
- Save women's cooking and cleaning time.
- Save women's fuel collection time.
- Reduce the incidence of lung diseases, and eye and acute respiratory infections through lower smoke emissions, mainly for women and children.
- Increase safety in the kitchen, especially for women and children, by reducing burns and fires.
- Increase women's convenience while cooking.
- Improve the quality of life for households, and/or women and children.
- Alleviate the effects of fuelwood shortages.
- Raise awareness about environmental, ecological, energy, and health issues.
- Promote women's participation in community development.
In addition to multiplying the possible objectives, stove projects have also switched their attention from the technology to the process. It had already been realised, by the early 1980s, that effective dissemination strategies were as much of a key to high rates of adoption as popular stoves. Foley et al. pointed out that dissemination cannot become self-perpetuating while the price of the stove is artificially subsidised (1984:83). It was several years later that programmes began investing a significant amount of effort in creating 'sustainable' stove dissemination through commercialisation. In 1987, at the second FWD conference, it was reiterated that commercial production should be encouraged (Caceres 1989:xiii). As subsidies became less popular with donors, many stove workers focused on establishing networks for selling stoves in urban centres through promotion, advertising and marketing. It was assumed that if stoves sold well, then they must be bringing benefits to people.

Market research has become a feature of many stove project appraisals, as seen in ITDG’s current work in Sri Lanka (see section 5.5), and the Energy Research Council’s project in Sudan (Swartzendruber 1990:28-30). There are obvious difficulties with assessing the demand for a product which potential customers have never seen. Estimates are usually based on household expenditure (especially on fuel, and kitchen equipment), fuel availability, and population density. In theory this market research forms part of the pre-project appraisal, but in practice the information is more likely to be used to construct a marketing strategy. If the apparent demand is low, rather than abandoning the idea of stove dissemination, stove workers tend to assume that it is ‘lack of awareness’ which accounts for disinterest. A campaign of generating demand is then deemed necessary, using stove demonstrations, posters, pamphlets, calendars, newspaper advertisements, television commercials, and other commercial promotional channels.

Two programmes which have been publicised as tremendous success stories are the commercial urban stoves programmes in Sri Lanka and Kenya. In both cases the stoves are now being produced in centralised workshops105 and sold with no continued assistance from any development organisation. In Kenya over 550,000 charcoal stoves

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105 In the Sri Lankan case they are made as a side product in tile factories.
were sold by 1991; in Sri Lanka about 120,000 urban wood stoves were sold by the end of 1990. On the other hand, subsidies have not disappeared from all programmes in these countries. The Sri Lankan Ministry of Power and Energy (MPE) have pledged financial support for their own subsidised rural stove programme, the NFCP, which has distributed over 200,000 subsidised stoves since 1985. In India, where over 1 million stoves are distributed annually through the National Programme on Improved Chulha (NPIC), reducing smoke emissions remains a priority with the government and they subsidise relatively expensive chimney stoves (RWEPA 1991:7). An international group of ‘experts’, brought together by FAO and India’s Ministry of Environment and Forests, decided that: ‘the resources allocated to stove programmes, including the present system of subsidies, should be considered as an investment’ (ibid).

At present, it is estimated that there are over 100 stove programmes, although some may be no more than one community development worker or Peace Corps Volunteer teaching villagers to build stoves in their own houses. There have been programmes for users in at least the following countries: Bangladesh, Bhutan, Bolivia, Botswana, Brazil, Burkino Faso, Burundi, Chile, China, Costa Rica, Dominican Republic, El Salvador, Equador, Ethiopia, Fiji, Ghana, Guatemala, Guinea-Bissau, Haiti, Honduras, India, Indonesia, Ivory Coast, Jamaica, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mexico, Morocco, Mozambique, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Papua New Guinea, Paraguay, Peru, Philippines, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sri Lanka, Sudan, Tanzania, Thailand, The Gambia, Uganda, Venezuela, Vietnam, Zaire, Zambia, and Zimbabwe.

The current programmes reflect a tendency within the stove community towards assuming that sustainability can be more easily found:

- through existing commercial channels in urban areas;
- with relatively cheap, portable, and therefore easily marketable, chimney-less stoves;
- through local, rather than expatriate, management;
- with a design based on the preferences of users rather than those of technologists and planners;

106 The section responsible for the stoves programme is the Department of Non-Conventional Energy Sources (DNES).
Stoves are treated as a product which improves the quality of life for users rather than contributing to national energy interests.

The underlying causal chain in project documents has shifted from combating deforestation to improving users' health and welfare. It used to be:

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High rural fuelwood consumption - deforestation -
introduction of fuel-efficient stoves - reduction of fuelwood consumption - decrease in rate of deforestation.
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It is now more frequently as follows:

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Land clearance and industry - deforestation - fuelwood shortages107 - introduction of fuel-efficient stoves - reduction of fuelwood consumption - alleviation of people's suffering.
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The change in emphasis was recommended by Foley et al. as long ago as 1984, and by field-workers earlier still (e.g., Nagabrahmam and Sambrani 1980), but the shift in objectives has only been evident in proposals in the last few years. Foley has been blamed for a decline in funding for stove programmes because he denied that they solve deforestation problems. However, he argues that as a product for households stoves do have value because they help people to cope with fuel shortages and improve their quality of life (pers. comm.). Even in 1984 Foley et al. recommended an adjustment and not an abandoning of stoves:

107 It is often overlooked, as Foley et al. point out, that in the relatively short-term, forest clearance provides a surplus rather than a shortage of woodfuel (1984:12).
Stove programme have failed partly because they focused on such lofty objectives rather than the problem of easing the very real and heavy burden of domestic existence in so many parts of the developing world (1984:14).

Despite this clear message, at present stoves appear to be suffering from a recession in ‘status’, precisely because stove workers are no longer aiming to combat macro-level problems but to improve the conditions of poorer women at a micro level.

### 4.4. Some Donors Lose Interest

While NGOs have turned their attention to the individual and community benefits of stove programmes, the larger donors, who usually focus on the national perspective (e.g., ESMAP 1990:31), have become disillusioned. One prevalent perception expressed by World Bank and United Nations staff is that despite the large amount of money which has been invested in stoves, there have been numerous failures. One anecdote about stoves, which plainly had an influence on a senior manager in ESMAP, was related by an senior economist who had made a brief visit to Mali. She reported that she had seen people using stoves as flowerpots, and blamed the recent legislation which compelled people to purchase new stoves. In contrast, a consultant who conducted a study of a VITA assisted stoves programme in Mali, found that over 90% of 50 stove users were mostly happy with their stove (Crouch 1989b:13). 38 of the cooks reported that the most attractive feature was that the new stove cooked faster (ibid:15). However, the survey findings may not impress the ESMAP manager since he argues that ‘casual empiricism’ is preferable to sociological surveys. During a meeting with consultants he advised:

> Use anecdotal evidence to support your hypotheses. To decide whether stoves are used or not doesn't take an enormous scientific study... People are alike. Sociologists may theorise about how people are different but you should not get carried away with methodology. Qualitative discussion is fine, but give a number to it. In 9 months we

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108 These views were expressed by ESMAP staff, during one week of meetings held at the World Bank in Washington in July 1990. They are not typical of ESMAP staff, let alone all American donors, but give some background to the organisation's declining enthusiasm for stoves. The opinions of senior staff are given more weight because, not surprisingly, it is they who wield the most influence and make the critical decisions.

109 I was also present because ITDG was initiating a project which also concerned monitoring and evaluation of stove programmes, and all organisations involved wanted to avoid duplication.
want a bottom line answer to the question of whether we get a good return on our investment in stoves. Don't worry about your methodology, casual empiricism is fine.

Although the consultants addressed were hired to evaluate stove programmes worldwide, with a view to advising donors about whether or not to continue funding stoves, it is possible that senior staff within ESMAP had already decided against further stove involvement. Indeed, in 1990 the Director of the Industry and Energy Department at the World Bank was quoted as saying that since woodfuel is running out, urban households must switch from wood and charcoal to fossil fuels such as kerosene and LPG (World Bank 1990:6). Furthermore, a decision about household energy in ESMAP was taken before the evaluation research project was even half completed. In November 1990 a Commissioners Review of ESMAP was presented and endorsed at the 1990 Annual Meeting in Paris. The Commission advised that

> it is preferable for ESMAP to concentrate upon a smaller number of large energy consumers, where clear financial and economic gains are identifiable... ESMAP can only have a relatively small role to play in the implementation of household energy programs (ESMAP 1990:9, 31).

They proposed that the implementation of household energy programs, such as stove projects, should be devolved to local authorities and NGOs, and investment in household energy should be substantially reduced partly 'because the returns are unattractive on economic grounds' (ibid:31-32, 37).

During meetings at ESMAP in 1990 representatives of UNDP and UNSO announced that they were no longer interested in funding stoves unless it could be shown that conserving domestic fuelwood consumption could have an impact on desertification. USAID and UNDP are reputedly expressing further doubts about stoves as a result of the conclusions of the ESMAP review. In early 1991, a USAID Forestry Project in Nepal cancelled the planned $2-2.5 million two year stove sub-project and replaced it with a 6 month study to appraise the potential for stove development.\(^{110}\) Christian Aid decided against continued funding for ITDG's Rural Stoves, West Kenya Project beyond 1990 (long before the larger donors began pulling out), partly because the

\(^{110}\) The revision had to made because USAID decided that $2 million was needed for development in Eastern Europe, but it was the stoves project, in particular, which was cut because USAID were apparently influenced by the ESMAP decision.
poorest households could not buy stoves and due to the negligible impact on deforestation.

Such disillusionment amongst donors is surprising as far as cost-benefit calculations are concerned. Stoves have attracted only about $100 million in total from all donors, a paltry sum compared to most energy projects.\(^\text{111}\) They have been available for a relatively short time bearing in mind that the typical market penetration time for products in the USA is 7-10 years (not including research and development) (Baldwin, pers. comm.). Also, dissemination rates in some countries have been extremely impressive, especially in China, Sri Lanka, India, and Kenya (see section 4.2). It is true that proof of the enduring success of stoves is hardly watertight; on the other hand, as Kirk Smith puts it: ‘absence of evidence does not mean evidence of absence’ (pers. comm.). Even so, many donors appear to be losing interest. The most convincing explanations for the decline are a combination of the following:

- Although stoves programmes may improve the quality of life of users, and generate income for those involved in stove enterprises, these ‘grassroots’ level objectives do not interest most of the donors who have been funding stoves to date. Stoves were fashionable when it was thought that they could save trees, but lost popularity when they became seen as merely as a consumer product with no macro-level impact.\(^\text{112}\) Alleviating problems caused by fuel shortages (e.g., walking longer distances to gather fuelwood), is not perceived as a significant energy issue because it only relates to the micro-level.

- The scale of programmes may be a key factor, as it has been pointed out that stove development is too cheap (World Bank staff member, pers. comm.). Promotion within international organisations, such as the World Bank, partly depends upon the size of the budgets for which staff are responsible. A $2 billion off the shelf power plant can be constructed relatively easily with a small team; spending the same amount on stoves

\(^{111}\) The same amount is spent in only one year on technical assistance to World Bank energy projects and can be contrasted to the Bank's energy sector lending for 1990 (financial year) which was $3.8 billion (ESMAP 1990:21 and 24).

\(^{112}\) Within ESMAP this is partly because it is a narrowly defined energy department, and so does not concern itself with human energy, or health and welfare projects which have no power-related impact.
would require approximately 1,000 projects. This would involve enormous numbers of staff, and a great deal of administration, organisation and co-operation with other agencies.

○ Multilateral donors do not have a good record for implementing stoves programmes, and ESMAP in particular has been criticised for neglecting ‘institutional development’. One recommendation of the ESMAP Review, and possibly a conclusion reached by other donors as well, is that is better to leave the implementation to ‘local’ agencies. The Commission advised that NGOs can more easily implement household energy projects, and since ESMAP gives aid only to government agencies, they suggest that funding for this sector should be substantially decreased (ESMAP 1990:31-2).

○ The donors are preoccupied with other priorities, other regions, and new fashions which show more promise from their perspective of the national interests of ‘developing’ countries. For example, ESMAP’s loss of interest in stoves may have been accelerated by their increasing focus on global warming, gas and Eastern Europe (ESMAP 1990:3). The stove component of the USAID project was cut when $2.5 million was transferred to investment in Eastern Europe.

When these factors are taken together, the apparent decline in interest in stoves should not be a shock. Furthermore, the complexity of social and economic dimensions of national and household energy, and the historical techno-fix propulsion of stove development, may have disenchanted those who are peripherally concerned with household energy. Stove workers often appear to be reinventing objectives to justify their prized inventions rather than responding to the requests of users and producers (see section 8.4).

It is possible that other departments in multilateral agencies will consider funding stoves programmes, but we should probably not expect new players to emerge out of

113 The assumption that NGOs are automatically more efficient than governments at implementing household energy projects might be challenged: government programmes in India, China, Sri Lanka and Kenya have achieved massive dissemination rates, see section 4.2.
collaboration between departments. WHO are showing signs of becoming more actively interested in the potentially positive health impact which stoves may provide. In a report written for ESMAP, Smith points out that 4-6 million children die of acute respiratory infections (ARI) each year, and that the danger is increased by exposure to urban air pollution and tobacco smoke at levels of pollution about 10-30 times less than those typically found in village homes burning fires (1991:1). It seems that there is undoubtedly a connection between inhaling biomass smoke, and the incidence of ARI and the impairment of foetal development. Thus well-functioning chimney stoves can probably make a significant health impact by removing the smoke. WHO, GTZ, ITDG, and others, are concerned to ascertain how much the use of chimneyless improved stoves can also reduce the harmful smoke emissions.

The interest in health may increase as it becomes clearer that stoves may not only reduce the incidence of infections, but affect nutrition and general physical condition as well, especially of women and children (Bouwer et al 1989) (see section 7.4). On the other hand, if the stove community turns its attention to women's development, health, and small enterprises, a positive response from the non-energy departments of multilateral donors, bilateral donors, and national governments is not assured. It is possible that the following warning from French has already become painfully applicable:

If significant wood savings are not a serious prospect, stoves have to be considered more carefully alongside the whole range of ways in which domestic life can be improved: eg by training in health or nutrition, inclusion of women in agricultural extension programmes, provision of potable water, improved schools and clinics etc, etc. When stoves are viewed in this way - in relation to the alternative ways of helping women - both women and governments are almost certain to assign them a very low priority (French as quoted by Foley et al. 1984:85).

In this chapter I have tried to highlight the main threads which run through the history of stove development. I have drawn attention to the recent marginalising of local innovation, the sexual division of labour in stove development, the misunderstanding about links between rural fuelwood consumption and deforestation, the technology driven nature of programmes, and the present decline in interest in stove technology. These themes will reappear in a more detailed form during my presentation of two case studies from Sri Lanka and Kenya.

From 1988 to 1990, I was closely involved in Sri Lankan and Kenyan programmes, planning and evaluating mainly from the perspective of the potters producing stoves. I
carried out evaluations of the Sri Lankan NFCP and Women’s Potter Training Project as a researcher and consultant for ITDG respectively. The information gathered during these trips, and the profiles compiled while working in these two countries, are presented in chapters 5 and 6. The purpose of these two case studies is to provide insight into the process of a British agency giving technical assistance during the planning, implementing, and evaluation of technology programmes. These examples are strikingly different in scale, institutional set-up, objectives, and approach. The Sri Lankan programmes, described in chapter 5, are on a large scale, with over 310,000 stoves being disseminated in six years; the Kenyan example, found in chapter 6, is a small project resulting in the sale of no more than 5000 stoves in four years. In Sri Lanka, the programmes are run by the national government, and funded by bilateral agreements with the Netherlands, British, Swedish, and Norwegian governments; the Kenyan project involves NGOs, until recently, and has been effectively implemented by ITDG. Despite these differences, it will be shown that for the actors involved, especially the producers and users, the processes in the two examples share similar patterns.
5. STOVES IN SRI LANKA

'These Potters are getting above their station'
(attributed to a higher caste Goyigama patti farmer by an anonymous Potter in Matale)

5.1. A Sri Lankan Background

In this brief background I will offer a few points of interest about Sri Lanka generally, an extremely short summary of its history since independence, a word about previous and present improved stoves, and some information about the people who manufacture them.

Sri Lanka is a teardrop shaped island sitting in the Indian Ocean, almost 77 km from the southern tip of India (see next page). It has a land area of about 66,000 sq. km and stretches 350 km from north to south and 220 km across. The topography of the country is characterised by a mountainous region in the South Central region, surrounded by a coastal plain, which narrows in the West and South, and expands to a vast tract in the North and East. The population is estimated to be 17 million, of whom 72% live in rural areas deriving most of their income from agriculture. It has one of the highest literacy rates in Asia at 86.5% (10 years and over), and the 70 year life expectancy is also high. Sri Lanka’s most important industries are based on the manufacturing and/or processing of agricultural products, especially tea, rubber and coconuts, imported oil and chemicals, and textiles and garments. The export of tea and coconut products, and to a lesser extent, tourism, generate much of the foreign
A map of Sri Lanka
exchange. The per capita Gross National Product (GNP) was Rs.6,925 (US$360) in 1987, and between 1975 and 1987 the cost of living rose by 329%.

For 20 years or so after independence from British colonial rule in 1948, Ceylon, as Sri Lanka was known until 1972, was a relatively peaceful democracy. However, in 1971, the radical marxist group the JVP led an unsuccessful ‘insurrection’ in Southern and Central areas against the government they had helped into power (Spencer 1990a:9, also see section 1.2). In 1977 the left-wing Sri Lanka Freedom Party (SLFP) were ousted by the United National Party (UNP) with President Jayewardene at the helm. With large amounts of foreign aid, they maintained the political party as the ‘key medium of patronage and power at the local level, with the MP acting as a conduit for the distribution of virtually all state resources within a particular constituency’ (ibid:11).

In the early 1980s radical opposition shifted from the nationalist Sinhalese JVP to the Liberation Tigers of Tamil Eelam (LTTE), known as the ‘Tigers’, a militant group emerging in the North and East, demanding a separate Tamil state and mixing ethnic chauvinism with marxism (ibid:24). In 1983, thirteen Sinhalese soldiers were killed by Tigers, which was followed by a spate of revenge attacks by the Sinhalese which probably led to thousands of Tamil deaths.

Soon after the 1983 massacre militant Tamil groups started to operate in the East, and civilians, rather than armed forces, became the victims of attacks and counter attacks (Spencer 1990b:2). The Tamils received considerable support from India until 1987, when the Sri Lankan government signed an agreement with the Indian government, giving the latter the role of protectors in the North and East. The treaty was severely criticised by Sinhalese and Tamils, and within a short time the Indian Peace-Keeping Force (IPKF) became the main target of the LTTE. The JVP also began a militant campaign in protest against ‘Indian imperialists’, assassinating government officials, armed forces personnel, and politicians who supported the government and its peace agreement. By the second anniversary of the treaty, in 1989, the outcry against the presence of the Indian army reached a feverish pitch. During the summer the JVP declared regular hartals (strikes) during the day, while the government, led by the new President Premadasa, imposed emergency measures and nightly curfews. Tens of

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115 Some government sources admit that at least 1,000 Tamils were killed, while Tamils claim that the figure is nearer 2,000 (Kapferer 1988:222).
thousands of young men were taken by government forces from the rural areas of central and southern Sri Lanka and detained without trial or shot, while the JVP killed those who defied their hartals, supported the government, or were immoral in their eyes. Finally, under pressure from within India, the IPKF withdrew in early 1990. The two main leaders of the JVP were shot by the police, which appeared to act as the final blow to their brutal campaign. Meanwhile, the hostilities between the LTTE and the Sri Lankan forces were resumed, and now continue with faint prospects for any kind of peaceful settlement.

5.1.1. Early Sri Lankan Stoves

Turning to the more specific subject of the history of stoves, improvements to the three stone fire have probably been in use in Sri Lanka for up to 1000 years. Artefacts unearthed during excavation work in Polonnaruwa contained broken parts of pottery stoves used in the ninth and tenth centuries (Sepalage and Amarasekera 1987:20). It is likely that the improved version of the three stone fire, where stones are covered with mud to form a semi-circular shape, has been in use since the eighteenth century. This U shaped stove was later also moulded with clay, and is still widely used in Sri Lanka and south India. In the 1950s south Indians, immigrating to work on the plantations in Sri Lanka, brought stove improvement practices with them, such as the use of multi-pot hearths made of mud. Some volunteers, government agencies, and NGOs attempted to popularise the south Indian HERL stove in Sri Lanka without much success (ibid:21). It was not until the 1970s that a larger stove project emerged, which proved to be the beginning of an intensive decade of stove development. In 1984 the NFCP was launched by the MPE to reduce the consumption of fuelwood, with the improved fuel-efficient wood stove dissemination project designated as its major activity. Since Sri Lanka imports all its fossil fuels, and the potential of developing hydro-power is limited, an increase of pressure on forest and non-forest biomass resources was anticipated (Sepalage and Amarasekera 1987:1-2). Fuelwood provides basic energy needs for 94% of the population, most of whom cannot afford other, more expensive fuels (Amarasekera 1986:5). For this reason Sri Lanka’s Ministry of Power and Energy began promoting fuel-efficient stoves under the umbrella of energy conservation.
5.1.2. Introducing Stove Producers

A secondary aim of the Ministry's stove programme was to generate income for artisans whose industry was gradually dying. The majority of the producers of new stoves were Sinhalese potters. In 1981 there were 5,483 potters, living in mainly rural areas, of whom 3,052 were men and 2,431 were women. They tend to reside in Potter caste villages, or communities within a larger multi-caste village. Potters often refer to themselves as belonging to 'one big family' stretching across the Sinhalese dominated areas of Sri Lanka. Most female, and some male, Potters move a considerable distance from their place of birth, either on marriage or when leaving the parental home. Marrying within the parental village is rare, and virilocal residence (diga) is preferred, especially in the Low Country. Thus, the idea of one Potter family is reinforced by considerable residential mobility and by a rigid rule of caste endogamy, thereby creating a web of kinship relations islandwide. Kirk argues that Sinhalese Potters in Ratmalagahawewa observe subcaste endogamy more strictly than higher castes. Thus, in contrast to higher caste 'marital opportunism', the Potters' 'strong sense of community is underpinned by a network of kinship relations' (1984b:5).

Viewed from an historical perspective, the pottery industry has been in state of constant flux. During the time of the Kandyan Kingdom pottery making was a caste service. As artisans, Potters were described as lower caste, but observers have categorized them differently relative to other lower castes. Pieris maintains that the order of superiority amongst the lower castes was flexible enough to allow shifts in their status. For example, over three hundred years ago, Potters gained the exclusive privilege of handling the pots of the Lord's house which elevated their position (Pieris 1956:176). Knox, the English traveller held captive in Sri Lanka for twenty years during the seventeenth century, elaborates:

Potters yet more inferior, may not wear any Doublets, nor their Cloth much below the knee, not fit on Stools, neither will any eat with them. But they have this Privilege, because they make Pots, that when they are athirst being at a Houndrew's (Lords) House,

116 Kirk conducted research into the social organisation of a Potter village in Kurunegala in 1980-82.
117 I met only one Potter whose relatives had married outside the Potter caste. The son of a Potter married a higher caste Goyigama woman, provoking permanent ostracism by her family. The Potter's father also expressed disapproval, explaining that marrying out of your own caste inevitably causes 'friction between in-laws'.
they may take his Pot, which hath a Pipe to it, and pour the water into their mouths themselves: which none other of these inferior degrees may be admitted to do: they must hold their hands to their mouth and gape, and the Hondrews themselves will pour the water in. The Potters were at first denied this Honour, upon which they jointly agreed to make Pots with Pipes only for themselves, and would sell none to the Hordrews that wanted them, whereat being constrained, they condescended to grant them the Honour above other inferior People, that they should have the favour to drink out of these spouts at their houses (1681:68).

Knox placed the Potter caste below Barbers in the 1670’s but Davy reported that Potters were higher in 1821 (Knox 1681:68; Davy 1821:112). Yalman’s description of caste hierarchy in 1960 positioned Potters below Washermen and above Blacksmiths, which is the reverse of both earlier orders of precedence (1960:79). On the other hand, this may reflect regional or even local variation as much as historical changes.

In conjunction with the caste system, social relations within the Kandyan Kingdom were defined by institutions such as the system of land tenure (Pieris 1956:5). The King may have granted property rights over the land, in return for personal service and/or payment in money or kind, as early as the tenth century (ibid:43-4). This system of ‘King’s Duty’ or rajakariya could be implemented in a number of ways. Firstly, the lands could be granted to village lords for a fee, entitling them to all dues and services owed by people cultivating portions of their land (ibid:60).

Coomaraswamy lists all the service duties of Potters as follows: they supplied the proprietor of his land with all the necessary earthenware for his house, bath, travel, for soaking seed paddy, festivals, yak and bali ceremonies, and weddings, and they also provided tiles, bricks, clay lamps, and vases for the temple (1908:25). Secondly, the holders of land, usually men, served or paid dues directly to the King. A division of labour was administered by dividing public service into departments, allowing the King to utilize all the labour resources he required (Pieris 1956:99). The Potters came on annual rajakariya to Kandy to perform services, given in return for the right to cultivate land rather than for material payment.

118 By describing Rajakariya as a system I do not mean to imply that it is a closed, ‘integrated entity’ since, as Fuller points out with reference to the jajmani system in India, although there are sets of relationships between patrons and clients, not all aspects of these relationships can be reduced to one functionalist system (1989:41). Also, Good explains that in a south Indian village similar exchanges take place within castes as well as between castes, which challenges the idea of an isolable sphere of jajmani relations (Man 1982:29-30).
Aside from services to the King or higher castes, production by artisans revolved around the immediate vicinity of their village. Knox reports that no large markets existed in Ceylon during his stay (apart from a few shops in the cities), and that only a small amount of trade occurred by exchange of goods or by using corn-measures as currency (1681:98). For example, Potters supplied other lower castes in the locality with pots in exchange for services or a payment of paddi (Kirk 1984b:9). De Wilde tells us that the state even decreed that people were forbidden to purchase goods outside their own village, which limited trade and gave artisans considerable bargaining power (1980:136). Since Kandyan times pottery-making has become part of the market economy. Today pots are market commodities, not service or informal exchange goods as they were in the past, and potters rarely cultivate land (Kirk 1984b:6-8).

Although pottery making no longer entails caste services (except occasionally when pots are made for the temple, former patrons and ritual occasions) the occupation is still considered polluting. It is this, together with the position of working for others and receiving cash payment for services, which perpetuates the lower caste status of potters (Kirk 1984b:12; Yalman 1967:102). Working with mud or clay defines pottery-making as a polluting occupation, but nowadays manufacturing ceramic products with white clay and moulds (which occurs in government centres all over Sri Lanka) is not deemed to be a lower caste activity. It is possible that white clay, being more highly processed and so considered further from its ‘natural’ earthy state, is conceptually less polluting. On the other hand, one potter claimed that it is the throwing process which defines his profession as lower caste, and is therefore avoided by members of higher castes and even by young Potters. Numerous informants claim that young Potters are searching for alternative employment in order to escape the caste identification of working as a Potter. According to adult Potters, their children are still discriminated against in schools, and so acquiring the necessary qualifications for white collar jobs is extremely difficult.
5.2. Stoves Start with Sarvodaya

The recent introduction of ‘fuel-efficient’ stoves in Sri Lanka was initiated by the NGO Sarvodaya Shramadana Sangamaya in 1979. Although Indian stoves had been constructed in Sri Lanka since the 1950s, Sarvodaya found that they did not appear to be sufficiently durable (Stewart 1983:2). An American volunteer - Bill Stewart - began working with stoves by field testing a copy of the Lorena stove from Guatemala. The fifteen stoves installed in households in Kandy District proved unpopular, partly because the four pot-holes were difficult to use, especially with small pots and kettles. In 1980, Stephen Joseph, of the ITDG Stoves Project, visited Sarvodaya and recommended that stoves should be re-designed to suit existing stoves, cooking practices, and fuel usage. Following Stewart’s visit to the Gandhiniketan Ashram in south India, he followed their example and began testing some smaller chimney mud stoves and pottery lined stoves. At this point, Sarvodaya received $9,000 from VITA (USA), Helvetas (Swiss), and Novid (Dutch) for the stoves project. Two problems apparently prevailed: the firebox of the stoves crumbled (often within six months), and the priorities of the cook were being ignored, partly because ‘the men of the household often took the lead position with issues of new technologies even if they had little to do with the activities in the kitchen’ (ibid:10).

During 1981, Sarvodaya had two other sources of inspiration: the Dian Desa stove project from Indonesia and the Thai Bucket stove. An evaluation of the Sarvodaya Stove Project was conducted which revealed that 60% of the stoves were being used for all cooking tasks. On the negative side, durability was still not assured, villagers did not seem interested in building their own stoves, and the stove builders still needed extra support due to insufficient training. It was becoming clear that the dissemination process was as important to success as the technical performance of stoves. A more successful strategy emerged out of the work carried out on pottery stoves, which had begun in 1980. By 1982 the quality was good enough to switch to a chimneyless

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119 The Sarvodaya Shramadana Movement was founded by Dr A.T. Ariyaratne in 1958. Sarvodaya volunteers have worked in over 5000 villages, aiming to develop village infrastructure with community participation, conduct development education activities, and engage in welfare programmes. The aim has been to establish a village orientated, non governmental people’s organisation, whose activities are geared to integrated rural development based on Buddhist values (for more details see section 9.3).

120 Openings above the fire which have rests for the cooking pots to balance upon.

121 Another $6,000 was provided in 1981, partially from Appropriate Technology International, USA.
pottery liner. It had many advantages: the cost was lower; the installation required less precision (and therefore less training) which allowed more time for stove promotion; and the pottery lined stoves were expected to be stronger and last longer (Stewart 1983:18). It was estimated that this stove consumed 20% less fuel, cooked about 20% faster, lasted for between 0.75-1.5 years, took four hours to install, and cost Rs.25 (ibid:21, 23). Over 500 of these stoves had been sold by the middle of 1983.

5.3. The CEB Continues

In 1984 an influential report on energy policy was presented to the Government by Munasinghe. In the document he argued that fuel conservation and the management of forest stocks could significantly reduce the rate of deforestation. The MPE asked the CEB to investigate the possibilities for conserving fuelwood as part of an overall programme to reduce deforestation. In 1984 the President made the subsequent NFCP a high priority as a short-term means for slowing the pace of deforestation (Amarasekera 1986:5). The rationale behind this strategy concerned a mixture of environmental and economic issues. While firewood shortage may tempt people to shift to commercial energy sources, such as electricity, gas or kerosene, this could cause ‘serious dislocations in the economic structure’ (Amarasekera and Sepalage 1987:14). Hydro-power resources were limited in Sri Lanka, and importing more oil at a high cost would have a detrimental effect on the national balance of payments (ibid). So, reducing energy consumption would prevent an increase in imports.

The MPE were also responding more specifically to reports from the Mahaweli Land Development Programme that land clearance for agriculture was causing fuel shortages for settlers. Thus, the Alternative Energy Development Unit of the CEB tested the Sarvodaya pottery liner stove in the Mahaweli ‘H’ area (in Anuradhapura District), and decided that its popularity made it a suitable design. A dissemination strategy was developed which made use of existing government networks, particularly officials such as the District Coordinating Officers (DCOs), the Assistant Government Agents.

122 In 1983 $1=Rs.25.
123 The DCOs were seconded from the Ministry of Home Affairs, where they worked as development officers.
(AGAs), and the Grama Sevakas $^{124}$ (GSs). Initially, the DCOs were responsible for selecting producers for training in stove manufacture. They obtained a list of suitable trainees from the GSs, and passed this on to the CEB’s Training Officer (TO). The stoves are produced by potters in autonomous household units. Very low capital investment is required, since they generally construct all their own equipment, the materials for which can be purchased for relatively little. Both men and women participate in pottery production with children usually giving occasional assistance. In the districts of Kandy, Matale, Kurunegala, Kegalle, and Ratnapura, where my fieldwork was undertaken, the TO claims that he has trained about 200 individual potters to make the two-piece pottery liners for Sarvodaya stoves. According to CEB figures 152 potters received stove training by December 1987 (no potters have been trained since then). Not all the trainees were officially recorded by the CEB, so the TO’s estimates are probably more accurate. During 1987 only 73 potters actively participated in the rural Stoves Programme, which indicates that more than half of the trainees have abandoned stove production since training.

The production processes for making pots and stoves are fairly similar, though the latter require more time to be spent joining the pieces together. All pottery manufacture can be divided into 3 phases:

1. **Collection and preparation of materials.** This involves digging and fetching the clay/s$^{125}$, cutting it with a wire or stick to disperse lumps and clean it, and wedging (or kneading) the clay by foot, to ensure a smooth consistency and plasticity. Most potters mix two or more clays together, to achieve the correct balance of different particles. In addition, water must be fetched and firewood collected or bought.

2. **Formation of the product.** A large amount of clay is placed firmly on the wheel, and products are thrown on the lump (formed out of the uppermost part of the pile). Small pots and the second part of stoves are usually thrown with one hand, while the other hand turns the wheel.

$^{124}$ *Grama Sevakas* had replaced village headmen as multi-purpose village civil servants accountable to Assistant Government Agents in the District Level Administration.

$^{125}$ At this stage some potters add water and leave the clay to sour, or ‘weather’, which improves the durability of clay products once fired.
Sri Lankan potter making stoves in Lapura District

The finished product - Sri Lankan Anagi stove

Sri Lankan potter throwing a piece for the second pot of Anagi stove in Jombo, Sri Lanka
Larger pots, fireboxes and tunnels, are formed with both hands, whereas another potter turns the wheel. Pots and stoves can also be coiled on the wheel (by setting rings of clay on top of each other) or formed in moulds.

They are left to dry for between 8 hours and 2 days, depending upon climatic conditions, until they are “leatherhard”. Pot-makers then beat their pots with the bat and stone, to close the hole left in the bottom, and to form the appropriate shape and thickness. A foot or stand is added to those pots requiring them. Once the stoves are semi-dry, the stove-makers join or assemble the firebox, tunnel, and second part. The main tasks of assembling include: cutting the firebox opening; moulding and fitting the pot rests to the second part; cutting the tunnel and joining it onto the firebox; and cutting holes in the firebox (for balanced combustion). The one-piece stove needs additional assembling tasks, such as, conjoining the tunnel and second part, constructing a baffle between the two, and raising part of the lip of the second part.

3. **Firing.** Once the products are totally dry, they are ready to be fired. In the wet season in the hills this can take up to a week. When the climate is dry in the low country, they are sometimes ready within one day. Once the pots or stoves are stacked in the kiln, they are covered with layers of straw, twigs, mud, and hay to create an airtight dome. Clay products are usually ‘smoked’ for a day, and then fired for at least 6 hours at a temperature of up to 850 degrees (Celsius). If the heat is introduced gradually, the clay is less likely to crack.

Once the training was complete, and the pottery liners were produced to a satisfactory standard, they were purchased by the DCOs and distributed by AGAs\(^{126}\) (Amarasekera 1987a:13-15). In some areas, village organisations, such as the Funeral Aid Society, distributed the stoves for an equivalent commission. The Sarvodaya stove designed for rural users consists of a ceramic pottery liner with two pot-holes, which is insulated by a mixture of clay, sand, ash and cowdung on installation. In addition to generating more income for potters, the Programme has created jobs for stove installers/builders. Between 1984-88, according to official figures the CEB trained 317 stove builders to install the rural two-piece stoves. The installer received Rs.15\(^{127}\) for each stove,

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\(^{126}\) They were given Rs.3 for each stove to cover administration and transport costs.

\(^{127}\) This increased to Rs.20 in 1990.
directly from the customer, while the ‘actual’ retail cost of the stove was about Rs.60-65. In most areas, the subsidy of Rs.50 for each stove, which was used to pay for the potter’s labour, transport, the distributors’ commission, and administration, was funded by agreements between foreign governments and the MPE.\(^{128}\)

The dissemination strategy was tried out in Udunuwara Division and 700 stoves were installed within 8 months, which was taken as proof that the scheme could be effective. Funds were provided for stoves to be disseminated in Hambantota, Ratnapura, and Kandy by NORAD, DGIS, SIDA, and the MPE. By the end of 1985 15,232 stoves had been installed and the Dutch approved funding for a national programme. In the 1986 the Project Manager, Mr R.M. Amarasekera, won the prestigious Mohan Munasinghe Award in recognition of his contribution to energy conservation. The expected benefits over 4 years from 15,232 stoves were stated to be:

**National benefits:**
- Total economic benefit to the country in 4 yrs. - Rs.48 million.\(^{129}\)
- Saving 9000 tons of firewood is equivalent to a firewood plantation of 900 Ha which would cost Rs.9 million.\(^{130}\)

**Community benefits:**
- Providing part time self employment opportunities for 185 unemployed youths.
- Providing impetus to the dying pottery industry.
- Providing an additional income for 74 potters which helps them to improve their standard of living.

**Individual benefits:**
- Total individual financial benefits for 4 years of Rs.3 million.\(^{131}\)
- Improved health and hygienic standards (Amarasekera 1986:3).

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\(^{128}\) Apart from Ratnapura, where the subsidy is funded by the Integrated Rural Development Programme.

\(^{129}\) This figure assumes that each ‘family’ can save, on average, Rs.3150 over 4 years with a new stove. (Amarasekera 1986:33). The national benefits do not appear to include the financial estimates of benefits to stove producers and builders.

\(^{130}\) This estimate is based on financial calculations in Munasinghe’s report, which included: the average firewood consumption of a family per year is 3 tons, stoves consume 20% less firewood, 1 hectare of fuelwood plantation yields 10 tons, 1 hectare of fuelwood plantation costs Rs.10,000, and 20% of firewood used is obtained from the forest (ibid.31).

\(^{131}\) This figure must refer to the income earned by ‘individuals’ building and producing stoves, rather than using them (since the latter are accounted for in the national benefits). However if the installer and potter receive Rs.15 each for each stove, the total for 15,232 stoves is more likely to be about Rs. 4.6 million. Perhaps, Amarasekera is taking into account that some stoves are installed free of charge by community workers or government agents. The references to community and individual benefits appear somewhat confusing. The ‘national’ benefits actually describe savings made by individual users, and the job creation and income generation referred to under ‘community’ involve individuals as well. It is likely that Amarasekera is conceiving national benefits as collective fuel conservation (which is then translated into the impact on deforestation). Furthermore, the idea of community enters into the classification partly because the producers - Sri Lankan potters - nearly always live in caste-based villages (with up to 100 households in one potter village). This does not explain why unemployed youths are placed under ‘community’, rather than ‘individual’, benefits.
The target of the rural programme is to install 500,000 stoves by the year 1995. By 1985 about 15,200 stoves had been disseminated throughout Sri Lanka, and between 1986 and 1987, 66,400 stoves were produced in the districts of Kandy, Kurunegala and Kegalle alone (Amarasekera 1987b:12-15; CEB installation records). During 1988 almost 65,900 stoves were installed, but subsequently the rate decreased due to the political unrest. In the middle of 1989, the CEB stopped collecting stoves for several months because it was dangerous to travel in rural areas, particularly in a government vehicle. Nevertheless, by the end of June 1990 as many as 232,300 stoves had been installed (outside the Colombo District), which is equivalent to about 8.75% of the housing units (Clarke 1991:Appendix II).

5.4 An Evaluation of the Rural Programme

If I compare the expected benefits with the impressions I gleaned during fieldwork in 1988 and 1989, many divergences appear. The main aim of combating deforestation by reducing fuelwood consumption was probably the least successful. The concept of stoves saving forests depends on a formula which became popular amongst energy planners in the 1970s (see section 4.2). It assumes that the number of trees felled to provide rural households with fuel for cooking and space heating can be reduced by giving people fuel-efficient stoves. It should then follow that if cooks use less wood, fuelwood gatherers will refrain from cutting down the forest. This rests on the fallacy that rural people cause or aggravate fuelwood shortages by chopping down trees but, during the course of this stoves programme, there has hardly been a shortage of fuel in most districts, except in some of the central hilly areas. Fuelwood supplies have been plentiful because trees have been felled to clear land for agriculture, to provide timber for the construction industry, and for replanting in rubber estates, and these activities have provided fuelwood as a by-product. Even when cut wood is not easily available, it is now acknowledged that rural women do not strip forests - they gather dead wood, twigs, tea clippings, coconut residues and dung, depending upon the area. It is clear that disseminating fuel-efficient stoves in Sri Lanka has not saved its forests.

132 This does not include Colombo where portable Anagi stoves were being sold.
A second level of benefits was intended for potters and installers. Most significantly, it was expected that stove production would rouse the pottery industry out of its decline. The assumption was that the demand for their clay products was falling with the increase of imported plastic and aluminium cooking equipment. Ironically, as mentioned earlier, Kirk has pointed out that that earning income purely as a potter and/or pot trader has only been possible in the last fifty years with the development of extensive marketing networks (1984b:6-8) (see section 5.1). Thus, pot making and trading as a specialist industry, rather than as additional work to farming, is probably busier for many potters than it has ever been.

As far as demand for clay products is concerned, some cooking pots are being replaced by aluminium and plastic but only for particular functions. Until fairly recently potters hand-crafted: clay pots for cooking, and to contain water, milk and curd; flowerpots and vases; oil lamps; toys and animals; and ‘traditional’ stoves. While households using gas or electric cookers tend to use aluminium pots for cooking, which transmit heat more quickly and do not crack, most Sri Lankans still have biomass stoves and retain the use of clay cooking pots. A case study in Kaduwela in 1986 indicates that 50% of a sample of households cooked with clay pots exclusively, 3% with aluminium saucepans only, and 34% with more clay pots and a few saucepans (the rest did not respond) (Shah 1986). Clay curry cooking pots, water pots, water filters, yogurt bowls, and pots for boiling milk or water are still used in the vast majority of rural households. Even Sinhalese households who have switched to aluminium rice cooking pots still purchase clay rice pots and washing bowls for New Year in April. Handicraft items, far from losing popularity, are in enormous demand according to potters especially amongst middle class urban homes and hotels (Crewe 1988:26).

Although I have argued that the pottery industry is not declining due to falling demand, the numbers of people entering the profession may be decreasing. Potter children would rather take up a different profession, preferably in white collar work in an office, and their relatives would usually encourage such ambitions. As mentioned above, Potter children are still discriminated against at school due to their caste, and since

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133 Many Sri Lankans prefer clay pots to the aluminium equivalents because they claim: (1) they are cheaper; (2) food tastes better when cooked in clay pots; and (3) clay retains moisture, heat and coolness better than aluminium (Crewe 1988:25).
pottery work reveals their caste membership, not surprisingly many wish to avoid identification by choosing different employment (see section 5.1).

While the pottery industry has not been saved, the objective of additional income for potters has undoubtedly already been reached. Since most Sri Lankan potters are extremely poor in relative terms, the increased income for stove producers has significantly improved their standard of living. In 1988, the average per capita monthly income of a pot-maker was Rs.519,134 while a tea estate worker earns Rs.700, a bank clerk Rs.2,800 and a graduate teacher Rs.3,500-3,800. In contrast, a stove-maker makes a monthly average of Rs.1,566, and those who make pots and stoves earn Rs.1,776 in a month (Crewe 1988:32-3). However, this income generation has not been distributed equitably within potter communities. The small number of potters trained (between 2.5-4% of the total potter population135), and the tendency towards centralised production, has caused a greater concentration of wealth in the hands of the ‘elite’ of stove-makers.

By the end of 1987, there were fewer than 75 potter households making stoves. These households earned the bulk of the income from over 230,000 rural stoves, sold by the middle of 1990. Collecting stoves from a very small number of highly productive workshops was logistically easier and cheaper for the project staff, especially during times when travel in rural areas was considered to be dangerous. The result was that several stove-makers began to employ labourers, with one workshop producing up to 1000 stoves a month. The labourers were typically relatives, who received training, room and board in return for their labour, or neighbours being paid a daily or piece-rate wage. This waged labour signals a departure from a social organisation which was previously characterised by relative political egalitarianism and economic equality, according to Kirk (1984a:17). Allowing for some variance due to different producer/consumer ratios, hours worked and production facilities, approximate economic equality prevailed between potter households in Ratmalagahawewa (ibid).136

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134 Rs.31=$1 at this time.
135 The figure was 5,483 in the 1981 National Census, but this excludes five districts and obviously does not take into account population growth since then (Burne 1985a:6b).
136 Substantial inequalities did emerge between different areas, depending upon accessibility to transport and marketing outlets, and regional variation in costs and access to raw materials.
Waged labourers may lose their highly valued position of independence. Potters greatly appreciate freedom from outside interference, and their feeling of being one enormous island-wide family. To illustrate this, they frequently describe independence as the most positive feature of their profession. One potter explains that

*unlike government service, there are no set times to begin and finish work. No one orders you about and you can do your work, eat or rest whenever you feel like it.*

In contrast to this relative independence, as a result of the stove programme labourers are given orders by their stove-making employers, while the latter see themselves as working for the project staff. This should be seen within the wider context of the common claim that the Sinhalese perceive waged labour as demeaning and undignified (Ryan 1958:161; Yalman 1967:102; Perera 1985:161; Kirk 1984a:16).

This loss of independence does not apply to women, since egalitarianism in potter communities has been a feature of political relations between households and not within them. Women have little independence to lose. Although almost half the Sri Lankan potters are women,137 in most cases they are married and perceive themselves as carrying out pottery work for their husbands. They tend to equate their husbands’ interests with those of the household, and ultimately with their own. The stoves project has not affected their relative position within the household and work roles clearly indicate that stove manufacture has not precipitated a change in the sexual division of labour. The gender roles in the manufacturing and household tasks are unchanged (i.e., collecting and preparing materials, carrying products, firing, and household work). The ascription of appropriate gender roles for throwing, coiling, pot beating, and marketing have been replicated in the parallel processes of throwing/coiling stoves, assembling, and selling to the CEB. Men tend to continue throwing the larger pieces, not because women lack the strength, as suggested by Kirk, but because women turn their own wheels while men always receive assistance (1984a:36). Firing is still unacceptable for women due to the ‘unbearable heat of the kiln, which even boils the blood of men’, or for at least several households in a village in Ratnapura, because the kiln attracts demons and women are more susceptible to possession.138 Marketing

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137 National Census 1981 (ibid).
138 Male drummers in Sri Lanka give a related explanation to account for the absence of female drummers. It is not lack of skill but vulnerability which excludes them. Women could be highly skilled at drumming but avoid it for fear of developing calluses on their hands (Reed, pers. comm.).
remains a male role because it is deemed improper for women to travel alone and have dealings with unknown men outside their village (Crewe 1988:48).

On the other hand, an element of inequality has been introduced. In contrast to established modes of pottery training, whereby both women and men learn about pot and handicraft manufacture from their relatives, training in stove-making was targeted at men. Despite the reverse intentions, the CEB’s decentralised strategy discriminated against women. Training involved sending the TO to the workshops, rather than holding courses in towns away from the potter households. Even so, it was usually male trainees who were given the instructions, aside from a small number of unmarried women in Kegalle District were also taught the new skills. It was generally assumed that men would transfer the knowledge to their wives or daughters, which they did only partially. Very few women learned the whole process of stove-making, and so women focused on throwing the smaller pieces and turning the wheel, while men threw the larger pieces and assembled the stoves into two parts.

This does not mean that women’s work has been reduced in quantity in stove-making households. In fact, in some cases it appears that women are spending a greater proportion of their day making stoves than they used to spend producing pots. I have argued elsewhere that this behaviour is an example of a male strategy to protect their position of power (Crewe 1988:22). Postel and Schrijvers point out that

> providing and withholding information is a main mechanism in power relations... Men pass the information on to the women of the household only if, and to the extent that, it is in their own interest (1980:37).

On reflection, I am not entirely convinced by this claim. Firstly, stove training is not a matter of information but practice. A potter learns to throw and assemble stoves by watching and doing it. Since, women watch the process every time they turn the wheel, they could easily develop the skills if they practised by themselves. They do not do so for the same reason that they do not throw large pots - because wheel turning is generally considered ‘too small a job’ for men. Secondly, I came across two men who regularly turned the wheel for their wives, because the couples decided that the women were more skilled at throwing. This arrangement did not seem to pose any kind of threat to the men in these households. Since there are these exceptions, I would question the assumption that all men are driven by a self-interested determination to
keep women in their place. Thirdly, the implication is that men rationally assess what is in their interests (presumably in material and political terms), and then act according to a ‘rule of maximization’. Since the male potters do not explicitly describe this strategy, I would have to deduce it from their behaviour. However, this deduction could just as easily be an interpretation of the *consequences* of behaviour, rather than an observation of the state of mind of male potters (see chapter 9).

The creation of an elite of male stove-makers was the inevitable consequence of the potter selection process. The officer chose those who exhibited: (1) large production capabilities, that is, a large number of workers and adequate facilities and equipment; (2) effective pottery techniques which would ensure high quality stoves; (3) a sufficient income to be able to overcome the financial difficulties caused by the training period and payment delays; (4) reliability and co-operativeness. By making these criteria conditional to selection for training, the project automatically favoured the more successful potters. The priority of the programme was the dissemination of a huge number of stoves, rather than the equitable distribution of income generating opportunities for potters. Therefore, the strategy of concentrating stove production in a small number of workshops (i.e., centralising production), facilitated quick and cheap collection and distribution of stoves for the CEB, but placed a restriction on the number of potters who could benefit (Crewe 1988:20-21). Many of the relatively poorer potters who did take up stove production had to abandon it after training because they could not afford to wait for the CEB’s payments, which could take up to two months to arrive (see section 5.6).

Finally, what about potters who are not involved in the programme at all? Obviously, the stove programme is not in their interests in any way. The extent to which they were affected varied according to their relationship with the stove-makers. The *Goyigama* neighbours of stove-makers in a village in Matale perceived the programme as undermining their interests. The stove-making couple belong to the only Potter caste household in this village, and they claim that the present generation are more concerned about caste than their parents were. According to the husband, who I shall call Appunaide, his parents addressed higher caste *Goyigama* members by their family name and even ate with them, while he is expected to address them with the deferential term of address *Banda*. However, the behaviour of higher caste neighbours has changed significantly since he started making money through stove manufacture.
In the past, he used to pay interest on debts by labouring, and showing deference to the Goyigama loan givers. They used to expect him to greet them politely, and would only give him a low bench if he visited their houses. Since Appunaide has become wealthier, and had paid off his debts, their attitude to him and his family has been completely revised. He never works for them (even when they offer him as much as Rs. 100 a day), he does not always greet them, they address him by his family name (which is far more polite than his caste name), they offer him a chair, and generally treat him with more respect. On the other hand, he adds, the resentment is made clear, not to his face, but behind his back. For example, according to my interpreter, as we approached his house, some higher caste neighbours jeered: 'there comes another white tourist'. Appunaide concludes that they are not jealous of his money, since they earn far more than he does from growing rice, but are angry that they can not keep him at his 'proper low caste level'.

The Goyigama households in the village I lived in, Boranama, were also distressed by the attention which the Potter households received. In many villages, members of the same Potter caste, who were not on good terms with stove-makers, gave voice to considerable resentment as well. In one village in Kandy a potter gave up making stoves because he suspected that his stoves had cracked due to interference from jealous neighbours. According to his wife, he had made stoves happily for four years. Then, during one firing every one of the 100 stoves cracked in the kiln. He tried again and again, but the same problem occurred, so eventually, he consulted an astrologer. He told him that his neighbours had used spells to break the stoves because they were jealous of his relationship with the CEB.

Potters on good terms with the stove-makers, viewed the stove programme in a different, rather more ambiguous light. They expressed pleasure at the idea of a 'member of the potter family' doing so well, adding that since they belonged to the same 'family' it benefited them as well. At the same time they resented the fact that

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139 This is the pseudonym for the village I stayed in when living with a stove-making potter household in 1989. The Goyigama were so infuriated by the attention that the lower caste potter households were receiving from the government and from foreigners, that they reacted with hostility on a number of occasions (see section 1.2).

140 Subsequently, the astrologer conducted an exorcism and told him that he would find another job. He became a stone mason. When I visited in 1988, they still had no communication with their neighbours, the closest one being his brother, and the latter refused to talk to me about the stoves project at all.
they had not been given the same opportunities. It was not only the money which neighbouring potters felt they were missing out on, but equipment, a stream of important visitors, and a guaranteed market. The exclusivism was perpetuated by the policy of the CEB purchasing stoves from a select group, so even when neighbouring potters learnt to make stoves, they did not have the necessary contact with the CEB for selling. There has also been a substantial amount of money earned by the installers. Since a total of about 232,300 stoves were installed by the end of June 1990, at least Rs. 3,484,600 must have been generated as income for installers (Clarke 1991: Appendix II).

Finally, what about the objectives relating to stove use? The users have been impressed by the rural stoves, even if their reasons are different from the expected benefits mentioned above (see section 5.3). Although the stove uses at least 20% less fuel, this saving could not significantly reduce rural household fuel bills, as claimed in the proposal, because the overwhelming majority gather rather than purchase their fuel. On the other hand, according to purchasers, these stoves have provided benefits at a low price. A study amongst users in Hambantota found that the most ‘favourable quality’ was the reduction in time required for cooking. Reduction in fuelwood consumption was ranked as the second preferred quality (Sumanasekera 1986:18). In a study in Kurunegala and Ratnapura, all the 52 users questioned stated that the stove was valued for its ability to cook faster and consume less firewood (Amarasekera and Sepalage 1987:58). Cooks have remarked upon the fact that these stoves emit less smoke, leave less soot and tar on pots, and make it easier to warm or boil water because they hold two pots at the same time. The health impact of inhaling biomass smoke from these stove is, as yet, unknown.

In summary, in relation to the aims, the project has (1) had a marginal effect, at most, on the primary national concern of reducing deforestation, (2) secured incredible incomes for a small number of male potters and rather less for women and labourers and (3) made little difference to fuel bills, but increased convenience and cleanliness in the kitchen. Although not mentioned in the project objectives, according to project

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141 It should be noted that constant supply of visitors has their disadvantages. One potter was so infuriated by being interrupted in his work that he took a job at a Sarvodaya workshop to get away from the visitors.

142 This was Rs.15 up until 1990 when it was increased to Rs.25.
monitoring, the most popular attribute of the stove amongst users is the fact that it cooks more quickly than a three stone fire (ibid:92). For women, who spend up to seven hours cooking, in a fifteen hour working day, it is not surprising that reducing this workload is highly valued.143

5.5. Factory Production of Urban Stoves

The ideas for the recent CEB/ITDG urban stoves project have their roots in 1985, when the ITDG FFFP Manager visited Sri Lanka to evaluate the rural and urban programmes. He suggested that higher dissemination rates should be the priority and that one way to expand the market would be to promote a cheaper one piece stove. He also argued that centralising production of portable stoves in urban based tile factories (in Colombo, Gampaha, and Kurunegala), would provide higher production levels than could be produced by potters (Burne 1985a:21). A factory made stove would be of a higher quality, and therefore offer greater benefits to users. On the other hand, he added, there was also room for informal sector producers, who could sell for a lower price, thereby making the stove available to the poorer sections of the community (ibid). A year after this visit, ODA agreed to fund a new urban based project through ITDG as part of a bilateral agreement with the MPE. The main objective was 'the reduction of the consumption of fuelwood for domestic cooking using an improved design of cooking stove' which, it was hoped, would reduce fuel bills for the 'poor and middle class of Colombo' by 50% (ITDG 1986:1,4). The CEB began work on a new portable version of the Sarvodaya stove. The Ceylon Institute for Scientific and Industrial Research (CISIR) had already tested a one-pot144 woodburning stove, and the Industrial Development Board (IDB) had designed a one-pot stove with a small chimney.

The CEB and ITDG decided to promote their newly designed two-pot Anagi145 and the one-pot CISIR model through centralised production at the tile factories in

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143 On the other hand, it should not be assumed that time-saving technology automatically reduces women's workload. In the USA, research in the 1970s revealed that despite the widespread adoption of household technology, women spend as much time on housework as their grandmothers once did (Rothschild 1983:82).

144 This is conventional short-hand for describing a stove with only one place for placing the pot on.

145 This means excellent in Sinhala.
Negombo, Colombo District. Their immediate project aim was to develop production facilities for 100,000 woodburning stoves per year for the Colombo area. Thirty tile factories were contacted and five became involved in production, attaining a production level of 50,000 stoves with two years. By June 1990 over 80,000 had been sold through wholesalers and retailers in Colombo District, and many ‘pirate producers’ began copying and selling the stove in Gampaha and Colombo Districts.

Despite an unusually, possibly uniquely, high market penetration (28% of the Colombo households had bought an Anagi by 1990), an evaluation carried out in 1989146 by ITDG, BEST,147 and ODA was not entirely favourable (Aitken et al. 1989). The reasons for this were not due to failure measured by a cost-benefit analysis, since the project achieved an estimated internal rate of return148 of at least 135%, which was more than the 128% predicted by ODA at the appraisal stage. The criticism centred around the inadequacy of the proposal written in 1987. The project failed to meet the objectives in the original proposal because, due to insufficient research, the dissemination targets set were beyond the realms of possibility. The original proposal wrongly assumed that the stove would save 50% fuel, that a 50% penetration rate would give a market size of 112,500 per year, that the rate of deforestation could be reduced, and that poorer households would buy the stoves. An evaluation, written by ITDG’s Sector Economist, reveals that the stove uses around 25-30% less fuel, that in 1989 market penetration was around 21% or 40,000 to 50,000 stoves a year, the rate of deforestation could only be reduced by a maximum of 0.4%, and that only 5% of stove purchasers lived in low standard housing associated with lower income groups (Jones 1989:50-52).

ODA decided that their funds had helped to get the urban stove manufacture started but that it was up to ITDG to find other sources of finance if they wanted to continue the programme beyond the original plans. The collaboration between the CEB and ITDG continued. While the CEB’s rural project carried on until recently with Dutch funding, and a new project was initiated in the tea estates under the Janatha Estates Development

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146 At the time of the evaluation about 60,000 stoves had been purchased, out of a possible 290,000 housing units, so the figure was closer to 21%.
147 Biomass Energy Services and Technology which is based in Saratoga, Australia.
148 This was calculated on the basis of the following estimates: the total project costs were £100,674 from ODA and about £4,000 from the CEB; and the benefits (fuelwood savings, factory profits, wages of potters and assemblers, wholesalers’ profits, and retailers’ profits) were projected to be £1,693,302 over 9 years if 30,000 stoves are sold per year (Jones 1989).
Board and the Sri Lanka State Plantations Corporation medium term investment plan, ITDG decided to appraise the potential market for Anagi stoves in rural areas. Since the subsidy for Sarvodaya stoves was gradually being phased out by the Dutch, and the distribution of these stoves without the government network would be difficult, it was proposed that rural potters should switch to making the Anagi stove. Although harder to manufacture, the advantages of this stove are that it is portable, and can be sold directly to retailers or customers without the need for installation. Distribution would not depend on the CEB, but on the potters re-establishing links with the pottery retailers and wholesalers. To avoid making the same mistake as before, during 1990 ITDG aimed to obtain more precise estimates of the demand for new stoves.

An ITDG social scientist collected information on production and distribution costs, which indicated that several rural potters were already producing liners on a commercial basis at a price of between Rs.55-65. Market research consultants were employed to assess potential demand, partly through carrying out a large scale survey, and a figure of 71,802 potential purchasers was projected for the following year (Banda and Sundar 1990:19). Much of the information on Anagi stoves in Sri Lanka was collated by the UK based marketing specialist who increased the potential demand to 117,968 for year one, by assuming that an additional 20%, and not 10%, would buy the stove (Clarke 1991:5). A marketing and distribution strategy was suggested, whereby areas with a fuel deficit, high population density, availability of potters, and absence of subsidised stoves would be defined as regions of high potential for stove production sales (ibid). However, it was estimated that only 42% of urban households and 29% of rural households could afford to buy an Anagi stove at a cost of at least Rs.55.

149 The Anagi functions as efficiently without a surround, but installation improves its durability and so is recommended. Since the liner is fixed, this task can be carried out easily by householders. On the other hand, the incidence of breakages while transporting this model is higher than the Sarvodaya stove and the Anagi is Rs.5 more expensive at around Rs.65 (the price varies according to the producer).

150 In fact, it was already evident that in Hambantota, where the subsidy had been withdrawn, potters had stopped producing Sarvodaya stoves for this reason.

151 ITDG staff often wrongly suppose that the location of potter communities is primarily determined by the availability of clay. It has been pointed out, in contrast to this environmental deterministic approach, that 'social and economic factors are often paramount in the location of pottery manufacture' (Nickle 1979:449). In Sri Lanka pottery manufacture is related to Potter caste membership, so that, for example, women Potters may continue their profession on marriage even if they have moved to a village with no clay source nearby. Other potters prefer to transport better quality clay from a distant source, even when they could collect lower quality clay from a location close to their village.

152 These figures were based on expenditure on durables/non-durables (1985/86 Department of Census and Survey) and the consumer price index. No account is taken of the probability of consumers spending this amount on other durables, rather than stoves (Clarke 1991:12).
In 1990, the CEB’s NFCP Manager decided to set up a new NGO - called Integrated Development Association (IDEA) - which provides ITDG with a new collaborator with less apparent bureaucratic constraints than the MPE. According to the NFCP Manager, while the MPE is concerned with energy issues on macro-level, such as combating deforestation, IDEA has objectives which relate to community and household levels. The stoves programme can even be seen as in conflict with other objectives within the MPE, since, if adoption of stoves reaches high rates, it could undermine the CEB’s attempt to get households to switch to electricity. Nevertheless, while ITDG and IDEA plan a new programme, the MPE has agreed to provide the CEB with funds for continuing the rural stoves programme without external support.

In March 1991, a planning meeting was held in Rugby with the NFCP Manager, ITDG’s newly recruited Project Officer (PO) in Sri Lanka, and the Rugby based FFFP team. Objectives for the extension had already been drafted in 1990 by ITDG’s PM. With a few modifications, they were agreed as follows:

- to create additional income earning opportunities for potter communities;
- to improve household conditions through greater cooking convenience and saving of time spent in the kitchen;
- to reduce fuel costs and/or time spent collecting fuelwood.

It has been assumed that lower income groups are likely to begin buying the improved stoves once their benefits and durability become better known. However, it is acknowledged that at Rs.55 the Anagi stove is too expensive for the poorer households. Even a traditional improved stove, selling at Rs.20, is apparently beyond the reach of approximately half the rural sector and 38% of the urban sector (Clarke 1991:12). To overcome this, the programme will work through the Jana Saviya Programme, whereby those categorised as ‘poor families’ could receive vouchers for an improved stove from their local cooperative shop at no (or nominal) cost. There is an obvious problem with such a scheme: if the voucher is for a stove, then the purchaser does not have the freedom to choose the goods they want. In the case of

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153 The programme of poverty alleviation was originally proposed in the United National Party’s Manifesto in 1988. It began operating in 1989, under the Home Ministry, by giving ‘poor families’ Rs.2,500 each month for consumption and investment in their future. This would be promised for 24 months, by which time it was hoped that the recipient would have found ‘sustainable and durable employment’. The assistance would then be replaced by development support programmes.
poorer households it may be food and fuel which are necessary for survival, and an improved stove might be a relative luxury.

In the latest proposal it has been agreed that women and men should have equal access to income earning opportunities through stove production and marketing training. The TO will upgrade the skills of both women and men potters, rather than assuming that men will pass on information to their female relatives. Project staff have agreed that where producers live in potter communities, training should be offered as widely as possible rather than favouring a small number. Although centralised production can lead to high production levels relatively quicker, which makes more stoves available for users, it has been recognised that the creation of stove-making elites is morally undesirable. In the future, efforts will be made to ensure that access to the benefits of stove production will be distributed more equitably between and within households.

5.6 Welfare versus Commerce

It has been argued by many within ITDG that the subsidy, although keeping prices low, has caused some problems for the Project. In various documents between 1988-90, while working for ITDG, I have written the following statements in connection with the subsidy:

1. The government network which undertakes to pay the potters for their liners is cumbersome and it takes between 3 weeks and 2 months to send the cheques to the potters. Consequently, stove producers have been known to consume their savings, take goods on credit, arrange loans at extremely high rates of interest, or even abandon stove production (Crewe 1988:36; 1989a:14).

2. It has been easier to administer payments to a small number of producers, but it has exaggerated significant disparities in the distribution of wealth amongst potters. The emergence of an elite of relatively richer stove-makers has caused resentment amongst the neighbouring pot-makers. Furthermore, the tendency towards centralised production has encouraged the employment of waged labourers amongst potters, which arguably
introduces a new inequitable dimension to the socio-economic structure of potter communities (Crewe 1988:43-5).

3. Most producers have no contact with distributors, retailers, or customers. Potters do not sell any of their stoves through the existing marketing networks, partly because the CEB discourage it.\textsuperscript{154} This policy was adopted to ensure that the quality of all stoves was checked, to distribute the subsidy, and to attain high targets for dissemination. Aside from the CEB policy, retailers could not compete with the subsidised price and did not have access to stove builders. This has dramatically reduced the amount of responsibility taken by stove-makers for quality control, promotion, and marketing. It has also meant that many stove-making potters have lost their long-standing and valuable links with ceramic wholesalers and retailers.

4. It is not necessarily the poorest people who are benefiting from the subsidy, since stoves are usually purchased by better off households. An IRDP\textsuperscript{155} study in Hambantota showed that rates of adoption were highest amongst farmers and professional groups, and lowest amongst labourers (Sumanasekera 1986:12).

5. The subsidy relies on external funding. It has been said repeatedly (since 1988) that this will be withdrawn within the near future, which could jeopardise the long-term viability of stove businesses. Possible results of relinquishing the subsidy may be: potters will have to re-establish links with previous marketing outlets; the overall price of the stove will rise; the quality of stoves could diminish; and sales may decrease. In fact, although the Dutch funding has stopped, the MPE have agreed to fund an extension during which time the subsidy will be gradually phased out in established areas, and introduced in new areas (Amarasekera, personal communication).

\textsuperscript{154} The CEB have begun to encourage producers in Ratnapura and Kandy to market \textit{Anagi} stoves themselves.

\textsuperscript{155} Integrated Rural Development Programme.
On a more positive note, I agree with the CEB's assertion that it is highly likely that the project would not have achieved such enormous dissemination rates without the subsidy, since the full price was too high for relatively poorer households. If I acknowledge that the subsidy is necessary for reaching poorer households, why did I blame all the set-backs faced by the project on the subsidy? In fact, the first three statements above do not relate to the principle of subsidising the price of stoves to the consumer at all, but to the government system for distribution. I suspect that, in the past, I have been reducing the project strategy to one factor - the subsidy - and judging the whole package with repetitive reference to this one aspect. Rather than blaming subsidies for everything that went wrong, it is more useful to evaluate some parts of training or dissemination strategies separately. As examples, the training selection process favoured men, while the incredibly high dissemination targets forced the government to centralise production.

The first three problems (mentioned above), which I once maintained arose out of the subsidy but more precisely resulted from government-run distribution, can be summarised as follows: (1) the payment delays; (2) the emergence of an elite; and (3) diminishing contact with commercial outlets. All three were the result of choosing paths which were convenient and 'cost-effective' for the government, but could have been avoided. If other parts of the MPE had been more efficient about processing payment, and several (rather than one) TO had been employed, two of these problems would not have emerged at all. If contact with the established commercial outlets, and stove sales had been organised through shops or markets, the distribution and monitoring of the subsidy might have been more complicated. Nevertheless, I would surmise that dissemination strategies involving commercial outlets have been avoided not because they are logistically impossible, but because they are more difficult and expensive to control.

156 At times there were also delays in collecting stoves, the reason for which was entirely beyond the control of the CEB. Officials were understandably cautious, since the government was the main target of the JVP. Driving in government vehicles was not safe, especially at night, and so collecting the stoves from remote rural areas sometimes presented difficulties. It was only at the height of the confrontation between the JVP and the government (during the summer of 1989) that the CEB told the potters to stop producing stoves, because they were not in a position to buy them. By the end of the year, the links were restored, and the stoves programme returned to normal.

157 The government employed installers could have purchased the stoves from retailers at the full retail price, and then sold them to users at a reduced price. If necessary they could have collected names and addresses of users for checking by more senior officials, to ensure that no one was being charged a higher rate.
The last two problems (see above) are more directly concerned with the subsidy: (4) the poorest do not benefit; (5) dependency on limited outside funding. On the other hand, the fourth point is not a convincing argument against subsidies. It is likely that the poorest in Sri Lanka cannot afford to let their children attend free schools for as long as richer households, but it does not follow that the government should begin charging everyone. This problem is not a result of subsidy, but part of the condition of poverty. The final point is related to difficulties arising through transferring from a subsidised system to fully commercialised distribution. Since the government has decided that improved stoves are highly beneficial, they have decided to continue the subsidies alone, so the problem of artificial demand relying on foreign funding does not apply.

The implication that ‘real’ demand only exists in the market-place, whereas welfare is ‘artificial’, is not only embedded in current capitalist discourse about money and exchange, but assumes that demand can be a predictable constant (see chapter 9.1). Guessing how many people will buy a stove, bearing in mind population density, previous sales, access to disposable income, existing kitchen arrangements, the amount of time spent collecting fuelwood, interest in new equipment, household size, relationship between cooks and their spouse, and so on, is plainly a dubious task from a scientific point of view. It is not surprising that the proposal for the urban stoves programme estimated a market penetration of double the eventual number of sales. But does it matter? The producers and distributors took no notice of the project’s yearly estimates and responded to orders from the retailers which were based on judgements of potential customer purchase in the very short term. Even if the market estimates were far too generous, commercially the project was a great success. The evaluation should have focused its criticism on the planning stage, and recognised that, despite the inadequate project design, the implementers and factory owners should get the credit for an impressive achievement. It is easy to forget that project can be both a success and failure at the same time, depending upon whose point of view you consider.

158 The guesses involved in assessing demand require the researchers to make generalisations about human behaviour across large areas. The common presuppositions in market research for stoves are that high population density, high stove sales, fuelwood shortage, and high disposable income are more likely to induce people to buy stoves. Isolating these factors from others is an arbitrary exercise but is rarely given an explanation. A story about a market researcher in Africa illustrates the difficulty with interpreting information about demand. A British company sends two researchers to Africa to assess the demand for shoes. One month later they return. The first says: ‘I travelled all over Africa and saw that no one has any shoes. There is a tremendous potential demand, you should export immediately’. The second says: ‘I travelled all over Africa and saw that no one has any shoes. I am afraid they just don’t need them, so I would forget it and try somewhere else.’
In this chapter I have related a stoves story from Sri Lanka, with particularly attention to the CEB’s rural and urban programmes. New stoves in Sri Lanka have been remarkably popular, mainly because of their faster cooking capacity, but have made a negligible impact on deforestation. Neither programme reached its objectives as laid down in planning documents, but I argued that from the viewpoint of over 320,000 users, about 70 stove-making potters, and the owners of tile-factories, the stove programmes were successful. On the other hand, benefits did not reach poorer potential users who could not afford the stove, and 5000 or so potters not involved in the new stove industry. Within ITDG, the set-backs of the rural programme have been attributed to the use of subsidies in the distribution strategy, while a fully commercialised approach has been credited with the perceived success of the urban programme. However, I would propose that in both cases the programmes lacked a thorough exploration of the political and economic significance behind decisions taken by staff. Before elaborating on this point in chapters 7, 8, and 9, I will turn to my second case study which tells the story of stoves in Kenya.
6. STOVES IN KENYA

'Vehicles arrive, Europeans get out, and people think they are bringing us basins of money'
(anonymous Kenyan potter)

6.1. A Kenyan Background

Following in the footsteps of the previous chapter, in this background section I will offer a few points of interest about Kenya generally, a brief summary of its history since independence, an introduction to the Kenyan jiko (stove) industry, and some information about the people who manufacture them, the Luo women potters.

Kenya is bordered by Somalia to the North East, Ethiopia to the North, Sudan to the North West, Uganda to the West, Tanzania to the South, and the Indian Ocean to the East. It covers about 582,600 sq. km of mostly arid steppe. Only 14% is suitable for cultivation or intensive grazing, concentrated in the south-western corner of the country in the Kenyan Highlands which is split by the Rift Valley. The topography of the country is even more varied than Sri Lanka, with a narrow coastal belt in the East, which rises to meet the base of the Highlands at 1,370 metres, semi-desert in the North, and more fertile land around Lake Victoria in the West.
A map of Western Kenya – the area covered by ITDG's rural stoves project
The population stood at 24 million in 1990, and Kenya has the highest population growth rate in the world, at about 4% per year. Life expectancy at birth has risen from 49 years in 1969 to 54 years in 1979, and 57 years in 1983. It probably has the third largest number of A.I.D.s cases in Africa, after Uganda and Zaire, though the Kenyan government’s official line is that the problem is much exaggerated.

In the ‘scramble for Africa’, Kenya came under colonial rule as British East Africa in 1888. Protest at the foreign government was expressed by Luos, the people I am concerned with in this thesis, at various points during British imperialism. Following resistance from Luo fighters, massacres took place in Kisumu in 1896 and 1899, after which the Luos submitted to British authority. In 1922 Governor Northey visited Nyahera (the same sub-location as one of the stove-making potter groups) to meet a union of young protesting Luos (Ochieng 1989:82). Resentment against British rule was also expressed through the cult of Mumbo, which rejected European influence and advocated a return to pre-colonial ways, gaining a substantial following amongst the Luos of South Nyanza during and after the first World War.

Colonial rule lasted until 1963, when independence was won, partly through the efforts of a greatly revered Luo leader, Tom Mboya. Kenyatta, who led the government from independence until his death in 1978, reputedly found Mboya’s popularity and influence a threat. Either he, or his associates, ordered Mboya’s assassination in 1969, leaving a scar of resentment amongst the Luos which has never healed. In 1982, four years after Moi took over from Kenyatta, he discovered a clandestine movement called the ‘December Twelve Movement’, a group of dissenters (not only Luos) who made demands for a democratic system (ibid:209). An attempted coup was quickly suppressed, and Kenya officially became a one-party state, rhetorically because it was feared that a multi-party system might encourage tribal hostility. Since then many Luos have voiced opposition to the one-party state, and the government in general, led by Moi. Antagonism has been recently fuelled by the murder of another Luo leader, Ouko. He was the foreign affairs minister in Moi’s government, and was allegedly assassinated on the instructions of other government ministers whose corruption he was about to expose. The support for democracy and a multi-party state is swelling but almost all oppositional political activity is usually severely repressed by the government. Oginda Odinga, the former Luo Vice President, tried to register a new
party, the National Democratic Party, but was thwarted by the Nairobi High Court in 1991.

As far as Kenya's present economic situation is concerned, the principal exports in 1990 were tea, coffee, horticulture, petroleum products, and soda ash. Until recently it has been admired by aid donors for its rapid economic growth, as shown by the GDP growing steadily at an average of 5.4% since independence in 1963. Between 1958 and 1968 gross farmer revenue of small holders grew from K£8m to K£34m, with the greatest increase in coffee production (Ochieng 1989:210). Rapid extension of agricultural and industrial sector through private, often foreign, investment made Kenya popular with the donors. In 1991 aid accounted for 11% of GNP, mainly from the World Bank, Japan, and the EC, while the proportion was only 5% in the 1970s. On the other hand, radical scholars, in Kenya and abroad, such as Langdon, Keys, and Raplinsky, have interpreted the dependency on foreign capital as a form of neo-colonialism. They criticise President Kenyatta for shifting the government party - Kenya African National Union (KANU) - from a nationalist, socialist party to one embracing private ownership and capitalism (ibid:203).

6.1.1. Early Kenyan Stoves Programmes

Following the oil crises of the 1970s, and the rising price of petroleum, Kenya became acutely concerned about energy. In 1980, according to the Beijer Institute, nearly 50% of the total wood supply was reputedly obtained through depletion of stocks (Burne 1985b:5). As a result fuel-efficient stoves were taken up by the government and external donors in the 1980s as a means for reducing fuel consumption and the rate of deforestation. Manufactured stoves were not new to Kenya. The jiko industry has been described as an example of successful artisan production within the informal sector (Kinyanjui 1985:150). The so-called ‘traditional’ charcoal burning metal design was apparently introduced into Kenya in the 1920s by immigrant Indian artisans. Demand has steadily risen as the population has increased, so that by the mid 1980s an estimated 8,000 self-employed artisans were earning their living by making stoves. Their industry, which accounts for 95% of charcoal stoves made in Kenya, involves:
procuring, transporting and selling the raw materials;\textsuperscript{159} manufacturing, selling and distributing the finished product; and making the simple tools required for production. He adds that the industry has not become ‘institutionalized’ within Kenya’s formal education system, and that skills are mainly acquired through apprenticeships and a few village polytechnics (ibid:151). The artisans’ workshops are concentrated in major urban centres throughout the country, with the larger centres situated close to the supply of raw materials.\textsuperscript{160}

The owners of jiko businesses usually carry out their own work with part-time labour and apprentices, but rarely employ full-time labourers (ibid:152). Most apprentices establish their own business within a year to two. It is common for an artisan to produce and/or sell other household items as well, in order to ensure a steady income. The capital cost of starting a business was estimated at $140 in 1983, and the likely income for an owner might be $40 per month. They are usually purchased by wholesalers or retailers from the workshops, and then sold to consumers with a 5-10% mark-up. According to Kinyanjui, due to efficient use of capital, labour, and materials\textsuperscript{161}, the price of these stoves are kept relatively low only rising from $0.5-1.0 in 1960 to $1.2-3.0 in 1983. Although they ‘resist attempts to organize them into co-operatives’, they share expensive tools, pass orders to each other, exchange skills, and often purchase raw materials together in bulk (ibid). On the negative side, artisans commonly find it difficult to secure tools and stock at night, are harassed by municipal authorities, and exposed to dangerous chemicals in drums (ibid:153).

Recent technical research on improving charcoal stoves began in 1977 at Kenyatta University College and later at Egerton College (Hyman 1989:376). The Bellerive Foundation and UNICEF designed new models in 1979 and 1980 respectively, and interest widened further after the UN Conference on new and renewable sources of energy in Nairobi in 1981. In the same year, Keith Openshaw (then at the Beijer Institute) suggested that a ceramic liner should be added to the ‘traditional’ Kenyan charcoal stove, which had already been successfully tried in Thailand (ibid: 377). This ceramic stove was further developed with support from the Kenya Renewable Energy

\textsuperscript{159} This includes oil drums or other scrap sheet metal, rivets, and round steel bars (Kinyanjui 1985:153).
\textsuperscript{160} The main centres can be found in Eldoret, Kakamega, Kalifi, Kisumu, Malindi, Meru, Mombasa, Murang’a, Nairobi, Nakuru, Nyeri, Thika, and Voi (Kinyanjui 1985:151).
\textsuperscript{161} Kinyanjui describes the production process in some detail (1985:153).
Development Project (KREDP), funded by USAID through the Ministry of Energy and Regional Development (MoE). The programme was contracted to Energy/Development International (E/ID) with Kinyanjui directing the stoves part of the project. ITDG and Kenyatta University were involved in further design work, and the Kenya Energy Non-Governmental Organisations Association (KENGO)\textsuperscript{162} carried out field tests, which led to the development of the bell-bottom stove, more commonly known as the Kenya Ceramic Jiko (KCJ).

The project trained metal workers, most of whom still work in the public market at Shauri Moyo, to manufacture metal claddings. They still sell these to pottery producers, who make the liners and then market the completed stoves. Production is reasonably centralised, with about about 4,500-5,000 being produced in Nairobi per month. Sales have remained remarkably high; to date an estimated 550,000 KCJs have been sold in Kenya alone, and about 8,000 KCJ are made per month in Africa, including Rwanda, Sudan, Tanzania, Togo, and Uganda. From the user’s viewpoint, the stove saves about 25kg of charcoal per month (Allen 1991:vii).

While charcoal stoves were for urban users, and relatively richer rural dwellers, the vast majority of rural households were unaffected by this project because they depended on collecting wood for fuel. So, rural initiatives were promoted simultaneously, one of the largest being the Special Energy Program (SEP) funded by GTZ. The following goals were formulated for Kenya: the SEP would aim to stabilize the balance-of-payments, improve the standard of living of the population, and reduce ecological damage. These would be achieved by reducing Kenya’s dependence on imported, conventional energy; improving the energy supply in rural areas; and reducing the consumption of existing wood stocks (Blum 1990:9). Although the programme was placed under the Ministry of Energy, the implementation agencies were Maendeleo ya Wanawake,\textsuperscript{163} the Ministry of Culture and Social Services (MoCSS) and the Ministry of Agriculture (MoA). Following needs assessments, design work, and laboratory and field testing a ceramic stove was found to be preferable to a brick model by 1983. Two-pot stoves were promoted until 1988, until the one-pot \textit{Maendeleo} stove was found to be the most popular, and it is the only one which is still being

\textsuperscript{162} Although KENGO later changed its name to Kenya Energy and Environment Organisation, the acronym remains the same.

\textsuperscript{163} This is Kenya’s largest women’s organisation, and the name is Kiswahili for women’s development.
A metal-worker painting a Kenya Ceramic Jiko (stove) in Nairobi, Kenya

Kenya Ceramic Jikos selling at Shauri Moyo market, Nairobi
disseminated through the SEP. By the end of 1989, 30,000 of these stoves had been constructed and since then a portable version with a metal cladding, has also been promoted at a higher price (ibid:24).

6.1.2. **Introducing Stove Producers**

The stove-making potters belong to the nilotic Luo tribe, the second largest in Kenya after the Bantu Kikuyu. Luos are one of three Jii-speaking groups, the others being the Jiaang (or Dinka) and the Naath (Nuer), both presently living in the Sudan (Ochieng 1985:17). The Luos reputedly once lived in the Bahr-el Ghazal Province of Sudan, and broke away to Uganda and Western Kenya during the seventeenth and eighteenth centuries. The political organisation of the Luos consisted of alliances between landholding segmentary patrilineal descent groups (Herbich and Dietler 1989:27). In pre-colonial times, there was no one central authority, but the tribe was divided into twelve or thirteen sub-groups, each occupying a particular territory (Ochieng 1985:47). The male heads of lineages formed a council of elders, responsible for legal, economic, political, defence, divination, and ritual matters in each clan within the sub-group. The heads of these councils attended a higher level council, which dealt with the affairs of the sub-group. The whole Luo tribe would act cooperatively, under the leadership of the dominant lineages, to defend their interests in conflict with other tribes (ibid:69). These were primarily related to land and cattle, since by 1800 they were not only cattle herders, but farmers as well. On ritual occasions they consulted Nyasaya, Creator of the World through the souls of ancestors.

Luos remain patrilineal and virilocal, living in polygamous homesteads if the man can afford to give cattle for bridewealth for more than one wife. Within a homestead a women owns her house (or hut), according to Ochieng signifying that she is the ‘head of her household’ (1979:12). Women must leave their natal homestead on marriage, and join their husband in a newly built hut in his parent’s homestead. Endogamy within the tribe is still largely adhered to, and marriage is almost always exogamous to the clan. Once they have children they should split off and start a new homestead on a piece of land provided by the husband’s parents. However, with the recent preference for permanent brick and cement housing, wealthier households do not necessarily move away. Homesteads may be some distance from each other, and it is rare to find that
boundaries are drawn around ‘villages’. Overcrowding in this area is becoming so acute that landholdings are shrinking dramatically and the relative fuelwood scarcity is perceived as a problem by many. All the potters involved in the stoves programme are Christian, belonging to a variety of mostly protestant denominations.

The most popular improved stove designs, the charcoal KCJ and the woodburning *Maendeleo*, are still being produced for urban and rural markets respectively. Since 1988, both have been manufactured and sold by Luo potters as part of ITDG’s Rural Stoves, West Kenya Programme. These rural potters, trained to make stoves by ITDG, live in Kisumu, South Nyanza, Siaya, and Kisii Districts. They are all women, living in an area with high levels of unemployment, male migration, and over 30% of households headed by females. Even in male-headed households, women are usually responsible for feeding their household by subsistence farming. In addition to growing cereals and vegetables, women have to buy foodstuffs such as sugar, meat, salt, and so on (see below). In 1989 one woman claimed that she spent as much as Ksh. 350 a week on food for five adults and six children. While many women report that their husbands are supposed to pay for large expenditures, such as weddings, funerals, and school fees, in practice it is the wives who often raise the cash. Disillusionment with the contribution made by husbands is often expressed, for example, one woman told me that

*a living husband is as good as a dead husband, except to do occasional ploughing if he has a bull. But they do make sure you don’t get beaten up, that is unless they beat you themselves.*

Educating children is perceived as a particularly rewarding investment, since children are expected to provide for their parents in their old age. Daughters are usually considered more reliable in this respect than sons, so that according to potters as many girls as boys are sent to school.

Most of the women involved in ITDG’s stove project have at least a small *shamba*, and those that own no land themselves exchange their labour in return for the use of a small part of a relative’s plot. The main crops grown are millet, maize, groundnuts, cassava, potatoes, and green grams, the surplus of which are sold in local markets. Most of the stove-makers are also potters, and belong to women’s groups registered

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164 This is Kiswahili for field.
with Maendeleo Ya Wanawake. They supplement their income from agricultural produce by selling pots, usually through a network of local markets. They transport their pots in headloads by foot, often with the help of younger family members. During the rainy season, from February to April, pots cannot be made easily, and crops cannot be harvested yet, so this is usually a time of ‘famine’ for most households. While the rainy season is a lean time for everyone, including pot buyers, it is only after the main harvest in August that large numbers of households can afford to spend money on pots.

According to Herbich and Dietler, potting is not held in disdain in Kenya, but it is not a ‘high status activity’ either. It is thought of as hard and dirty work, with little financial reward, like most crafts practised by women (1989:36). Being an ‘inter-market’ trader in fish, cereals, and other goods is more lucrative, but potting has two advantages for women: (1) the work can be carried out close to home which allows easy access to household work, and (2) little capital outlay is required. In 1989 the average income of potters in Western Kenya has been estimated at 200 Ksh. per month, which would be spent largely on household items (such as soap, salt, meat, fish, tea leaves, sugar and tobacco), clothes for themselves and their children, school fees, funeral fees, loans, and providing food for visitors (ibid:37). Women potters have complete control over their income, and their husbands have no right to use it without permission (ibid). They normally learn their pottery craft after marriage from a mother-in-law or senior co-wife, since it is not considered appropriate for unmarried teenaged daughters to undertake such ‘dirty’ work. Potting has been described as a ‘symbol of conformity’ since new wives are pressurised into learning the craft to demonstrate that they are willing to take on the responsibilities of their family (ibid).

6.2. Stove Testing and Women’s Potter Training

In 1987, ITDG’s involvement in Kenya began in collaboration with KENGO, but at present ITDG takes responsibility for production training for potters, while the MoA promote, disseminate, and install the stoves for the users. The history of this programme reveals a shift in ITDG’s role in Kenya, particularly in relation to its Project Partners.
In 1985 ITDG's FFFP Manager visited Kenya to compile two reports on stoves for KENGO. In these reports, the first on wood stoves and the second on charcoal stoves, it was stated that ITDG's role in Kenya's National Stoves Programme had been only advisory, operating through a series of collaborative agreements with KENGO (Burne 1985b, 1985c:Forewords). Burne advised that liner production for both wood and charcoal stoves should be decentralised, involving women's groups in the pottery work and possibly entrepreneurs in the metal work and assembling. Following proposals for a more formal collaboration between KENGO and ITDG, the latter gradually became involved as a stove implementing agency in Kenya. This began officially in 1986, when KENGO embarked on a field testing project with financial support from ITDG.

A field test of stoves commonly involves conducting a base-line study of households to elicit information on fuel and stove use; installing new stoves in a proportion of households; conducting a second survey; and finally comparing the results between 'traditional' and 'improved' stoves. The analysis should reveal which stove is the most popular, or, in the less optimistic words of most stove field test documents, most 'acceptable'. This stove can then be promoted as the one chosen by users. The 'KENGO Woodburning Stove Field Test Project' was more far-reaching than usual in that it aimed to:

1. Assess the users acceptability of four stove designs over a one year period which would take into account the effects of seasonality;
2. Identify the factors that influence the acceptability or rejection of certain stove designs (Miguiyi 1990:6).

It was a particularly complicated survey, attempting to interview 250 households from 5 districts on 8 occasions each, in order to observe agro-climatic and seasonal variations. The first base-line questionnaire gathered information on household size, income, type and functions of stoves, landholdings, type of fuel, source of fuel, and fuel consumption and expenditure. Thus, it was clear, even at the planning stage of this test, that KENGO/ITDG had already decided that the user's main concern was fuel consumption. After new stoves were installed in 200 households, with 50 acting as a control, it was hoped that interviews would be held every two months for one year. In practice, not surprisingly, this ambitious target was never reached and 150 households had only 6, rather than 7, follow-up interviews (ibid:8). This, and several other factors (such as the diverse ways in which fuel consumption was measured and vagueness of many questions), made it difficult to draw conclusions. The season and the agro-
climatic conditions of the five areas plainly affected the type of fuel used in cooking and the need for space-heating, both of which had a bearing on stove choice. This rendered generalisations about stove popularity for all rural areas decidedly invalid. At the same time, the samples from each area were too small to allow a meaningful construction of patterns relating to the seasonal and climatic variables.

It was concluded that acceptance or dislike could probably be linked to a long list of considerations, and most significantly to the following: the level of fuel consumption, time associated with cooking and fire attendance, safety, portability, cooking patterns, durability, and heat retention and production. Although the Kuni Mbili and Maendeleo were declared to be the most versatile of the improved stoves, the only stove satisfying all household demands was probably the ‘traditional fire place’ (ibid:84). Finally, it was added, the most determinant factor was likely to be the price of the stove (ibid). Since the preliminary results were not available until 1988, and the report was only finalised in 1990, the information was not used by the stove agencies. By 1988, GTZ’s Special Energy Project and KENGO/ITDG’s project in Western Kenya had already begun promoting the cheapest acceptable design - the Maendeleo stove.

In 1986 ITDG wrote a proposal for providing technical assistance to women potters who were already producing liners for improved stoves. Kisumu, Kakamega and Busia in Western Kenya were chosen as the initial foci of the project because groups in these areas were known to be manufacturing poor quality stoves. It has been claimed since then that the choice was appropriate, since many parts of the region are relatively poor, and densely populated, with acute localised fuel shortages. These circumstances were not mentioned in the original proposals, which assumed that supporting the activities of these relatively poor potters was a sufficient justification for the stoves project. Thus, from the start, the project was more concerned with producers than with

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165 Some stoves release less heat into the room and some are more flexible about which type of fuel is burned (e.g., size of wood sticks, dung, agricultural residues and so on).
166 Due to computer problems at KENGO, the data were analysed manually at ITDG. An external consultant and I were employed for two weeks to carry out this work. There was only time to look at half the samples which meant that the results refer to only five households for each stove in each area.
167 This is Kiswahili for two sticks of wood.
168 While the Kuni Mbili sold for around 120 Ksh. in 1989, the price of the Maendeleo was between 30-50 Ksh. (£1 = 33 Ksh.)
users of stoves, a position which is found in reverse within most stoves projects. The main aim of the project was

to assist women potters to improve the long-term viability of their ceramics activities, and especially to assist those groups already producing ceramic stove liners for the charcoal jikos and Kuni Mbili stoves to improve the quality of the liners and to market these products more effectively (ITDG 1987:2).

In present day ITDG vocabulary, the implicit long-term objective was to ‘demonstrate an increase in the income of potters’, even though it is listed amongst short-term technical project objectives. The activities were to be carried out by a Project Officer (PO) employed by KENGO, with ITDG and KENGO providing appropriate technical support. Although Burne points out in the 1985 report that ‘ITDG’s prime interest is to help the rural poor, whereas KENGO is more interested in maximising firewood savings’, the project proposal did not explore the implications of a difference in objectives in any way at all (1985b:2). This perhaps partly explains the low level of staff input which KENGO allocated to the project, which resulted in an ITDG PO effectively managing the project (rather than merely providing technical assistance as planned).

The Project officially began in April 1987, but little progress was made initially, partly due to delays in obtaining a vehicle. By July it was decided that Keyo Women’s Group (WG) would benefit from technical assistance while Ilesi - another group selected during the planning stage - would be unsuitable for a women’s project because their membership was largely male! Criteria were drawn up for selecting new women’s groups which required the POs to collect baseline data on new groups before deciding whether they were suitable.\(^{169}\) In effect, this excluded groups with no pottery experience, controlling male members, lower incomes, and/or difficult access to towns or necessary resources and materials. This inclusion-exclusion mechanism, which Blum observes in both the ITDG and Maendelo ya Wanawake and MoA programmes, and I have mentioned in relation to the CEB rural stove programme in Sri Lanka (see section 5.3), inevitably reinforces socio-economic and regional inequalities (Blum 1990:87). While discriminating in favour of women, in other respects it demonstrates some of the biases outlined by Chambers (1983:13-23). That is, the criteria favour the better off, those close to urban centres (or at least a tarmac road), skilled people, and

\(^{169}\) See Appendix 11.5 for Criteria for Selecting Women’s Groups.
those already concerned with the outsider’s specialisation. In short, by using these criteria the groups were inevitably selected to suit the project requirements rather than the other way around (Blum 1990:58). Rather than going to the poorest women’s groups and designing a project with them, the activities and assistance were planned according to KENGO/ITDG’s aims and constraints. The result was that it proved difficult to find suitable groups (see section 8.4.1).

It was not until the second year (1988) that three additional groups were chosen to participate in the project - Odago, Wangarot, and Fudumi WGs. Although one of these was trained in stove production during the project in February 1989, the other two received minimal attention, and Keyo WG were given by far the most technical assistance. Aside from the production and marketing training inputs given to Keyo WG, project activities centred around promotional work, such as, public demonstrations of the stoves, displays at agricultural shows, and distribution of publicity material. Exchange visits were organised between the groups, which, while not necessarily furthering the cause of stoves, did result in improved production and marketing of pots in at least one of the groups. No baseline information was collected as planned, and no monitoring information was recorded, because it was not considered to be a high priority.

By the end of the two year project a ‘potentially sustainable stove business’ had been established in Keyo WG, which had sold around 1000 stoves by March 1989. Meanwhile the other three groups were not particularly interested in stove production. Odago WG were fully occupied with a flourishing pottery business, and members of Wangarot and Fudumi WGs, who were only part-time potters, had decided that maize and vegetables trading would be a more profitable and less risky enterprise. One woman in Wangarot WG explains that they were not convinced that stoves would sell easily. In their area, where many households have a very low income, women would not buy a liner because they cook outside and do not have a kitchen in which to install a stove. Furthermore, some members were not convinced that the stove was strong enough to support heavy clay pots, especially when cooking ugali, a thick porridge which requires vigorous stirring.

They did not openly reject stoves training because they expected some material assistance, and so did not want to dissuade project staff from continuing their visits. In
these three new groups, previous experience with aid workers had led them to assume that ‘real assistance’ could be equated with material gifts, preferably cash (ibid:9). The groups surmised that once the project realised that they required assistance in the form of loans for pot-making or trading goods, they would no longer insist on stoves production. However, since the project was confined to promoting stoves, or pottery products at the least, and giving training rather than financial assistance, they could not respond to these requests. There were two immediate reasons for this inflexibility: the funds were raised in Britain for stove training and there was an obligation to donors to spend it on the activities planned in the proposal; and the project staff were skilled in household energy/stoves work and not in small enterprise in general. However, when asked why the potters did not turn to other development agencies for financial assistance, as suggested by KENGO, one Wangarot potter replied that ‘if you already have one husband you don’t take up others’.

In March 1989, ITDG commissioned me to carry out an evaluation of the project, to assess the achievements and make recommendations for further action. My main observations were as follows:

- The main aim of improving the viability of stove activities was based on the misplaced assumption that there were already several groups producing stoves. When only one group was found, the aims were widened to supporting all ceramic activities. The immediate aims covered technical assistance, marketing skills, and raising awareness about firewood conservation. These were not prioritised and the links were undefined (ibid:2).

- There was virtually no research into the socio-economic context of women’s pottery groups and no consideration of the commercial feasibility of stove production for women’s groups. The few generalised assumptions that were made in the various proposals were inaccurate. As examples, it was wrongly suggested that potters work only one or two half days a week, women cannot attend training courses away from home, and women would be unlikely to take loans. Women potters refuted the generality of each of these claims.
The wealthiest potter group, Keyo WG, received a disproportionate amount of assistance, partly because the most active member of staff, the ITDG PO, could communicate through the several members who could speak English. This PO could not speak Dhuluo or Luhya, the only languages of the other three groups, and so rarely visited them.

The costs of the project were just under £65,000 and the direct monetary benefits were around £1,700. However, the potential benefits were valued at over £400,000 over four years, if the project continued. This highly spurious figure was estimated on the basis of the value of income generated for stove producers and installers, and fuel-savings for users (ibid:27). Giving fuel-savings a monetary value is misleading, since the overwhelming majority of rural dwellers collect rather than purchase fuel. Calculating this fuel collecting time in financial terms (that is, by placing an opportunity cost on women’s time), would not be appropriate either since much of their household work has no direct material return (goods or cash). Even if time is ‘saved’, there may not be any employment opportunities to earn income so such financial speculation has no satisfactory foundation.

Three groups obtained no financial gain from the project. To go further, in all three cases they lost income out of their group fund, because they had to feed and entertain visitors, many of whom paid calls as a direct result of the project. On the other hand, they attained an increase in cohesiveness and one claimed that they felt ‘spiritually uplifted’. A potter at Wangarot WG, added that they would have reached this level of solidarity eventually, but that the visits from KENGO speeded up the process.

All the groups reported that project visits provoked jealousy and resentment from neighbours and relatives. Many people in their

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170 Registered groups in Kenya often set up a fund to which members make contributions. In the case of these pottery groups, members pay an agreed proportion of the income from pottery work into the fund. It would be spent on group activities, such as entertaining visitors, on equipment or on loans to members, e.g., for funerals or school fees.
communities assumed that they were receiving aid but not sharing it. One member of Odago WG claimed that ‘the only thing that stops them shooting us with a pistol is the fact that they don’t have one.’ Wangarot WG said that if members went to market after a visit from the project it was taken as proof that the women had received some cash. On the other hand, neighbours were not necessarily impressed by the stoves. For example, one potter at Fudumi WG explains that when KENGO installed a stove, the response of one neighbour was: ‘so, are you going to eat the stove?’ (ibid:30).

I recommended that the project should continue with the modified project aim of training groups, but not necessarily women’s groups, who were interested in the production, marketing and installation of stoves rather than specifically assisting women’s potter groups (ibid:32). This followed the presupposition that women would gain far more benefit from using stoves than from producing them. Using stoves did seem to alleviate women’s workload as providers and users of energy, but I was not convinced that stove production was the most appropriate way of earning income for women’s groups. I argued that setting up stove businesses required large amounts of time for training and a high degree of risk. Furthermore, it was not known whether there would be a lasting demand for this new product. Three of the groups had made it plain that they judged trading to be more secure and profitable than selling stoves. So, it seemed wiser to encourage any groups (e.g., male artisans in town if they were the most interested group), but not necessarily poorer women, to take the risks involved in manufacturing a new product. Once a market was established, then women’s groups could be trained in stove production as well.

The majority of the rural users interviewed, on the other hand, claimed that the *Maendeleo* stove saved fuel collecting and cooking time and provided an opportunity to ‘develop’ their communities. Since the benefits to users were assured, as long as the stoves remained relatively cheap and functioned well, then a shift towards their interests seemed justified. The benefits of stoves could be available to any household who could afford to buy one,171 because no contact with the project was needed, and lack of project resources would not exclude any users. While it is true that stove purchasers

171 The cost at this time was 33 Ksh., or about the same price as a chicken.
were not the poorest households, the majority were certainly poorer than the Keyo WG members (the only successful stove makers at that time). A further justification for considering the users was utilitarian. At the time, potentially for every potter earning income from making stoves, the workload of at least 20 women would be reduced through using time-saving stoves each month. Thus, in the interests of users I thought it was advisable to approach other groups, not necessarily women's or registered groups, which might derive greater benefit from stove production and whose potential levels of production could be higher.

6.3 Rural Stoves Programme, West Kenya

By the middle of 1989 the formal agreement with KENGO had come to an end, but FFFP in Rugby decided that the project should move into a second phase without them. It was hoped that KENGO and ITDG would continue to collaborate informally and the project was renamed the ‘Rural Stoves Programme, West Kenya’. Meanwhile, since there was a concern within ITDG that projects should be ‘sustainable' and build on 'local' capabilities, a national PO was recruited. It was envisaged that this Officer would take over the management of the project after one year. According to policy regulations at the time ITDG was not supposed to be an implementing agency, but to work through ‘local' partner organisations, providing technical assistance where necessary. In this case, the rule was broken, or paid lip service to, by stating that the potters at Keyo WG were acting as ITDG’s partner. This was rationalised by saying that no organisation was suitable, which could be viewed as the result of looking for a partner to fit the project rather than the other way around (see section 6.2).172

In October 1989, another consultant social anthropologist was commissioned to collect information on technical constraints, the division of labour, control over income, women’s household work, priorities of potters, necessary training inputs, the link between stove production and installation, marketing processes and problems, the size and location of the market, production processes and costs, and profits from stove-making. Thirty-six days were available for this enormous task, which the consultant

172 It has already been observed that producers have been chosen according to project requirements, rather than vice versa, the antithesis of ‘participatory’ development (see Blum’s comments in section 6.2).
and project staff subsequently reduced by deferring some of the economic analysis, market-related information collection, and the selection of new groups until later. The report highlighted the value of employing Keyo WG as trainers, the importance of risk as perceived by potter women, the likelihood of risk aversion by poorer people, and the constraints experienced due to poverty and women's workload (Brown 1989).

By the end of 1989 new objectives had been formulated which combined assistance for producers, with expecting benefits for users and incorporating a new emphasis on influencing other agencies, as follows:

1. To increase the income of women potters in employment compatible with their existing household commitments.
2. To create employment for youths and women as stove installers.
3. To improve the quality of life of stove users through lower fuel costs, time saving, improved safety and comfort in the kitchen.
4. To reduce domestic fuelwood consumption.
5. To influence the Kenyan National Rural Stove Programme to encourage more women producers.
6. To use the experience of this project for replication in other areas of Kenya (Ashley et al. 1992:3)

During my visit in November 1989, as the newly recruited ITDG Fuel For Food social scientist, project staff decided that new groups should be contacted and selected by the new Kenyan PO, and not by expatriates. It was assumed that as a Kenyan (from the area) she could more convincingly persuade potters that training and not money was all that the project would offer. An often well-founded presupposition was made by WGs173 that foreign development workers always dispense large amounts of funds. In practice, when the new PO appeared in an expensive vehicle during visits to groups, potters thought that she too would provide cash.

As mentioned, since development agencies have a reputation for giving grants, loans and equipment, especially where foreigners are visibly involved, assistance is often equated with material aid in Kenya. Even when the agencies ostensibly offer training,

173 Groups are often established on the advice of local politicians, who point out that the likelihood of receiving development assistance is increased tremendously if you belong to a registered women's group.
there is usually some form of financial assistance included in most packages. The previous experience of the WGs involved in this project reaffirmed this perception. One was given a kiln by a foreign development agency (which was subsequently abandoned); one was given grants for trading agricultural produce by Help the Aged; and another has been offered a posho mill (on the condition that the women themselves raise a certain amount of capital). So, it is not surprising that both the WG members, and their neighbours, assumed that ITDG was giving (or will give) money. For some potters directly involved, considerable disappointment followed the realisation that offering money did not seem to be part of the project. For many, they still hoped that if they worked hard and produced large quantities of good stoves, they would be ‘rewarded’. The most common expectation was that ITDG would build a new workshop or kiln, and/or purchase equipment.

Neighbours and relatives, on the other hand, assumed that money was already being transferred each time the project staff visited. During one meeting arranged by the local sub-chief, the ITDG Project Officer was jokingly introduced as ‘the woman sitting on a big basket of cash’. The following statements, related by potters involved in the project, are typical:

*People often come to see how our pottery project is going. They think you have brought something small.*

*They say we are being stingy because we don’t give them any of the money from the project.*

Early on in this phase of the project, staff compiled guidelines for monitoring and evaluation, simplified criteria for selecting groups, profiles on existing groups, guidelines for market research, a brief questionnaire for assessing the level of awareness about stoves, and finally, a ‘group-led action plan’. The concept of ‘group-led’ arose out of an attempt to place more decision-making and control in the hands of the potters. Although the project could not be genuinely participatory because the staff were confined to offering one possible technology solution (i.e., stoves), this was a compromise. This plan followed the principle that the project should respond to requests from groups, rather than giving them instructions. It required POs to explain in considerable detail what the project could offer, and how it could respond according to the needs assessment/decisions of the groups. In some instances, it probably made

174 in Kenya, ‘something small’ means a gift of money, usually given in exchange for a favour.
little strategic difference since the groups interpreted suggestions as instructions and even sometimes assumed that if they ‘obeyed’, then they would be rewarded later. On the other hand, the potters who became involved during 1989 and 1990 were more aware that ITDG’s theoretical approach is to promote self-help rather than welfare. Also, in several groups, the potters were given the chance to gradually build up their capacity for stove production without being rushed by the project.

In an attempt to get Keyo WG to expand their own market for Maendeleo stoves, ITDG organised and paid for a market survey in February 1990. It was carried out by a member of Keyo WG and a hired researcher, and involved interviewing 179 householders, mainly women, in Keyo’s own and three nearby sub-locations. It was found that over 70% of the respondents in Keyo’s own sub-location knew about the Maendeleo stove, but only 35% knew about it in the neighbouring sub-location. In the other two sub-locations, which were nearby but not neighbouring, only 6 out of 68 householders (i.e., less than 10%) had heard of Maendeleo stoves. Since 109 of the 179 people interviewed said that they might like to buy a stove175, it was put to Keyo that they had a significant potential local market for their stoves. However, since the MoA had become involved in distributing the stoves through the Home Economists by this time, and Keyo have had huge orders from them ever since, the incentive for developing a market in their local area has been minimal.

During the next year the project made ‘enormous strides’ (Crewe 1990c:2). Keyo WG increased their liner production, probably by two-fold at least. During the first half of 1990 they made over 800 stoves. The demand for stoves increased so much that they sold some stoves in advance several times over to different people (in an attempt not to dissuade customers from placing orders). Two more members joined the liner making group, so that eleven women were involved on a regular basis, in many cases employing labourers to carry out their agricultural and clay collection work. By the middle of 1990, four other women’s groups had begun to produce Maendeleo liners, and one was about to receive training.

175 Since most of these people had never seen one, it cannot be assumed that because they express an interest they would necessarily buy one. Bearing in mind that Maendeleo is Kiswahili for development, they may have given the impression that they would like to see one merely to ensure that they would not miss out on development assistance. Alternatively, and perhaps even more likely, since a stove-maker was present, they may have wished to be polite.
Potters installing a *Maendeleo* stove in Western Kenya

A Kenyan cook preparing *ugali* (porridge) on a double stove

*A Maendeleo Two Pot Stove*
In a mid-term review in September 1990, four reasons were given to account for the considerable progress:

- As a Luo, the new ITDG PO belonged to the same ethnic group as the potters, and so could work more effectively with the groups. She is more convincing in her explanation of ITDG’s self-help approach. There is a greater understanding amongst groups that ITDG offers training and not money. One potter explains that ‘if you are given money today, you spend it on sugar, if you are given the knowledge for money, you have it for life’.176

- GTZ and the MoA had become involved, investing large amounts of staff time and funds, to the dissemination of Maendelo stoves in Western Kenya. All the MoA Home Economists in South Nyanza, Nyamera, Siaya, Kisii, and Kisumu Districts (114 altogether) have been trained to install stoves. Some have reached their annual target of 100 in six months, which has created an enormous demand for liners. Since they order stoves directly from the groups, potters are becoming more confident of their market.

- Rather than giving instructions, the project staff wait for requests from potter groups. Potters are only encouraged to make stoves if they perceive that it is in their interests. Through contacting a larger number of groups, it has been possible to respond to the small number who are interested.

- The high standard of training is mainly due to the work of the Keyo potters, who teach other groups to make stoves. One is a part-time employee of ITDG and spends around one week in each month carrying out training activities. Seeing Keyo’s success has assured other groups that the risk is worth taking. (Crewe 1990d:7-8)

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176 This sounds like an adapted version of Schumacher’s example about fish, (i.e., that it is better to teach someone how to make and use the technology for fishing rather than merely give them a fish, see section 2.4).
In 1991 the project was evaluated by ITDG (UK) staff, a socio-economist and a social anthropologist from the policy department, and a GTZ Programme Manager from Kenya. The general impression appears to have been that within the constraints of the planning process, the project achieved a great deal for producers and users. In addition to giving help to Keyo WG to consolidate their stove business, project staff and trainers from Keyo completed training for 70 to 80 women in 5 new groups, and began working with another group during the autumn of 1991 (Ashley et al. 1992:8, 27).

About 55 potters still make use of the training (ibid:27). During 1990 Keyo sold around 2,400 stoves, while in 1991 Keyo and the other groups sold in the region of 4,500 - 5,000 stoves, mostly to the MoA. By the end of the project, production capacity had reached 500 per month at Keyo and 700 per month at the other groups collectively.

Estimated average individual earnings at Keyo are about 10,750 Ksh. since the beginning of the project. Since they spend about four hours making one stove, and the profit on a stove is between 17 and 20 Ksh, Keyo potters can earn about 34-40 Ksh. in an eight hour day. The GTZ supplier of Maendeleo stoves, who employs 20 women, pays his employees between 20 and 28 Ksh a day, and Keyo’s income is also relatively higher than an agriculture labourer's wage at 25 Ksh. Other group members are also beginning to earn higher levels of cash income, often subsequently taking on a greater responsibility for household staples and paying for school fees. While women say that they decide what to spend their income on, the frequent refusal by husbands to contribute to household expenses effectively forces the potters to take on these obligations. Some claim that adopting this role reduces tension in the household, especially if women give their husbands a little money for themselves:

I give him some for church or so he feels nice on drink. But if I give him too much he gets drunk and beats me. So I give him a little -- about 20 to 30 shilling (Ashley et al. 1992:72).

On the other hand, some of the other, more recently trained, potters appear to be making less money out of stoves than they were previously selling pots. Stove installation appears to be more profitable, since 20 Ksh. can be earned in only 2 hours, but very few women choose this option. Installation requires travel away from the homestead and uncertainty as to when a customer will place an order, while stoves can
be manufactured near the house and demand from the Ministry seems assured at present. The financial risks involved in making a stove are perceived to be far smaller than taking a chance on a customer ordering a new product. For women with a colossal workload around the house and the *shamba*, it makes sense to spend as little time travelling as possible (especially in areas where no transport is available at all).

The theme of jealousy from neighbours in the potter communities also features in this evaluation. All the groups except one told the evaluators that their neighbours believed that the *Mzungos* brought cash when they visited in their vehicles. The neighbours of one group were so convinced that ITDG was giving money (or that the potters were earning enormous sums) that they demanded 4,000 Ksh. as a contribution to Maendeleo ya Wanawake (ibid:38). It is argued, with justification, that project staff (including myself) did not explain ITDG’s role to the surrounding communities and local chiefs. There was no reason for neighbours to assume that ITDG was any different from any other development agency regularly giving money to ‘the poor’. I would take the argument rather further, and suggest that the ‘surrounding community’ should have been involved (at the least in an advisory capacity) in planning the project from the very beginning. To select a small group of potters from a community, and increase their income in relation to the other households exaggerates, rather than diminishes, inequalities.

The evaluation also rightly points out that the efforts to introduce a greater participatory element in the project were not very effective in practice. Procedures for ensuring that the potters controlled their involvement in the project were not devised, and the trainees usually accepted rather than designed their own training (ibid:39-41). Once again I would also propose that the key element in the ‘top-down’ approach of staff in this project can be found in the planning process. Given the conditions they were set, staff could not logically allow genuine participation. Since FFF is a stove technology focused programme, the staff could only raise finance for stoves. This inevitably means that the solution is chosen before the people have a chance to voice their demands. Since funds for the project had been given for a proposal which stated that its immediate objective was to train at least 50 women in the production and marketing of fuel-efficient stoves, prospective project beneficiaries could be offered pitifully few choices. Thus, objectives for the project were set long before the staff had even chosen the participants.
Although the group-led action plan was an attempt to allow potters to come forward if they wished to receive training, in effect this was a token gesture. For groups with no other prospects of assistance, stove training from foreigners may have seemed better than nothing, especially since rural women tend to expect foreigners to have valuable, well-organised knowledge and large quantities of money. Furthermore, as mentioned above, in effect the project and the Ministry chose the groups to fit the project rather than the other way around. This tendency is seen most clearly in the attempt to ensure that training was only offered to suitable groups, whereby criteria were set for assessing whether groups should be included in the project. The purpose of the criteria was to select producers who would be in a good position geographically and economically to establish and derive benefits from stove manufacture. Conversely, the result was to exclude the economically poorer women.

6.4. Income for Women or Technology for Cooks?

There has been considerable confusion over the rationale of this project from its inception. It began with the aim of assisting stove-makers, and then widened to improving the viability of the ceramics activities of potters (especially groups producing stoves), and later switched back to the more technology driven focus of promoting stoves for producers and users. There were some sensible reasons for these changes. First of all very few women stove-makers could be found in Western Kenya. Then, it was realised that the project was ill-equipped to offer general assistance in small enterprise development for women. Users were brought back into the project as beneficiaries partly because the benefits acquired through use could reach far more women than the production side of the project ever could. If anything, increases in income for a few women within potter groups created jealousy and exacerbated inequitable distribution of wealth within communities. Finally, the ITDG staff on this project were working within a stove programme with an overall goal of improving the quality of life for cooks, so to neglect them would have been contrary to the programme’s objectives.

Potential conflicts of interests between users and producers were not explicitly discussed in project documents. Decisions were made which favoured particular
groups with no discussion of the moral, social and political implications. For example, although cooks were incorporated into the proposal as beneficiaries, the potters remained the main participants of the project. From the perspective of stoves users, their interests were compromised as soon as potter groups were selected as the producers. The potential production levels which could be reached by part-time potters, with their additional heavy household and agricultural workload, would be tiny as compared to levels attained by a small factory employing full-time labourers. Mass production, on the other hand, might ensure a cheaper price for the stoves which would then be affordable for poorer households to buy, thereby providing benefits to many more users. This option was rejected because working with small-scale rural artisans was more consistent with ITDG’s policy. Centralised production would probably entail a workshop/factory owner accruing a large proportion of the profit through employment of labourers at a low wage. But it has never been acknowledged that concentrating benefits in the hands of a few members of a few communities creates or recreates inequality as well.

This project raises a particularly interesting question for ITDG’s FFF programme: is it unrealistic to have two objectives which are at least partially in conflict with each other? It could be argued that a project can only be truly effective if it prioritises one ‘target’ group. If this was the case then Rural Stoves, West Kenya should have been designed either primarily with users or with producers. If stove use was the theme, then mass production in urban centres might have been the strategy. If the women producers were chosen as the beneficiaries, then the project should have responded to demands made by the groups for the type of assistance of their choice (e.g., help getting loans for trading, training in pot decoration, advice on treating animal diseases, and so on). Either way, the benefits to those groups could have been very substantial.

On the other hand, presenting the dichotomy as an either/or choice greatly simplifies the situation. To insist that a project should concentrate on one category of people implies that the results of development can be isolated from each other. A project should try to anticipate and be prepared for the effect it has on all those involved. Even if ITDG decides that the main point of promoting stoves is to offer greater technology choice to cooks, the strategy for reaching the users should also be politically appropriate. By favouring small-scale rural artisans, rather than larger-scale, relatively wealthier producers, the targets for production levels may take longer to reach. At the same time,
the income accruing from producing new technology is being relatively more equitably distributed. The project could still further widen access to training to avoid the creation of new elites, as I have argued in Sri Lanka. For in both examples, I would argue, the means which lead up to offering appropriate technology should be scrutinised as much as the end.

In this chapter I have tried to drawn attention to features of ITDG’s stove programme in Kenya since 1987, particularly pertaining to the political and social impact of technical assistance and training given to women’s potter groups. Unlike the Sri Lankan case, ITDG took a far greater role as an implementer in Kenya, partly due to the divergence in interests between ITDG and its project partner. Like the Sri Lankan programme, despite tremendous efforts to the contrary, the programme has created stove-making elites, encouraged the employment of waged labourers, and infuriated the potters’ neighbouring households. In chapter 5 and 6 I have done little more than sketch a history of the two case studies - from Sri Lanka and Kenya - and imbue particular questions with political and moral significance. I now intend to take this questioning one step further, and challenge the most common assumptions running through the rationalisation of stove projects. With particular reference to the case studies, and from the perspective of both producers and users, I will ask, who needs stoves?
7. WHO NEEDS STOVES?

'Earth provides enough to satisfy every man's need, but not for every man's greed.'
Mahatma Gandhi.

7.1. The Problem with Needs

The main problem with 'needs' is one of objective definition. Should the classificatory boundaries of needs assessment be defined by crisis, survival, habits or aspirations? Also, as Streeten has pointed out: 'who is to determine the basic needs? Is it the people themselves, who may prefer circuses to bread, television to education, or soft drinks, beer, and cigarettes to clean water and carrots?' (1986:20). A more realistic example for resource-poor rural women is whether or not they need an improved stove which may reduce the probability of developing an acute respiratory infection (ARI), but may also increase the amount of time required for chopping wood.

The rhetoric of 'participatory' development dictates that community workers should at least consult poorer people about their most pressing problems and needs. In cooperation, they then apparently design 'solutions' as part of a participatory process which places the poorer people in the centre of the decision-making stage. This approach to needs assessment, which can generate what has been described as a 'shopping-list' of wishes, is a weak version of the Basic Needs Approach (BNA), according to Wisner (1988:42). In Wisner's typology, at its weakest, the BNA places the poor in the role of recipients of a package of goods and services which will allow
them to earn a basic income, while a slightly stronger version involves improvements in people's quality of life (ibid:27). A relatively radical version of BNA involves using 'need' as a verb rather than a noun, describing the 'experience of deprivation that has been created socially' (ibid).

Rather than saying that development should generally respond to poor people's 'needs', Wisner advocates that rural people 'need' greater access to land. Since this is a social or political issue arising from ownership, greater access might require, for example, strengthening the rights of landless people to communal land. People's participation then involves a struggle to change the structures which reproduce poverty, rather than merely contributing labour to projects working within existing networks (such as markets and delivery systems) (ibid:30). The latter stresses the problems of individuals, while the former implies that poverty is the product of relationships and distribution of resources.

Streeten, on the other hand, appears to use an absolute interpretation of needs and rejects a radical political viewpoint because

\[
\text{equality as such is probably not an objective of great importance to most people... this lack of concern is justified, because meeting basic human needs is morally a more important objective than reducing inequality (as quoted by Wisner 1988:38).}\]

Streeten has no justifiable grounds for deciding in the abstract that attending to basic needs is the most important universal moral imperative. Neither satisfying standardised basic needs nor equality are expressed as ambitions by potters in Sri Lanka. On the one hand, 'needs' vary from household to household, even in relatively egalitarian potter communities, so that in some cases a potter needs food, and in another better equipment is voiced as the immediate need. As far as equality is concerned, potters do not need or want to be equal with toddy tappers, who belong to a lower caste and are generally economically poorer. More fundamentally, the 'need' for material objects is not necessarily expressed as their main concern and most certainly is not an essential

\[177 \text{Streeten qualifies this elsewhere by stating that poverty-eradication and reducing income inequalities can not be separated: 'in actual fact, countries that have rapidly reduced inequality have also performed well in reducing poverty, and countries that have grown rapidly while inequality has increased have left poverty largely untouched' (Streeten 1986:26). This statement would be extremely difficult to substantiate with reference to particular examples and impossible to prove as a general rule.}\]

\[178 \text{People who extract juice from palm trees for brewing liquor.}\]
motivating force for structuring their behaviour. One pot-maker in Kandy District, Sri Lanka told me that he did not produce and sell stoves (even though he knew how to make them), because he said it would be wrong to take customers away from his stove-making relative. Whether this was a complete explanation or not, it clear seemed clear to me that his reasons for avoiding stoves were not founded upon acquisitiveness.

We can see the inadequacy of the concept of need by contrasting donor defined needs and solutions with the impact of projects from the viewpoints of stove producers and users. As the deforestation-related rationale for stoves receded during the 1980s, donors adjusted the needs assessment for stoves (see section 4.2). Recently, from the donor perspective, stoves programmes have attempted to ameliorate suffering in three main ways:

- **Income and expenditure**: it is considered obvious that in most countries of the South the income level of the majority is too low to sustain a reasonable quality of life, as defined in northern terms. It is taken for granted that poorer people need cash income and/or a means to reduce cash expenditure. Where people purchase their fuel, more efficient stoves reduce their expenditure, and where people make stoves, income is generated for artisans.

- **Time and energy**: the majority of women living in Africa, Asia, and South and Central America are faced with a triple burden of productive, reproductive and household work. It is common to work a sixteen-hour day, with little time for rest or leisure, and many of the tasks require considerable energy and effort. Women, who nearly always perform the household work, can reduce the amount of time and energy spent collecting fuel (where it is not purchased), cooking food, and cleaning kitchen equipment, by using a time-saving stove. It is assumed that women need more time, especially for engaging in ‘productive’ activities.

- **Health**: using biomass fuels for cooking and space heating generates several severe health risks, including chronic obstructive lung disease and associated heart conditions, and acute respiratory infections. Infants born
to heavily exposed mothers risk low birth weight and elevated morbidity/mortality rates. Smokeless stoves, or those which reduce the level of smoke emissions, may also reduce the incidence of ARI and eye infections in women and children. In some places, improved stoves have led to an increase in the amount of water being boiled, which might prevent such high levels of water-borne diseases, such as, diarrhoea and dysentery. Also, shielded improved stoves are safer, and are less likely to cause burns, scalds or fires. In general, women need better health in order to be ‘productive’ and attend to the welfare of the household.

As Carr puts it ‘these objectives seem so sensible that it is hard to believe the improved stoves would be rejected at the village level’ (1985a:133). However, the objectives can rarely be tackled all at once. A smokeless stove will not save a great deal of fuel, or might even consume more, because much of the heat escapes up the chimney (for example, mud stoves in Sierra Leone use more firewood than ‘traditional’ stoves [ibid:134]). A new stove often requires small pieces of wood, and cutting up larger bits will increase the amount of human energy needed for fire management (as examples, the Lorena in Guatemala [Tinker 1984:3] and the Anagi in Sri Lanka). The priorities governing the development of a particular stove design vary according to the location, the perceived needs of the users, and the interests of the promoters and/or donors. But most donors have tended to assume that it is fuel and time savings which are most acutely needed, especially in areas of fuelwood shortage, and it is in such places that stoves are perceived to have their strongest justification.

For many working on stove technology research and development, the benefits are so obvious that to question further is described as an ‘academic exercise’. It is assumed that a fuel-efficient, time saving and/or smokeless stove is bound to be developmentally positive, or more specifically to raise the quality of people’s lives. However, when the long-term effects of stove projects are considered, the assumption that new stoves automatically satisfy needs loses its universal applicability. In fact, it becomes clear that the interests of resource-poor women have often been misrepresented or misunderstood. To substantiate this claim, the impact of stoves (mainly in Sri Lanka and Kenya) will be looked at in relation to the three sets of areas of ‘need’ outlined briefly above: income and expenditure, women’s time and energy, and health.
7.2. Income and Expenditure

There are two objectives in stove programmes which potentially affect the consumption and acquisition of income. Firstly, reducing fuelwood consumption in areas where it is purchased (rather than gathered) should result in a decrease in household expenditure. Secondly, the manufacture of improved stoves should provide income-generating opportunities for potters, metal workers, assemblers and/or installers.

One third of household income goes on firewood in some countries, and so reducing fuel consumption should have an enormous impact (Tinker 1984:24). The significance of reducing fuel consumption depends, among other things, upon the level of fuel expenditure as a proportion of the total household budget. For example, in Colombo an average of 75 kg of fuelwood is consumed by one household on average in a month, at a cost of approximately Rs.1 per kg (Clarke 1991:18). If the Anagi stove uses at least 25% less fuel, then an average household should save Rs.18.75 per month. The stove costs around Rs.65 so these savings should pay for the purchase of the stove within 14 weeks. Earlier figures were more optimistic: in a survey of 87 households average savings amounted to an average of Rs. 26.25 per month. The ‘payback period’ would then be only 10 weeks (Jones 1989:51).

It is often assumed that a brief ‘payback period’ will lead to higher sales. In practice, this does not always follow. Households in Sri Lanka, especially those with lower incomes, tend to be concerned about daily expenditure and not cumulative costs over a number of months. Consequently, it is not surprising that only 5% of Anagi stove purchasers in Colombo live in ‘low standard housing’, according to a survey carried out by ITDG and the Ceylon Institute for Scientific and Industrial Research (ibid:52). Although this low figure may be partly the result of the sampling method (which caused the researchers to focus on middle income areas), it is undisputed that Anagi stoves have not been bought by the lowest income groups (ibid:52-3). One woman explains that she chose not to buy an Anagi stove because, unlike the open fire, it does not provide lighting (and she could not afford a kerosene lamp). In rural areas, the poorest households have not purchased Sarvodaya stoves because they are too expensive, and require installation (which is not possible for those who have no kitchen). Similarly, in Kenya, KENGO found in 1986 that purchase of the KCJ was mainly confined to
middle class neighbourhoods of Nairobi (Karekezi 1990:34). Thus, stoves may reduce household fuel expenditure but not necessarily for the poorest households.

To reduce expenditure stoves must consume less fuel. Foley et al. have expressed scepticism about the fuel-efficiency of new stoves in their book *Stoves and Trees*, which has the irreverent subtitle: *how much wood would a woodstove save if a woodstove could save wood* (Foley et al. 1984). Although it was once naively believed that any new stove was better than an open fire, it has long been recognised that extensive laboratory and field testing of performance is necessary when designing stoves (Baldwin 1985:14). Even so, testing provides no guarantee that technical claims will be valid over time or across regions with different cooking practices, fuel use, climatic conditions and so on. It is more meaningful to ascertain whether stove users themselves find that new stoves reduce fuel expenditure. In Sri Lanka, fuel savings are reported to be the most popular attribute amongst urban users, while quicker cooking time is the favourite in rural areas (Amarasekera and Sepalage 1987:92; Clarke 1991: Appendix XIII). This can be misleading because fuel savings do not necessarily concern income. The vast majority of households gather at least some fuel, and even in Colombo 50% of fuel is not purchased. Some households decide to spend the same amount on fuel, but spend less time collecting wood when using a fuel-efficient stove. Thus, the reduced fuel consumption may result in time rather than income being ‘saved’. Jones points out that this could be used for leisure, but other work activities are more likely to take up women’s extra time (1989:52-5) (see section 7.3). Others decide to use the same amount of fuel and cook food more thoroughly or even prepare more food, thereby ‘saving’ no fuel at all.

On a household or individual level, far larger amounts of money are involved in the production, rather than the use, of improved stoves. In both the Kenyan and Sri Lankan rural programmes, income-generation for producers is an important stated objective. In ITDG’s Rural Stoves, West Kenya Programme the primary aim is to generate income for at least 50 women potters, and create employment for at least 20 unemployed youths through stove installation. Since 1988 relatively large amounts of income have been earned by a small number of potters, but no unemployed youths have established stove installing enterprises. Instead, potters and women’s groups install stoves for a fee, or the MoA Home Economists build them free of charge. It is extremely difficult to estimate the income earned by stove producers/installers for
several reasons. Firstly, although the main stove making women's group record the number of stoves produced and sold, they warn that some have been forgotten. Secondly, income levels for pottery or stoves are seasonal, varying according to other commitments (such as agricultural work) and the climate (for instance, goods take longer to dry, and are more difficult to fire and store in the rainy season). Thirdly, women do not calculate their costs or profit and so rarely know the level of their disposable income each month. Fourthly, if they do have an estimate of their income they are unlikely to wish to give the information to project staff or researchers. Data on income could be used for tax purposes, to surmise that the women no longer require assistance, or, conversely, to criticise the project staff for not doing their job properly. With those reservations, tentative guesses about income can be made.

The main producers, Keyo WG, report that their equipment depreciates in value by 2783 Ksh. per year. From their records it is clear that the materials for each stove cost around 6.50 Ksh, and 11 potters produce between 2,500 and 3,500 stoves a year. They lose about 10% through breakages and sell each stove for 33 Ksh. (including transport). Thus, the average monthly net income for one stove-making potter can be roughly estimated at between about 400-600 Ksh.179 This is about the same as a typical monthly wage of a labourer (approximately 500 Ksh.). On the other hand, the potters spend between two and eight hours a day making stoves, while labourers usually work eight to ten hours. In contrast to a successful male potter180 in a nearby group, the income of female stove-makers appears smaller. According to this male potter's estimates, his equipment depreciates in value by 2545 Ksh. per year, the average variable cost of producing a pot is 11.25 Ksh., and he could make about 1,800 pots a year (25% large flowerpots and 75% small cooking pots). His losses amount to 14% and he sells the pots at a weighted average of 32.50 Ksh. His monthly income would average at about 2293 Ksh. per month.181 This high level of income is the result of employing women at a low rate to carry out much of the work on a part-time

179 This estimate is based on the following calculations (in Ksh.): total revenue (pa): 74,250-103,950 - total production costs (pa):19,033-25,533 [i.e., annual depreciation (pa): 2,783 + variable costs (pa): 16,250-22,750] = total income (11 potters pa): 55,217-78,417.

180 It is extremely unusual to find a man engaged in pottery work, which tends to be perceived as 'dirty women's work'. He says that it has been easier to transgress the 'traditions' because he is new to the area, and because he has managed to acquire a substantial income from the enterprise.

181 This estimate is based on the following calculations in (Ksh.): total revenue (pa): 50,310 - total production costs (pa):22,795 [i.e., annual depreciation (pa): 2,545 + variable costs (pa): 20,250] = total income (pa): 27,515.
basis, and of his extensive marketing network, which extends to wholesaler from Nairobi.

Indications that women in Keyo WG are earning fairly large amounts of money are found in two important trends. The number of women making stoves is increasing, as one woman relates:

_I saw women making liners and felt jealous of their money. I even asked them for some, then one day I decided to work for myself. In one day I made 3 or 4 liners. I was so exhausted I couldn’t speak to anyone._

The second confirmation that income is being generated is seen in the increase in employment of labourers by potters to carry out agricultural work and clay collection. They explain that they can earn more money by paying labourers to undertake labour-intensive tasks, while they undertake the pottery work.

The significance of income generation for women can only be digested within the context of gender roles. In Western Kenya over 30% of households are female-headed, mainly due to male migration. For these women, earning a cash income is particularly important for purchasing goods and paying school fees. In male-headed households women have control over their income in Kisumu District (Pala 1975:8). Keyo WG members report that their husbands do not interfere with their income, but many women ‘keep them happy’ by buying clothes for them. On the other hand, they often spend the money on school uniforms and fees, thereby taking some responsibility away from men, who usually pay for children’s education. The importance of education is expressed by one potter as follows:

_If you pay for their education they are not your responsibility later. I will have to fork out more money later on if I don’t pay for my kids and relatives to go to school now._

Keyo WG are far more affluent than the other potter groups involved in the project. Half the group’s members are married to men in employment, who view the income from stoves as supplementary to their own salary. None of the other potters involved in the Western Kenya project earn enough income from stove production to draw conclusions about how it would be controlled and spent. Nevertheless, the relatively poorer women anticipated that they would not only take on at least some of the school fees, but buy essential foodstuffs in periods of drought and shortage.
The income generated in the Sri Lankan urban programme benefits potters, assemblers and factory owners. In ITDG’s internal evaluation, it is estimated that if 60,000\textsuperscript{182} stoves are sold a year the benefits to factory owners would amount to Rs.570,000 and wages for potters and assemblers would be Rs.229,500 per annum (Jones 1989:56). Potters could earn up to Rs.750-900/wk making stoves, in contrast to Rs.375-750/wk making non-stove ceramics in the factory. Assemblers could make up to Rs.250-300/wk in stove production, in contrast to Rs.150-200 in tile-making or coir processing (ibid:54). However, he adds that these figures indicate the maximum income for producers. Both potters and assemblers are paid different rates according to the factory and the number of stoves sold,\textsuperscript{183} and so obviously these figures vary according to demand. The total amount of income generated will depend on the number of factories and producers, which has fluctuated considerably. Four to eight factories, employing between 29 and 57 producers, were engaged in stove manufacture at different times during the course of the project. The fluctuation reveals that although potters and assemblers may receive a higher income while making stoves, there is little security in such employment.

The most obvious observation to be made about income generation in this project is that during peak production, the factory owner retains an average profit worth over 17 times more than the wages of one producer (see above). Even allowing for enormous distortion in the figures, the distribution of wealth is most definitely not in favour of those in ‘need’, the ‘poor producers’ as ITDG calls them. Also, the potters are male while the assemblers are female, and the differential access to benefits is likely to have led to men earning three times more than women (see above). The project production strategy stated that the benefits to stove users should take priority over those to producers, and so maximum output was the main objective. Nevertheless, the evaluation claims that ‘the project has resulted in some important income and employment benefits’ (ibid:53). If this is true, the main beneficiaries are the factory owners, who were already relatively rich before the project began through tile manufacture.

In contrast, all of the income generated in the rural programme was earned by small-scale potter households. Within potter communities, it was hoped that by introducing a

\textsuperscript{182} For 1989-90, 40-50,000 is a more realistic annual figure.

\textsuperscript{183} Potters and assemblers are paid a set rate for each piece after one of their stoves has been sold.
new product it would be possible to resuscitate the declining pot making industry. However, in 1988, I found that pot making and trading as a specialist industry, rather than a sideline to farming, was probably as busy as it has ever been. It has been pointed out by Kirk that earning income purely as a potter and/or pot trader has only been possible in the last fifty years, with the development of extensive marketing networks (1984a:98). Also, as far as demand is concerned, it is apparent that some clay cooking pots are being replaced by aluminium products, but only for particular functions. For example, aluminium pots are considered useful for cooking rice and as washing bowls, but clay pots are perfervid for cooking curry, and storing and filtering water. Consequently, the majority of households use both. Furthermore, potters selling flowerpots, money pots, vases, and animals can sell as many of these goods as they can produce, especially if they are sprayed with purple car paint and given a coat of varnish. The decline of the industry was probably exaggerated.

The more specific aim was to provide potters with a new source of income. Aside from ceramic handicraft-makers, and pot-makers who are assured of selling large orders to wholesalers (especially in Kurunegala and Hambantota), potters did earn a relatively low and unstable income. Their poverty has been exacerbated over the last decade, by the rapidly rising costs of materials, especially firewood. In a study conducted in 1988, it was found that the average per capita monthly income of pot-makers was Rs.519. The average wage of a female private contract agricultural labourer, working 20 days a month, was lower at Rs.450, but a male equivalent received Rs.600 (for other comparative income levels see section 5.4). The estimates of income earned by 31 households engaged in pot, handicraft and/or stove production were extrapolated from production levels. However, this should be treated with caution since stove-makers tend to exaggerate their production levels, and pot-makers appear to underestimate their productive capacity. While estimated stove output was checked against CEB production figures, there was no way of cross-checking pot and handicraft production, and pot-makers may not have taken rejected pots into account. Some potters claimed that their pots never crack, but others stated that every potter rejects between 7 and 15% of his/her clay products.

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184 This constituted the first phase of my fieldwork which was written up in a report for ITDG (Crewe 1988).
185 Stove-makers are aware that the most productive amongst them are likely to receive further support from the CEB, while pot-makers assume that it is a lower capacity, and consequent poverty, which is most likely to attract financial assistance.
The average income levels hide enormous seasonal variability, which derives from climatic change and fluctuating demand for different products. As examples, during periods of incessant rain the income of potters with poor facilities can fall to zero, while pot-makers can double their average income just before New Year, when the demand for rice pots increases. Despite these reservations, a pattern does emerge out of the survey on income. The lowest, average, and highest per capita monthly incomes of potters according to the product they make are as follows:

<table>
<thead>
<tr>
<th>Range of Per Capita Monthly Income of Potters in Sri Lanka (Rs.)</th>
<th>Lowest</th>
<th>Average</th>
<th>Highest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pot-makers</td>
<td>243</td>
<td>519</td>
<td>804</td>
</tr>
<tr>
<td>Stove-makers</td>
<td>408</td>
<td>874</td>
<td>1566</td>
</tr>
<tr>
<td>Combination producers(^{186})</td>
<td>220</td>
<td>952</td>
<td>1776</td>
</tr>
<tr>
<td>Handicraft-makers</td>
<td>179</td>
<td>1439</td>
<td>2700</td>
</tr>
</tbody>
</table>

(See Appendix 11.7 for detailed figures)

Without a doubt, stove production has generated income for potters. On the other hand, it is clear that the increase in income has not been evenly distributed. The six richest potters in the survey, apart from one handicraft-maker, are stove-makers who employ labourers. Out of a workforce of 84, there are 17 labourers (i.e., about 20%). Of those 17, four are unpaid relatives of the principal potter, who receive board and lodging in return for their labour, and 13 are paid labourers, earning an average of Rs.877 per month. While it is true that the latter claim that they receive a reasonable income, an overview reveals that the labourers form 46% of the workforce and collectively earn only 28% of the net profit. Labourers' wages range from Rs.185 to Rs.1664 per month, paid either at a piece-rate or fixed salary. The piece-rate payments

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\(^{186}\) This includes potters who manufacture both (1) stoves and (2) pots and/or handicraft products.
range from Rs.0.50 per stove for assembling the 2nd part of two-piece stove, to Rs.3 for throwing one stove firebox. Fixed salaries vary from Rs.25 to Rs.50 a day.

Production units entirely managed by women appear to earn very low incomes. There are six pottery workshops run by women in the income survey (three pot-makers, one handicraft-maker, one stove-maker, and one combination producer), and they rank relatively as the 1st, 2nd, 4th, 6th, 7th, and 8th poorest out of 31 units. There are numerous possible reasons for the poverty of female potters, irrespective of which products they produce, including the following: (1) household work significantly reduces the potential time available to women for pottery work; (2) many of the women running their own pottery businesses are unmarried and have no children, in which case they receive little or no labour assistance from others; (3) most of the women who sell their own produce have less marketing experience than men, and appear to obtain lower prices; (4) those who depend on male relatives to arrange the marketing of their products, usually give them a fee or percentage; and (5) access to credit is limited for women, which makes it considerably more difficult for them to purchase materials and maintain production during payment delays or a slack in demand.

It is also clear that the average income of combination producers is higher than potters making only stoves. Diversified production allows potters to take advantage of fluctuating demand for different products. For example, stove-makers who continue to manufacture pots can supplement their income by selling rice pots at New Year. In addition, some continue to receive large orders for pots from local retailers or wholesalers, which provides them with a small, but reliable, flow of income. Stove-makers who also produce pots and handicraft items are in a particularly strong financial position. There appears to be a substantial and constant demand for decorated water vessels, vases, flowerpots, money pots, and animals. In this study, the three potter households with the highest income all produce at least some handicraft items.187

187 Each one has at least one member who has been trained at the government pottery centre in Kegalle, where handicrafts based on ancient designs are manufactured. In 1987 and 1988 this 'Ancient Clay Works' had 19 potters working regularly on its premises. Their average per capita net income (from the centre) was Rs.1,199 per month - Rs.1,049 for women and Rs.1,287 for men. They are paid piece-rate for their products after they have been sold. Women tend to earn less because they work part-time in the centre, while the rest of their time is taken up with household work. Most of the potters also earned an additional income from pottery production in home based workshops.
From 1988, the Dutch, through the CEB, gave grants of Rs.10,000 (then about £300) to 20 potters producing stoves, to increase their output. The most productive workshops were chosen for developing facilities (primarily the workshop and kiln), which inevitably favoured the richer stove-makers. Concentrating production in a small number of workshops was plainly logistically easier and cheaper for the project staff responsible for collecting and distributing stoves. The strategy was justified by prioritising the benefits to users above equal access to the benefits of production.

Stove production appears to have affected potters' behaviour with respect to credit, but the sources of credit have remained unchanged. Firstly, the guaranteed CEB orders for stoves, and resulting increased income enjoyed by nearly all stove-makers, should have alleviated the need for credit to pay for living expenses. But the dramatic fall in income during the monsoon remains a problem, unless facilities have been considerably improved by grants from the project. The wealthier stove-makers manage to save funds during the drier months, which sustain them during times of lower production. However, the CEB payment delay, which lasts up to three months, creates a new financial vulnerability, even for richer stove-makers. As a consequence, potters either consume their savings or take out loans while waiting for the CEB payments. One potter household in the survey, and reputedly many others, abandoned stove production as result of this delay.

Secondly, as a result of their higher income stove-makers have begun to invest in improvements to their home and production facilities, often with the aid of loans. Usually stove-makers claim that they cover the costs of these investments by saving capital in advance, but in some cases they arrange loans which are then repaid with money made from stove production. In particular, all the stove-makers in the survey, including one woman, who received funds from the CEB for developing facilities, borrowed money from money-lenders, relatives, or banks to pay for at least half of the materials and labour in advance of receiving the full grant. The CEB have made a policy of giving half the grant (Rs.5,000) to selected potters before the building began, and the other half on completion of the work. This strategy was devised to ensure that potters spend the grant on renovating their kiln and workshop, rather than on any other business they may be engaged in.
During the study, discussions were held about priorities for household expenditure. Kirk claims that potters spend about three quarters of their income on subsistence (1984b:20). Since the average monthly net income of potters households in this survey is Rs.2,247 (see Appendix 11.7), it can be approximately estimated that Rs.1,685 (per month) is spent on subsistence (or an average of Rs.374 on each household member). Not surprisingly, the proportion spent on subsistence appears to decrease as income levels rise. For example, households earning a higher income as a consequence of stove production appear to have increased expenditure on their house, medicine, clothing, and consumer durables.

Most of the income of poorer, mainly pot-making, households is spent on food, and occasionally on clothing, medicine, visiting relatives, ritual occasions, and donations to the temple. Very little is invested on their houses (which are typically wattle and daub), education of children, or similar large capital outlays. Richer stove producers, on the other hand, claim that their first investment priority is to renovate their house. Potters, who have been making stoves for a year or more, and have accumulated capital or acquired loans, report that most of their surplus income is spent on their house. Some even expressed the view that spending money on more food is a waste, when it could be saved to be invested in their house. Virtually all stove-making households had improved their kitchen facilities, and at least rebuilt one part of their house. Most of the long-established stove-makers have constructed a new house and an outside latrine, usually with cement, bricks, and tiles for the roof, at a cost of up to Rs.30,000.

Many have purchased at least some of the following: wooden furniture, connection to the electricity supply if available, a clock, a cabinet packed with decorative items, new china, and glasses, photo frames, a tape machine, and a television. One particularly affluent household has also bought an electricity generator, a car battery, and tube lighting (because there is no local electricity supply). In addition, many stove-makers have invested in carts to collect materials or to take finished products to market, and bicycles for their own transport. One family has even bought a small tractor with a trailer and a motorbike. This acquisition of goods might be seen in contrast to Kirk’s portrayal of potter households typically functioning within a ‘domestic mode of production’, whereby people prefer to eat well rather than spend money on building houses (Kirk 1984a:81). One potter told Kirk ‘that it was pointless to build a large house like the two or three new brick and tile houses’ in his village (ibid:93).
Consumer goods are not the only valued commodities. Many stove-makers also claim that investing in their children’s future is a high priority. The two main costs include education for children of both sexes, and dowries for daughters. Education has become especially highly valued by parents, since they do not expect their children to continue in pottery work once they have left school. Many hope that their children will acquire highly paid salaried employment, and avoid the pottery profession which identifies them as members of a lower caste.

The financial costs of ritual occasions and social obligations are difficult to assess in a short period of fieldwork. However, there is some evidence that richer households appear to spend more on astrologers' fees, giving gifts (often in the form of food), travelling to visit relatives, and temple donations. Since it is partly the process of investing in social networks which creates, maintains or redefines the status of the household, it is highly likely that richer potters invest larger sums on social obligations.

It seems obvious that the project objective of generating income for potters has been successful. There are apparently over 70 potters still producing stoves for the CEB as part of the rural programme. On the other hand, there are two important reservations worth highlighting. Firstly, the distribution of benefits has been inequitable. Less than 3% of the rural potter population was given training by the CEB to make stoves (Crewe 1988:21), and probably less than 2% presently earn income from stove production. Of the 70 potters selling stoves to the CEB, the overwhelming majority are men despite the fact that over 45% of those working as potters in Sri Lanka are women. Secondly, some of the 70 potters are now producing stoves on a highly irregular basis, if at all. The CEB no longer buy stoves from Hambantota District, and consequently there are no potters making stoves in that area (Amarasekera, pers. comm.).

In conclusion, while reductions in household expenditure for users and income generation for producers appears to have been attained in both Sri Lanka and Kenya, the access to benefits appears to have favoured those who need them least. The poorest households in both countries do not appear to purchase stoves and thereby reduce their fuel bills. In Sri Lanka, those accruing the greatest benefit from stove production are the factory owners who employ potters and assemblers. Relatively richer potters in both the Sri Lankan and Kenyan rural programmes have earned reasonable amounts of
income, but poorer potters have not been involved in stove production. Very few women potters in Sri Lanka have received training from the CEB or directly benefited from the income of stove manufacture.

7.3. Time and Energy

The fuelwood crisis has led most development agencies to respond with two kinds of programmes: tree-planting and fuel-efficient cookstoves. Tinker points out that they have had limited success as energy solutions for two reasons: (1) the problem was misunderstood and (2) the solutions demanded more time and effort from women than they could spare (1984:1). Since the early 1980s, it has been well-documented that donors were mistaken in assuming that rural fuel gatherers are responsible for deforestation. The causes for deforestation cannot be generalised across regions. In mountainous areas, land clear-cutting for new homesteads and commercial logging are frequently the main causes; in areas of ‘over-population’ trees are cut to provide new land for agriculture; over-grazing is to blame in Sahelian areas; and selling firewood and charcoal to towns accounts for some tree felling, especially in peri-urban areas (ibid:1-2). Recently, the ‘problem’ has been rephrased with a different emphasis. Fuel shortages have exacerbated rural women’s arduous workload, and thus it is their physical energy and time which is supposedly being conserved through fuel-efficient stoves.

It has been pointed out that women’s heavy workload was hardly noticed before the recognition of resource scarcities.

What is not visible is forgotten, or worse still, presumed not to exist; due attention is paid only when it assumes at least a nuisance value status. The attainment of nuisance value is possible through various routes. An essential resource presumed to be available in unlimited quantities suddenly shows signs of actually being scarce, such as clean air or water and energy. The misery becomes too widespread and suffered by too many people to be ignored, such as rural (and urban) poverty. Or the sufferers do not remain silent, such as women or the people of colour (Nagabrahmam and Sambrani 1980:1).

Women’s work has been notoriously underestimated in the past, mainly due to the misleading definition of work as activities carried out in exchange for wages, goods, or services (Beneria 1982). Work should be contextually defined in terms of the social,
economic or personal value attached to each resource which it produces or converts, be it land, capital, labour, time, information or identity (Wallman 1979:2). With this definition it is possible to draw attention to the various functions of women’s three main areas of work: productive, reproductive,188 and household maintenance. The latter entails the idea that household work includes not only tasks which attend to the physical needs of the household members (e.g., in Britain this would be called ‘housework’), but also any activity which contributes to the household’s maintenance, growth or standing (ibid:5-8). Women’s work is plainly more onerous in female-headed households. In Kandy District, Sri Lanka, 17% of households are headed by women (Shah 1986), and the figure is even higher in Kenya at 34% (Pala 1975:1).

In Sri Lanka, a woman’s working day often amounts to 17 hours (Postel and Schrijvers 1980:23). One woman Sri Lankan potter reports that she carries out at least the following each day:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.00 - 6.30 am</td>
<td>Cooks breakfast.</td>
</tr>
<tr>
<td>6.30 - 8.00 am</td>
<td>Prepares children for school. Sweeps and cleans house.</td>
</tr>
<tr>
<td></td>
<td>Fetches water and firewood.</td>
</tr>
<tr>
<td>8.00 - 11.30 am</td>
<td>Pottery/stove-making.</td>
</tr>
<tr>
<td>11.30 am - 1.00 pm</td>
<td>Makes tea, and prepares and cooks lunch, unless there is urgent pottery work, in which case they eat only bread.</td>
</tr>
<tr>
<td>1.30 - 1.40 pm</td>
<td>Short rest.</td>
</tr>
<tr>
<td>1.40 - 6.00 pm</td>
<td>Makes pottery/stove; bathes; washes clothes; makes tea.189</td>
</tr>
<tr>
<td>6.00 - 8/8.30 pm</td>
<td>Prepares and cooks dinner; rests or makes pottery/stoves.</td>
</tr>
</tbody>
</table>

(Crewe 1988:49-50)

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188 The distinction between production and reproduction can be attributed to modern Marxists who have extended their definition of labour by analysing the structure of the relations of reproduction within the mode of production (Meillassoux 1981). Women’s household work, reproductive role and subsistence production have all been categorised as labour because they reproduce and maintain the labour force, and recreate ‘the conditions of existence for the relations of production’ (Beneria 1982:130; Edholm, Harris and Young as quoted by Sharma 1986:6).

189 The proportion of time women spend in the workshop depends upon the urgency of the tasks at each point in the manufacturing process. For example, when beating or assembling products before the clay dries too much, women work longer hours in the workshop.
Few Kenyan rural women engage in regular paid employment, and yet their work consumes up to 15 hours of each day during the planting, weeding and harvesting seasons, according to women in Kisumu and Kakamega Districts. A study of women’s work in Kisumu District (the areas of ITDG’s Kenyan stoves programme), gives the impression that women spend an impossible minimum of 33 hours working each day (Pala 1975:6, see Appendix 11.6). Pala clarifies that, in practice, many of these tasks are undertaken concurrently, especially child care and supervision (ibid:5). Nevertheless, it highlights the most problematic aspect of relying on women’s estimates of how they spend their time, that is, that such measurements are extremely difficult to make retrospectively.

The claim that all poor rural women are spending more time collecting firewood in the face of severe shortages conceals regional diversity and seasonal variation. For a start, in some locations fuel is also collected by men. As examples, men in Kenya assist with felling trees; in the Bukoba regions of Tanzania men are responsible for collecting and transporting firewood (Steverlynck 1983:3); in Zanzibar, Tanzania, 59% of fuel collection is carried out by men (Masoud, pers. comm.); in Rwanda men occasionally cut trees and transport large logs to the household; where timber is chopped with axes, Nepali men will undertake the work; in the Uttar Pradesh hills of North India men fetch fuel when women’s agricultural productivity is high; men and women share fuel collection tasks in Peru (Dankelman and Davidson 1988:68-9); in Java men spend over twice the amount of time on fuel collection as women; and in Hariharganj, Karnataka, South India, men spend more time cutting trees than women do on fuel gathering (Tinker 1984:11,18). Children, particularly girls, often assist women with their work, particularly water and fuel collection, sometimes being taken away from school as a result (Carr 1985a:119).190

Although there are exceptions, it is undoubtedly true that fuel collection is usually women’s responsibility. The amount of time taken up with fuel collection can vary from eight minutes a day in Burkina Faso (Tinker 1984:10), to women spending from midday to nightfall every day in Gambia (Dankelman and Davidson 1988:69). Even within one state of India, it is difficult to generalise about fuel availability. Although forests are thinning, getting employment to buy food, rather than fuel, is the main

190 This may partly account for the lower school attendance of girls in many countries (Charlton 1984:34).
A woman carrying fuelwood in Morogoro District, Tanzania. Evidence that trees are sometimes cut.

An improved Morogoro stove, and a 'three-stone fire' in Zanzibar, Tanzania. Cooks often use several stoves to save time.
priority for women in Rangpur, Gujarat (Nagabrahmam and Sambrani 1980:13). In
Roli, also in Gujarat State, the fuel situation is much more severe, with women
spending 4-5 hours a day collecting fuel, and in Vajeghad, water and fuel shortages are
so acute that 6-9 hours each day is spent in fetching these resources (ibid:16, 21).
Nevertheless, even in the Gujarati village with the most severe ecological crisis,
according to the same study, fuel collection was not identified as a problem:

Long years of this struggle have, to an extent, blunted the women’s perception and
awareness of its severity, or perhaps they are resigned to their fate, because they do not
complain either of the arduous (sic) nature of their tasks or the injustice. One mainly hears
mounting anxiety regarding basic survival... (ibid:22).

Fuel gathering is only one of many tasks performed for the household’s maintenance,
and as such, is not usually isolated by rural women as a particular problem.
Furthermore, it is not necessarily the most time-consuming part of women’s work. For
example, studies carried out in India, Nepal, Burkina Faso, and Kenya have shown
that women spend more time collecting water than fuel (Tinker 1984:21-3). Food
preparation, especially cooking, usually consumes more time than water and fuel
collection combined. For example, food preparation takes up 24.5% of women’s time
in Java, while firewood collection takes up only 0.8% of their day (ibid:11). Estimated
time allocations in Sri Lanka and Kenya indicate that cooking takes up to about 5.5
hours in both places (Crewe 1988:49-50, Mutere 1989:10).191

Demands on women’s time and energy obviously change according to the season. In
Kenya women spend almost twice as many hours collecting water and fuel during the
dry season as compared to the wet season (Hanger and Morris as quoted by Carr
1985a:118). In Nepal, women spend 0.8-0.9 hours a day collecting fuel between July
and March, and up to 2 hours a day between April and June, the dry season (Carr and
Sandhu 1987:10). There is also some indication that during agricultural peaks women
will cook faster even if more fuel is needed, unless there are severe fuel shortages
(ibid:28).

191 Mutere gives the more precise range of time spent cooking at between 5.4 and 5.7 hours irrespective of
the stove used. However, she adds that the figures may have been distorted by the fact that the cooks
were kept inside by the researcher during the cooking process, while normally they would have been
busy doing other work (1989:10).
One of the main, and increasingly popular, claims about fuel-efficient stoves is that they 'save' women's time and energy by reducing their workload. It is argued that since the 'traditional' three stone fire is an intrinsically inefficient technology, women are wasting their time acquiring fuel and cooking slowly. If a new stove uses 30% less fuel and reduces cooking time by 30%, then it is assumed that women 'save' 30% of the time spent on these tasks. The 'time saved', it is argued, can be invested in useful activities, such as earning money or growing and cooking more food. For example, Carr and Sandhu deduce that improved stoves decrease cooking and fuel collecting time, which results in more meals, more nutritious food, and ultimately better family welfare (ibid:46).

Such a generalised causal process should be treated with caution. Firstly, the technical claims should be questioned. 'Traditional' stoves are not as inefficient as many technologists suppose, and conversely new stoves do not save as much fuel as designers once believed (Tinker 1984:30). In Zimbabwe, it is often fuel economic cooking strategies, rather than improved stoves, which save wood. For example, cooks build walls around the open fire, lower the grate on which the pot sits, extinguish the fire as soon as the cooking is finished, and place the sticks so that the most efficient performance is attained (Bennett 1990:20).

It has been well-established that laboratory tests of stove efficiency bear little relation to daily fuel consumption within households. A 'Water Boiling Test', which involves measuring how long it takes to bring water to the boil on an improved stove compared to a three stone fire, may result in a consistent improvement in a laboratory. In kitchens, the difference is likely to be much smaller because the wood may be damp, is not cut into small pieces, or the user chooses not to place a pot over the second pot-hole. Similarly, a fuel-efficiency test in the laboratory, which involves measuring the amount of wood required to cook one meal, may repeatedly provide evidence that fuel savings are assured. In practice, since efficiency is greatly affected by methods of fire management and the type of fuel used, the fuel consumption varies. For example, in Sri Lanka the Sarvodaya stove was found to use 24.2% less fuel than a 'traditional' stoves in Kurunegala District but only 13.8% less in Ratnapura District (Amarasekera and Sepalage 1987:45). In many cases, improved chimney stoves have been known to

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192 Amongst biomass fuel users, fuel is generally collected by the same women as those who are performing the cooking tasks.
consume more fuel, especially when the dampers are not used. Even those without a chimney can often be less fuel-efficient than three stone fires according to users, for example according to many cooks in Varolotti, Tamil Nadu.

Secondly, even if we assume that improved stoves use an average of 30% less time and fuel, this cannot be automatically translated into ‘savings’. For a start, fuel shortages are usually highly localised, and in areas where wood is plentiful, the reduction in time spent on fuel gathering will be very small. In the aforementioned case study in Burkina Faso time saved on gathering would amount to no more than 3-4 minutes a day (see above). Also, fuel collection and cooking are rarely discrete activities for women. Fuel is often collected on the way back from working in the fields (e.g., in Ratnapura, Sri Lanka; Morogoro, Tanzania; and see Tinker 1984:21), and cooking is carried out in conjunction with food processing, childcare, and other household work activities. Cooking work obviously requires different amounts of energy at different stages, so that, for example, far less attention is required while boiling curry than lighting the fire. Therefore, even when the total cooking time is long, if supervision time is low, other tasks can be carried out concurrently.

Thirdly, even if we could prove that time previously spent on collecting fuel or cooking has been made available, we cannot necessarily assume that it is perceived as a ‘saving’ by stove users or that the time is controlled by women. It is not new to find that projects which are supposed to benefit women, actually provide a service for men. In Sri Lanka, potters using the rural Sarvodaya stove claim that they spend less time cooking and so invest more time in their ‘husband’s business’. Women potters explain that this may not be advantageous for them directly, but does increase income for their household, which indirectly benefits them. Thus, in this instance, it cannot be claimed that it is women, in particular, who are benefiting from the time ‘saved’. In other contexts, the interests of women and men can be seen as conflicting, as in Kisumu, Western Kenya. Women are responsible for household subsistence, so if it becomes known that they are ‘saving’ cooking time and their husbands require more of their labour (e.g. for cultivating cash crops), the benefits pass to men and not to women or the household in general. Some women in Kisumu have explained that they would rather spend longer cooking, and carrying out other work at the same time, than give their labour directly to their husbands.
It has been established that the benefits of stoves cannot be generalised across regions, but this in no way invalidates the advantages of stoves in particular cases. In both the Sri Lankan programmes, time ‘saving’ is ultimately identified as the most popular feature of the stove. In particular, women reported that the reduction in cooking time was the greatest benefit (Sumanasekera 1986:18, Clarke 1991:18). The second favoured quality was reduced fuel consumption, which, for the majority of rural women, may affect the amount of time spent collecting fuelwood. A study conducted in Hambantota District (as part of the rural programme) found that 72.2% of households collected all their fuel, and 7.2% at least partly collected fuel, but only 45.8% of households regarded fuelwood acquisition as ‘difficult’ (which presumably included some of those purchasing fuel) (ibid:43). The average amount of time spent on fuelwood collection for a ‘traditional stove’ in Ratnapura and Kurunegala Districts is about 0.15 and 0.35 hours a day respectively.\(^{193}\) In contrast, the time spent cooking with a ‘traditional’ stove is 4.07 and 3.9 hours a day in the respective districts; and only 3.18 and 2.9 hours a day with an improved stove. This represents time reductions of 0.89 hours in Ratnapura and 1 hour in Kurunegala per day. Compared to maximum time reductions of 0.02 and 0.08 hours on fuel collection in the respective districts, it is not surprising that women place a greater value on the shorter cooking time.

The Sri Lankan urban project monitoring relied exclusively on women’s reports about time-saving, collected during their field-test and purchaser surveys. Although users’ views are often described as unreliable by stove technicians, I would argue that the cook’s opinion about a stove is the only opinion that matters. Their reports are more relevant to project monitoring than estimates made by surveyors, not necessarily because they are more objectively accurate, but because the aim of stoves projects is to improve conditions in the eyes of stove users and not the social researchers! Since the intended benefits relate to the cooks’ experience of cooking (and not to the results of scientific experiments), it is their perception of those activities which defines the success or failure of the technology they use. Therefore, it should be viewed as significant that 85.5% of 169 households stated that the Anagi stove’s time savings were the most important feature. Since urban dwellers tend to purchase rather than collect fuel, the time impact on fuel savings was likely to be minimal. It was commonly

\(^{193}\) There is no estimate of the amount of increased time needed for wood processing, e.g., chopping up the wood before it is placed on the fire.
reported by both urban and rural users that the Anagi required less supervision time during cooking, which allowed the cook to attend to other tasks at the same time.

It has been assumed that if time is made available for earning income the effect is automatically ‘developmental’. For some, income generation is the only way to address women’s interests and counter the root cause of poverty. Tinker suggests that stoves are a distraction from the real task of income generation: ‘to reduce drudgery without providing income opportunities is only further to improverish (sic) the poorest who once earned a livelihood fetching twigs or pounding grain for their better-off neighbours’ (Tinker 1984:23). This point is not particularly convincing. Firstly, the majority of women collect wood for themselves and not for neighbours. Some carry bundles of wood into town as a way of earning income, but this livelihood would only be affected by urban, and not rural, stoves. She also ignores the fact that reducing ‘drudgery’ is surely an end in itself even if income is not involved. In contrast, income is only a means to improving living or working conditions rather than an end in itself, and so should not be presented as a higher developmental issue.

Women do not necessarily retain control over income, so that not all those engaging in more income earning activities benefit from the fruits of their labour. From the perspective of women’s interests, it is only they, and not development planners, who can evaluate different activities, such as sleep, brewing medicine, growing food, earning cash, and so on. When women judge the value of time often their categories do not correspond to those used by development planners. For example, while the latter divide women’s work variously into tasks such as, childcare, food processing, housework, and agricultural work, Sri Lankan potter women tend to view work as continuous, overlapping activities, partly broken up by location. For example, they refer to ‘garden work’, ‘work in the house’ and ‘pottery work’.

Women are not only concerned with the cash benefit or duration of work activities, but the intensity of energy required as well. A stove user in Morogoro, Tanzania, reports that fuel saving is highly prized because fetching firewood is more exhausting than most shamba work, even if it is less time-consuming than cooking. Some Sri Lankan potter women have complained that stove-making is more tiring than pot-making because it demands more concentration. Anthropological studies have shown that during periods of ‘free’ time, some people prefer to rest or sleep, or give time to ritual
activities, rather than work harder to increase their productivity (Sahlins 1974:19-27, 58). For women working up to 15 hours a day, rest is plainly not a frivolous matter.

The provision of informal and formal education for women is an important strategy for ensuring that they can gain a greater control over their lives. Since girls are often taken away from school in order to collect fuelwood, ultimately conserving fuel to keep female children in school may be the most significant needs satisfaction that stove programmes can offer women in the longest term. However, as with any resource, education cannot be assumed to be an end in itself either. For example, it might not lead a student to a desired job or position in areas of chronic unemployment. It is clear that the argument which states that it is a lack of access to resources that causes poverty can be circular. If you are poor, you cannot educate your children; if you are not educated you are more likely to stay poor. Increasing access to one resource does not automatically cause an increase in economic status, since opportunities depend critically upon the context.

According to Rowcliffe stoves play an important part in improving the socio-economic and political position of women. They are specifically targeted at particularly onerous work, carried out in an area which is frequently ignored by other projects, and can liberate women’s time for more productive, remunerative work (Rowcliffe 1988:26). Conversely, it could be argued that improved stoves reinforce, or at least do nothing to challenge, women’s role within classificatory systems which tend to attach little value to their work (such as cooking and fuel gathering). Neither declaration is consistently tenable. A stoves project which aims to ‘free’ women’s time, so that it can be spent earning income, will not be effective unless income earning opportunities are also available. On the other hand, stoves, as a time-saving technology, are valued by women even where remunerative work is not accessible. Less time spent cooking and/or fuel collecting and more time for resting, sleeping, caring for children, food production and/or processing, or visiting relatives may be more important than an increase in income to some women. Time ‘saved’ by stoves and dissipated or reinvested in other activities can only be meaningfully evaluated by users in context, and not by development planners in the abstract.
7.4. Health

At present, more than half the world’s households burn biomass fuels for cooking and/or space heating and consequently inhale harmful smoke emissions. Although thousands of chemicals can be found in biofuel smoke, the main pollutants which are produced by combustion are carbon monoxide (CO), particulates, and hydrocarbons (Chen et al. 1990:127-8). In addition, aerosol (droplets and solid particles) in smoke contains compounds which are thought to be toxic, carcinogenic and mutagenic (ibid).

A woman cooking and inhaling smoke from a wood-burning stove with no ventilation at all is exposed to an equivalent of more than 100 cigarettes a day (Smith pers. comm.). It is perhaps partly for this reason that it has been said that the ‘kitchen kills more than a sword’. 194

In reality, it is difficult to measure exposure, because of the substantial variation caused by emission rates, room ventilation, cooking time, proximity to the stove, and fire management practices. To complicate the situation further, lower emissions do not guarantee lower exposure to pollutants (Smith 1989a:517). When considering the health impact, it is difficult to ascertain the effects of exposure because there are many other ‘risk’ factors (e.g., environmental tobacco smoke, poor nutrition, and low birth-weight), and the delay between exposure and illness can be lengthy (Pandey et al. 1989:427). 195 Nevertheless, according to Chen et al., epidemiological studies indicate that

- carboxyhaemoglobin levels in blood were lower in women in well-ventilated kitchens and higher at greater altitude in two villages in Guatemala;

194 German proverb as quoted by Smith (1989a:517). The Greeks and Romans were also interested in the toxic phenomena associated with fire and lack of ventilation. They used carbon monoxide (CO) both to execute criminals and commit suicide (McGrath 1982:148-149).

195 Paustenbach, an environmental scientist, warns that ‘many assessments were so laden with value judgements and the subjective views of the risk assessors that the risk manager was unable to separate the scientific data from the wishes of the risk scientist’ (1989:30). If it could be acknowledged that the predisposition of the assessor inevitably shapes the evaluation, then it could then be acknowledged that the subjectivity of users is more relevant to stove evaluation than that of the scientist, since it is the former rather than the latter who is the intended beneficiary.
the incidence of cough, cough with expectoration, dysphoea and lung abnormalities was higher in Ahmedabad amongst women cooking with smoky fuels;

- symptoms of chronic bronchitis were higher amongst women burning wood and cow dung, rather than gas, kerosene or coal, in Chandigarh and a nearby village in Haryana District, India;

- the incidence of chronic bronchitis and cor pulmonale were very similar for men and women in four villages in Nepal even though heavy cigarette smoking was far more prevalent amongst men;

- between four and five million children under the age of five years old die from ARI each year. Although domestic smoke pollution has been viewed as an important ‘risk’ factor in developed countries, the links have received relatively little attention in ‘developing countries’. Studies conducted in South Africa, the Gambia and Nepal indicate that ARI in children is associated with exposure to smoke.

(ibid: 128-131)

Although most research efforts into indoor air pollution have centred on tobacco smoke and gas stoves in ‘developed’ countries, the latter release only a fiftieth of the pollution emitted by wood-burning stoves (ibid:127). Despite the relative lack of research, ‘enough is known to warrant household, community and government efforts to reduce exposures through education and introduction of improved stoves, cleaner fuels and enhance ventilation’ (ibid:136).

The pollutants emitted in biomass smoke constitute an environmental hazard according to two (out of five) of the WHO criteria, which specify that continuous or repeated exposure to harmful pollutants should be a high priority, especially where it involves ‘a large proportion of the general population, or occupational groups, and... highly vulnerable groups such as pregnant women, newborn children, the infirm or the elderly (Koning 1987:6). Women and children more likely to be affected by harmful pollutants in smoke because they spend much of each day near the stove. CO is especially
dangerous for unborn children because their oxygen supply is low and they depend on exchanging blood with their mother, and it 'threatens the tenuous chain which supports the fetus' (UN Congress:1987:102).

Biomass smoke pollution has received some attention, but there are other physiological effects of fuel use and scarcity which have hardly been discussed in any detail in relation to improved stoves. Such stoves not only reduce the incidence of diseases and infections, but may affect nutrition and general physical condition as well. For example, fuelwood collection time may be in competition with cooking time so that shortages can lead to fewer meals and less nourishing diets (Sims 1992:2-3). More comprehensively, it has been argued by Bouwe et al. (1989) that the coping strategies employed by women facing acute fuelwood shortages can include

- increasing the amount of time and energy spent by women on fuelwood collection, which means that less time is available for food production, income generating activities and childcare, to the detriment of the health and nutrition of household members, and particularly of children. For example, 'child's access to health care usually depends on the mother's ability to spend at least half a day travelling to and from the health centre and in waiting time' (Wisner 1988:238).

- substituting fuelwood with alternative fuels, especially animal dung, agricultural residues, and fuelwood of inferior quality, which causes: (1) the withdrawal of dung and agricultural residues from fields, thereby decreasing soil fertility and levels of food production; (2) a decrease in the amount of food available for cattle, which lowers their resistance to disease and may reduce their milk and meat production; (3) an increase in the level of harmful smoke emissions where wet or inferior wood is used.

- economising on fuel consumption by eating cold left-overs, warming up cooked food, cooking fewer meals, cooking food for less time or not at all, substituting pulses and whole cereals for ground cereals, and purchasing more snacks, ready made foods, sweets, and fruit. In most instances these trends increase intestinal infections, impair the absorption
of proteins, reduce the intake of vitamins and energy, and simply cause a
decrease in the amount of food consumed.

- using less fuel for space-heating and boiling or heating water, which can
  cause a deterioration of the physical condition of household members. In
  particular, it can increase the inflammations of wounds not treated with
  warm water, intestinal infections caused by drinking unboiled water, and
  eating with dirty hands from insufficiently cleaned plates.

(Bouwer et al. 1989:353-7)

The main recommendation of this research was that: ‘the impact of a shortage of
fuelwood can be considered as a nutritional problem and should be a point of concern
for rural development’ (ibid:349). It has been suggested that fuel-efficient stoves, by
reducing the levels of smoke and pressure on biomass resources, counter at least some
of these effects (Sims 1992:2-3).

The objections to a sweeping claim that stoves could provide a cure-all for the health
problems associated with fuelwood shortages are partly related to technical
performance. Firstly, fuel economy is not guaranteed in improved stoves, and some
even use more fuel thereby increasing fuel collecting demands. Others require extra
human energy for chopping the wood which cancels out any time saved in fuel
collection. Secondly, some stoves increase thermal efficiency but reduce combustion
efficiency resulting in an increase of smoke emissions (Smith 1989a:517). Stoves that
reduce fuel consumption and smoke emissions through more efficient combustion, do
not automatically result in lower exposure since the concentration of the harmful
pollutants may not decrease. Even stoves with chimneys do not always remove smoke
because poor installation and maintenance, or removal of the chimney in many cases,
can lead to significant indoor concentrations (ibid).

Also, an improved stove could only affect health partially because not all the effects
mentioned above are likely to occur at the same time. For instance, diarrhoea is more
common in the wet season, while eye infections usually afflict people in the dry season.
Also, some are mutually exclusive, e.g., if dung is being used then woodfuel collection
takes up less time. Theoretically all these health problems could all happen at the same
time to different degrees, but in practice health related circumstances vary between households and areas, according to household composition (e.g., number of children), women’s roles, fuel use, diet, climate, livelihood and so on.

There has been no detailed research into stove users’ perceptions of the health effects of improved stoves. Their views are represented by patchy project monitoring and anecdotal reports, the substance of which can vary according to the priorities of the reporter, for instance, whether they wish to stress or undermine the importance of smoke removal. In Ratnapura about half the 30 households commented that the new stove facilitated increased use of boiled water, and two thirds mentioned its cleanliness (Sepalage and Amarasekera 1987:60). In Kurunegala new stoves precipitated an approximate average 145% increase in the amount of ‘hot water consumption’ (ibid:66). This, not surprisingly, increased fuel consumption, and in some cases may have cancelled out ‘savings’ made through greater fuel economy. The variation in performance of stoves and/or users’ priorities is evident since all 30 respondents in Kurunegala reported that the stove produced less smoke, while only 17% made the same observation in Ratnapura (ibid:92). In a study of 799 households in Hambantota, less smoke was the third most frequently mentioned positive attribute of the improved stoves, while the ease of boiling water (because the stove has two pots) was ranked fifth (Sumanasekera 1986:18). In Colombo, just under 60% of 109 Anagi users commended the fact that the stove produced less smoke than an open fire and 53% valued the reduction in soot. Over 80% favoured the improvements in safety.

In 1988, field tests were carried out by the University of Nairobi to investigate CO and the total suspended particulates (TSP) emitted in smoke from ‘traditional’ and *Maendeleo* stoves. With funding from GTZ, equipment loaned by the Bellerive Foundation, and assistance from the Kenya Medical Research Institute, Mutere found that the concentration of CO emitted by three stone fires was over two times greater than the concentration from *Maendeleo* stoves. Aside from using different stoves, the researcher reports that ventilation was another significant way to reduce the

196 It is not clear whether this refers to water used for drinking or washing.

197 Measurements were taken in the ambient air outside the kitchen, at the place where the cook sits while working in the kitchen, and where the cook sits while stirring the food (Mutere 1989:5). The concentration of CO in the ambient air was zero in all cases; in the second instance of working position, the cook inhaled 2.7 times more CO from the three stone fires than the *Maendeleo*; and in the third test carried out at the place for stirring, the cook inhaled 2.4 times more CO from the three stone fire.
concentration of CO. It was also claimed that the Maendeleo produced 2.6 times less TSP than the three stone fire, but that these levels still exceed the recommended standards set by WHO and Environmental Protection Agency (ibid:10).

This quantitative information reveals no depth about people’s perceptions of health and safety. In many instances, the ‘need’ to remove or retain smoke is seen by stoves users within the context of the various functions of their fire. For example, users in villages in Nepal and India have explained that smoke may cause discomfort, but, at the same time, it is useful for deterring insects, smoking meat, and enhancing the flavour of food, while soot can strengthen thatched roofs. When asked about the smoke in her kitchen, one user in Nepal replied: ‘people have always lived with it, so why not us?’.

On the other hand, on a more critical note, according to a study in Ahmedabad, women complained about the irritating effect of smoke, especially on the eyes (Chen et al. 1990:129).

Women in Sri Lankan tea estates have told project staff informally that their main reason for preferring improved stoves to open fires is their speed and economy, which enables them to warm water for washing their children before they go to work on the tea plantations (Amarasekera, pers. comm.). At this altitude, they add, this is not only more comfortable for children, but is healthier and reduces the risk of catching influenza. In other rural areas, women have also reported that improved stoves are better for brewing herbal medicines because the heat is easily controlled, thereby allowing slow cooking. These concerns are probably related to particular circumstances in Sri Lanka, including the high school attendance and literacy rates, and the government’s substantial investment in promoting better health, sanitation and hygiene, (e.g., by encouraging people to boil water). In particular, Sri Lanka’s Health Department spend 50% of their budget on treating water borne diseases (Amarasekera, pers.comm.).

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198 Field trips to Kathmandu valley, Nepal and Tamil Nadu, India, March 1989.
7.5. Conclusion

The answer to the question ‘do improved stoves satisfy a need?’ will obviously vary according to who is being asked. Twenty years ago the designers would have tested and evaluated a particular improved stove’s laboratory performance, placing little reliance on consultation with users. Unfortunately, the result was often a rejection of what was perceived as ‘the white man's stove’ (Okot p'Bitek as quoted by Stamp 1989:60) (for the full poem see see Appendix 11.3, no. 2).

If needs assessment was carried out, the information given to users was often not the most relevant. For example, Hoskins points out:

One frequently hears questions like, ‘if you had a stove that used only half the fuel you currently use, would you cook on it?’ This is not the real question. The question might more accurately be, ‘if you had a stove that used less fuel would you be willing to chop your wood into 20-cm (8 inch) lengths, control the damper and clean the flue?’ Technicians are not in a position to evaluate these types of trade-offs. Only if the woman is given the necessary information will she be able to make an accurate evaluation of the new stove’s potential for being adopted (Hoskins as quoted by Foley 1984:58).

Nowadays, most stove designers and promoters would agree that it is only the users and producers who can appraise the value of a particular stove for themselves. They alone can judge whether the functions it performs well coincide with their own priorities. But even Hoskins does not recognise the importance of practice for the user. A cook can be given all the hypothetical advantages and disadvantages of the stove, but information alone is not sufficient for making a meaningful judgement. The only way for a woman to test how much she likes a new stove is by using it.

Bloch stresses the importance of practice over language in the use of expertise, giving the example of a Malagasy farmer choosing a bit of forest for ‘good swidden’ (1991:187). When the farmer decides on a good plot he whizzes through an incredible processing feat in minutes: he recalls the complex yet flexible mental model of what good swidden is like, takes in the image of forest before him (the vegetation, the slope, the surrounding countryside, the hydrology, the soil, and so on), and then compares the two. This could not be achieved through a simple comparison, with the mental processes running down a single line of analysis, but must involve what Bloch calls ‘multiple parallel processing’ (ibid:191). Hoskins’s question presupposes that the
women use a single line of reasoning when assessing stoves, whereas in fact a
‘multiple’ form of processing is undoubtedly necessary to juggle the enormous amount
of information relating to the functioning of stoves. A technician can not know exactly
what mental image the cook has of a ‘good’ stove, and could never put into language all
the features of her/his particular model. It is only through the ‘complex yet familiar
task’ of cooking (ibid), that the cook can compare a new stove against an old one,
taking in information about what kind of size of wood it needs, how well air is drawn,
how much heat and light is provided, how many sparks fly about, how much smoke is
released into the room, whether the heat can be easily controlled, and so on.

Bearing in mind that variation has been stressed with regard to user satisfaction, can we
comment more generally on the extent to which these stoves meet women’s needs?
When considering women’s universally subordinate position to men, Moser has
distinguished between satisfying ‘strategic’ and ‘practical’ gender needs. Strategic
gender needs apparently arise out of women’s ‘need’ to overcome their universal
subordination to men (Moser 1989:1803). This emancipation will be achieved by
challenging the existing sexual division of labour, alleviating women’s domestic
workload, removing institutionalised discrimination, improving access to resources
(such as credit), and combating male violence and control over women (Molyneux as
cited by Moser 1989:1803). ‘Practical’ gender needs are usually identified by women
themselves as the immediate necessities required for survival which reinforce rather
than overturn the sexual division of labour (ibid: 1803–4). For example, income-
generating activities within the domestic arena, or the provision of food, shelter, and
water will meet women’s practical needs. While both categories of need must be met,
Moser argues that the empowerment of women, implied in satisfying women’s strategic
needs, has been neglected or even obstructed (ibid: 1817).

If applying this view to stove projects, it may be said that a woman could satisfy her
‘practical’ needs by purchasing technology which improves conditions in the kitchen,
but this would not advance her status in relation to men. On the one hand some of the
burden of her household work may be somewhat alleviated (which might be a strategic
need), but on the other hand there will be no challenge to the sexual division of labour.
In that case, if their so-called ‘traditional’ role of cooking and serving men remains
unchallenged then are stove promoters party to the continuing subordination of women?
I would argue that such an accusation would be misleading. Firstly, improved stoves
are not usually designed specifically for women and there is no reason why they cannot be used by men. It is not the hardware but the use of technology which is gendered. Secondly, a major part of women’s enormous workload involves cooking and/or fetching fuelwood, and if this load is reduced in a way that the cook perceives to be significant, then the value judgements of observers are irrelevant.

So, who ‘needs’ new stoves? It is evident that many Sri Lankan stove-makers ‘need’ them in order to carry on earning relatively large amounts of income. On the other hand, some Kenyan potters have explained that they ‘need’ permits for maize trading, more than they ‘need’ stoves. It is also apparent that many Sri Lankan stove-users ‘need’ them to boil water, speed up their cooking, and allow more time for other activities. At the same time, many households in Sri Lanka or Kenya ‘need’ food more urgently than they ‘need’ a new stove. It appears that some people, in some places ‘need’ stoves for particular functions. Out of the context of the place, and people’s circumstances, the ‘need for stoves’ is a meaningless statement. As Sahlins argues in his critique of historical materialism:

Insofar as ‘utility’ is the concept of ‘need’ appropriate to a certain cultural order, it must include a representation, by way of concrete properties of the object, of the differential relations between persons - as contrasts of color, line, or fabric between women’s clothes and men’s signify the cultural valuation of the sexes. The system of needs must always be relative, not accountable as such by physical necessity, hence symbolic by definition (1976:150).

Even so, does the point about the relativity of ‘need’ answer the accusation that stoves do little in the war against poverty? Is it true that new stoves only reduce some of the suffering associated with poverty rather than combating the cause. Nagabrahmam and Sambrani write that

they may alleviate hardship, but they seldom enable the policy maker to see the problem in its entire perspective... The firewood problem of the poor women will not vanish unless it is seen as part of the symptom of their poverty (1980:27).

In addition to assuming that the cause of poverty is not eradicated by stoves, it has been pointed out that it is often the richer householders who benefit from purchased stoves. For this reason, Wisner claims that a particularly conservative approach, which has its roots in income/growth strategy, can be seen in the example of the production of stoves for urban and rural elites (1988:260). He proposes a more ‘radical’ approach to satisfying women’s interests which focuses on addressing their relative lack of access
to resources. Their access to fuelwood is portrayed as essentially a question of access to land, and so meeting their needs would presumably involve improving their control over land. Although it may help in some areas if women controlled more land, poorer households would probably choose to grow food on it rather than plant trees. In any case, Wisner is concentrating on the fuel conserving rather than cooking, and so ignores the reduction in the amount of time spent ‘slaving over a hot stove’.

In this chapter, I have proposed that stoves cannot challenge the existing structures which recreate economic inequalities. They do not respond to an abstract, universally applicable concept of ‘need’. Despite these reservations, they can alter the distribution of resources. Some stoves in some areas can reduce women’s workload, prevent such high levels or irritating smoke, provide greater cleanliness and convenience, and generate or save income. Their success can only meaningfully judged by cooks, fuel collectors, and artisans in the practice of use or production, and not by researchers or technicians. So why do the views of rural cooks and potters continue to be considered ‘backward’ and distorted by exotic traditional beliefs, in contrast to the sophisticated, detached technical expertise of the urban-based engineers, ceramicists, and social scientists? This is the main question I will turn to in the next chapter, *Advising the Experts*. 
8. ADVISING THE EXPERTS

'The infusion of external expertise frequently creates more problems than it solves'
(USAID 1981).

8.1 Classifying Expertise

I have argued that social evolutionary schemes partly rely on notions about knowledge and expertise (see section 2.3). Drawing on the ideas of Mao Tse-tung, Schumacher asserts that the practical people have important practical knowledge within their grasp, but cannot make use of generalising principles to advance their technology (1973:211). The theoreticians should apparently come to their rescue through the application of scientific principles, in order to push traditional technology out of its state of decay and develop the backward parts of the world. He warns that the methods of poor people are 'too primitive, too inefficient, and ineffective' (ibid:167) and so:

The best aid to give is intellectual aid and a gift of useful knowledge. A gift of knowledge is infinitely preferable to a gift of material things... The gift of material goods make people dependent, but the gift of knowledge makes them free (ibid:165).

He portrays the ideas of uneducated people in general as 'rather muddled and nebulous, too weak to make the world intelligible', which accounts from the craving for education that will 'lead us out of the dark wood of our muddled ignorance into the light of understanding' (ibid:74).

199 As quoted by Nindi (1990:49).
This perspective has been challenged within the development 'discipline' by pointing out the critical role of indigenous knowledge in technical innovation (e.g., by Chambers 1983, Richards 1985, Warren et al 1989, and Gamser et al 1990). Richards draws parallels with the attitude towards technical knowledge during colonial rule:

French, Belgian and British colonialists, convinced of their own intellectual and cultural superiority, failed to understand both how particular and place-bound were their own principles of environmental resource management, and the extent to which many of the characteristic practices of African farmers and pastoralists were effective responses to the highly specific challenges posed by the African environment (Richards 1985:11).

Just as the farmers, rather than agricultural scientists, brought about the agricultural revolution in England, so too African management strategies for controlling 'tsetse flies made more headway than the colonial scientific services (ibid:117,11-2). Richards argues that agricultural development should rely on local skills and knowledge, not just for moral reasons, but on the 'grounds that it is good science'. He adds that there is considerable resistance to such an idea, and though he does not account for this in detail, he alludes to 'powerful forces' working against populist, peasantry-focused, decentralised aims (ibid:161-2).

Chambers tries to explain this ethnocentric arrogance by applying a structuralist scheme to the thinking of expatriate and/or urban based 'development experts', presumably either representatives or employees of the 'powerful forces'. They fail to realise that it is the poor who are the greatest experts on their own problems, strategies and priorities, because they attach greater value to that which is modern, sophisticated and scientific (1986:142-3). 'Sophisticated' and 'primitive' knowledge, he argues, are associated with the following opposing attributes:

200 Anthropologists have been assuming for much longer that so-called 'traditional' or 'non-western' peoples in rural areas are as knowledgeable as anyone else. However, to give a relatively recent example relating specifically to technology, Sahlins points out: 'the world's most primitive people - judged as such on the plane of overall cultural complexity - create unparalleled technical masterpieces. Dismantled and shipped to New York or London, Bushman traps lie now gathering dust in the basements of a hundred museums, powerless even to instruct because no one can figure out how to put them back together again' (1974:80).
Professional Preferences

<table>
<thead>
<tr>
<th>Sophisticated</th>
<th>Primitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>Rural</td>
</tr>
<tr>
<td>Industrial</td>
<td>Agricultural</td>
</tr>
<tr>
<td>High cost</td>
<td>Low cost</td>
</tr>
<tr>
<td>Capital-using</td>
<td>Labour-using</td>
</tr>
<tr>
<td>Mechanical</td>
<td>Animal or human</td>
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<tr>
<td>Inorganic</td>
<td>Organic</td>
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<tr>
<td>Large</td>
<td>Small</td>
</tr>
<tr>
<td>Modern</td>
<td>Traditional</td>
</tr>
<tr>
<td>Exotic</td>
<td>Indigenous</td>
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<tr>
<td>Marketed</td>
<td>Subsistence</td>
</tr>
<tr>
<td>Quantified</td>
<td>Unquantified</td>
</tr>
<tr>
<td>Geometric</td>
<td>Irregular</td>
</tr>
<tr>
<td>Visible and seen</td>
<td>Invisible or unseen</td>
</tr>
<tr>
<td>Tidy</td>
<td>Untidy</td>
</tr>
<tr>
<td>Predictable</td>
<td>Unpredictable</td>
</tr>
<tr>
<td>Hard</td>
<td>Soft</td>
</tr>
<tr>
<td>Clean</td>
<td>Dirty</td>
</tr>
<tr>
<td>Odourless</td>
<td>Smelly</td>
</tr>
</tbody>
</table>

(Reproduced from Chambers 1986:143).

While the characteristics on the left-hand side are imbued with higher value, the primitive attributes are despised by the ‘experts’. Thus, it would follow that the three stone fire used for cooking is seen as backward because almost every adjective in the right hand column could be applied to it. It is primarily used in rural areas; costs nothing; requires considerable human energy to light and operate it; uses organic fuel; is small, traditional, and indigenous; functions for household subsistence; consumes an indeterminate amount of fuel and time; has a highly irregular shapes formed by three stones, rocks, or bricks; is in the kitchen and so unseen by outsiders; can produce untidy ashes and soot; and smells strongly of smoke.

On these counts then, three stone fires used for cooking should be the lowest of the low. I suspect, however, that it is not entirely as simple as that. We have seen, within the appropriate technology (AT) field, that engineers at least partly judge the level of
sophistication according to the designer rather than the attributes of the design. I would argue that machines are automatically deemed to be sophisticated by AT ‘experts’, if they are designed in a laboratory by specialist designers. Thus, the Anagi stove in Sri Lanka, designed by the Ceylon Electricity Board, with assistance from the Ceylon Institute for Scientific and Industrial Research and ITDG, is seen as a relatively sophisticated stove despite the fact that it has most of the characteristics outlined above.

It is not described as ‘traditional’ because it is both new, and more significantly, not designed by ‘traditional’ peoples, but by urban Sri Lankan and expatriate engineers. New designs by ‘traditional’ male potters, on the other hand, while impressive because innovation is involved, are assumed to be inefficient and/or not durable. Innovation by female cooks almost always goes by unnoticed because ‘traditional’ cooking practices are deemed to involve no technical knowledge.

Occasionally, this apparent omission is pointed out:

> across virtually all domains of human activity that had been thought to be the terrain of rural development ‘experts’, it has been recognised that ordinary people are themselves already quite expert, and could do more to further development if obstacles were removed. In Africa, for example, farmers... have developed new types of stoves (Carr 1984:70-3).

Even so, the occasional acknowledgement does not get translated into practice, since, as suggested in chapter two, stoves development could still be seen as a typical example of men making machines for women’s progress. In order to substantiate this claim, I will look at how knowledge is used in practice by stove ‘experts’, stove-making potters, and cooks. Since I am referring mainly to technicians hired for consultancies, and to make the point that the so-called development ‘experts’ have less access to expertise about potting and cooking than the potters and cooks, I will call the former ‘consultants’ rather than experts. The term does not exclude the urban national engineers (e.g., in Sri Lanka or Kenya) who are consulted about the design of stove models. Although nationals are often in a very different position, because they are working in the country they reside in and for recipient rather than donor agencies, they also appear to bestow their expertise on people from a distance. The distance is of a different degree. While expatriate experts often talk with authority about whole

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201 In multilateral agencies expatriate experts do not necessarily come from ‘developed countries’. The United Nations hires according to a quota system from all its member states, so that, for example, it is usual to find an ill-qualified Indian working in Sierra Leone at ten times the salary s/he would earn at home, despite the fact that s/he would be far more useful in India (Hancock 1989:115). Only 10% of UN professionals work in their own country (ibid:117).
countries or continents they have only visited once or twice, urban national experts often talk about the needs of people in rural areas when they have not been there for more than a brief sojourn. Even so, many of the assumptions about the source of expertise are shared by expatriate and urban-based development consultants. In the context of stove programmes, I will consider the position of the following groups in relation to assumptions about expertise:

- **Consultants** - individuals who are hired to research into, advise on, and/or transfer skills for various aspects of stove programme appraisal, development, implementation, monitoring, and evaluation. This category includes ‘technical’ advisers, scientists, and researchers in the following areas: - economics, environmental science, ceramics, forestry, management, marketing/business, mechanical and chemical engineering, social anthropology, and sociology.

- **Beneficiaries** - individuals, households, groups, or communities who are intended to improve their living and/or working conditions through using, producing, or selling improved stoves. This group includes potential rural or urban based stove users, producers, retailers, and wholesalers.

### 8.2. Consultants

Consultants are not a new breed to planned development in Africa, Asia, and South and Central America. Learned ‘experts’ have presumably been advising decision makers for a fee or reward for as long as societies have been existed. Recently, a relatively new aspect of this advisory tradition has been the increasingly large number of foreigners or expatriates employed as consultants. The hiring of advisers from overseas goes back to the colonial era. In social science, British applied anthropologists were employed as advisers by some British colonial governments before 1945, and as early as 1908 in Nigeria. Since the Second World War, firstly the disciplinary division of labour has led to the ‘hegemony of economics’ in the study and practice of development (Robertson 1984:294). Secondly, as a result of

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202 For example, Evans-Pritchard was Tribal Affairs Officer with the British Military Administration in Cyrenaica during the World War II (Gulliver 1985:56).
independence from colonialism and the replacement of foreign aid for foreign rule, ‘experts’ have been employed to advise national, rather than colonial, governments or organisations. According to Hancock, the number of ‘external advisers, consultants, seconded expatriates, and other experts’ amounts to at least 150,000 people, and there are more expatriates living in Africa today than there ever were during the era of colonisation and settlement (1989:114-5).

During the 1980s, multilateral and bilateral donors became concerned that large-scale development programmes appeared to collapse as soon as these expatriate ‘technical advisers’ withdrew. Thus, although there was a perceived need for expatriate advice and assistance, it was also seen to be compromising the increasingly fashionable concept of ‘sustainability’. Institutional building has gradually become viewed as a pre-requisite for sustainability, and the need for consultants has been phrased in terms of training rather than assistance or advice. The long-term purpose of consultants has developed into the rhetorical aim of working themselves out of a job. A Commission reviewing ESMAP expresses the ultimate aim as follows:

> the acid test of ESMAP's involvement in a given country is whether, over time, it can by utilizing local organizations and consultants, progressively dispense with the assistance which the Programme supplies in performing energy planning, developing projects, engaging in energy sector investment reviews - in short in managing this sector (ESMAP 1990:23).

The aim of transferring skills has gained such prominence that it is now portrayed as a key to success. On the other hand, this does not mean that as a result of skills being transferred to ‘counterparts’ or ‘partners’ the number of expatriate consultants involved in development projects is declining. Timberlake asserts that advising has become a ‘major industry’, with at least 80,000 expatriates working under official aid programmes in Sub-Saharan Africa alone in 1985 (as cited by Nindi 1990:58). This consumes an estimated $7-8 billion\(^{203}\) of donor money a year, and according to Nindi, has done nothing to prevent Africa plunging into an economic crisis (ibid:59). S/he even quotes Diallo, a spokesperson of the UN in Senegal, as saying that Africa’s biggest problem is that there are ‘too many people going around the continent with solutions to problems they do not understand’ (ibid).

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203 A United Nations expert costs $100,000 a year, while one bilateral agency budgets $150,000 per annum for one expert (Hancock 1989:115).
What are they doing there? They are usually described as either having unique specialist skills, not found in the recipient country, or able to sustain greater objectivity. Piganiol, an adviser to UNESCO claims that:

Even if the country possess experts, it would be wise to extend the range of competence by enlisting the services of foreign experts, whether private or supplied by the large international agencies or lent by friendly governments. They would help in avoiding the distortions that might arise from a desire for prestige and in determining objective criteria for the choice... They are often highly qualified in their own field and their technical knowledge is nearly always remarkable... We have referred above to the sense of responsibility of the local staff. We know of many cases in Africa, for instance, where this sense of responsibility is highly developed; we also know of a few where it is less so' (1970:69-71).

It makes sense for donors to send their own appraisers or evaluators to assess the performance of funded projects and advise on future resource allocation, because they represent the concerns of the donor country and will neither benefit nor suffer personally as a result of decisions made by the donor. Understandably, donors want to know how their money has been spent before they offer more. However, Piganiol gives no reason at all for assuming that foreigners in general do not desire prestige and nearly always have remarkable knowledge, while the sense of responsibility amongst some ‘locals’ is lacking.

Plainly, Piganiol raises more questions than he answers. Why exactly do governments/NGOs employ foreign consultants? Why do they want to work in overseas development in any case? Do their contributions help or hinder? Hancock’s answers to all these questions are bleak and angry. Largely with reference to ‘official’ aid organisations, rather than voluntary agencies, he attacks the ‘unsavoury, greedy, stupid and dangerous aspects of the aid industry’s behaviour’ (Hancock 1989:xv-xvi).

Thus, he argues that

- foreign consultants are employed by bilateral governments because they prefer to spend money on their own nationals. Multilateral agencies mistrust ‘local’ brain-power and competence, and the World Bank are quoted as saying that often: ‘only consultants from developed countries may be qualified’ (ibid:117);

- foreign consultants in multilateral agencies, where high salaries are paid, work in development for the money and/or career prospects; voluntary sector
workers, in far lower paid jobs, tend to give altruistic or humanitarian reasons for working in the ‘Third World’ (ibid:79-81);

- the results of the work of foreign experts has been disappointing. A study by OECD’s Development Centre concluded with the following statement: ‘we see very few advantages in the consistent use of foreign consultancy firms, except as a way of spending aid money’ (as quoted by ibid:118). The quality of their contribution is frequently constrained by their: inability to speak the local language, arrogance, lack of experience in the country, and vested interest in ensuring that local counterparts cannot take over (ibid).

He specifically excludes experts in voluntary agencies from his bitter attack because he sees them as ‘well motivated and their efforts worthwhile’ (ibid:xiii). However, it may be wiser to distinguish between the different roles played by consultants rather than the type of organisation they work for. I would maintain that it is harder to justify employing expatriates to plan, implement, and manage programmes, than it is to explain the need for short-term technical or social scientific training inputs from overseas for specific purposes. Nevertheless, since Hancock glosses over the NGO consultants, I will look at his claim that they tend to have different motivations from staff in bilateral and multilateral agencies.

It is undoubtedly clear that staff within ITDG are ‘well-motivated’. They are generally incredibly hardworking for relatively low salaries, conscientious, and are committed to the idea of changing poor people’s lives for the better. As Coggins expresses on behalf of the ‘development set’: ‘Although we move with the better classes, Our thoughts are always with the masses’ (as quoted by Hancock 1989:Preface) (for the full poem see Appendix 11.3, no. 3). Why people within ITDG work as advisers in overseas development probably varies enormously from individual to individual. Some may have started because they ‘believed’ in the Schumacher vision or found it difficult to secure a job in British industry. Once there, they may have become ‘accustomed’ to travelling or determined to make their mark on a particular project in the belief that they could contribute positively towards changing people’s lives. Per diems of £5 when

\[204\] The average salary for staff regularly travelling overseas is far lower than levels in bilateral or multilateral development agencies, consultancy companies, and probably even slightly lower than most other British development charities.
travelling overseas are not likely to be an important motivating factor and it is more likely that it is ‘the experience’ which draws many to the job. What ‘this experience’ means to the individual no doubt depends upon their personal history, psyche, ideology and so on. As examples, overseas jobs add to their work portfolio so that they are better qualified for future work in or outside ITDG, while for others the ‘experience’ of being in different country may be challenging and enjoyable in itself.

There is a perceived pressure on consultants to say what they think the employers want to hear. Consultants are usually in a position of power inferiority to their employers because the latter can withhold the fee for completion, and future work; or they can further the consultant’s career interests with new contracts or introductions to other potential employers. Partly for this reason, considerable surprise was shown when I argued that more freedom should be given to a team of consultant researchers during a meeting at the World Bank. The team had been employed to conduct an evaluation, and wanted to spend most of the funds on visits to projects. Meanwhile, the Bank officials were keen to hold a large workshop to ‘get the blessing’ of 100 or so experts. I suggested that since an objective assessment was called for, the external ‘experts’ should be left to decide how to conduct their own research. Afterwards one of the consultants joked: ‘do you have a private income or something? Don’t you ever want a job with the World Bank?’

There is a difference for ITDG staff between working as (1) a technical adviser on projects, and (2) a consultant, though the result may be the same for beneficiaries. Consultancies for other organisations are arranged through ITDG’s subsidiary, Intermediate Technology Consultants (ITC). All the technical advisers in the Operations Division are ‘on the books’, though some sectors encourage staff more than others, and attitudes towards consultancy vary considerably. Some refuse to carry out any consultancy on the grounds that it contravenes the aim of strengthening local innovation and expertise, and may involve working for an organisation whose policy they do not agree with. At the other end of the scale, there are those who happily carry out consultancy, because it is an opportunity to exert influence and/or is a useful training or learning exercise for themselves. It can be more financially remunerative.

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205 This commercial company is part of the ‘Group’, and is described as a vehicle for influencing other agencies and to raising funds for project work.
than an overseas visits for an ITDG project. Even so, the financial reward is tiny compared to the consultants from outside who receive £100-270 a day.

So, do such material and non-material influences determine the decisions of ITDG staff? Are they engaged in a perpetual assessment of how to further their own employment prospects, secure high fees, and elevate their status or do they want to change the world for the poor? It is clear that sometimes consultants make choices which promote their position, but at other times the consequences of their behaviour work directly against their own perceived interests. It could be argued that when consultants appear to act against their interests, they are merely trying to appear altruistic to gain recognition, or they are making mistakes in their calculations, or the observer has misunderstood. But such assertions are part of a circular argument which greatly simplifies human motivation. A generalised psychological statement - that we pursue our selfish wants - is the supposition on which the argument rests. Since we do not appear to be aware of calculating the potential profit of an action, the determining selfish drive must be largely unconscious.

If the drive is unconscious, and its existence must be an a priori assumption, then such speculation about motivation can never be resolved. The guess-work will be partly influenced by my own conscious moral perspective, which tells me that politically altruistic motivation is morally superior to self-orientated financial greed. If I am influenced by unconscious selfish drives as well, then guessing about the motivation of others appears to have dubious credibility. In any case, while these subjective moral evaluations of individual motivation are reasonably interesting, judgements of individual character tell us little about social relations. They probably also reveal more about the character of the judge than the judged. From the viewpoints of intended beneficiaries, it does not make much difference why consultants are involved in planned development. The more critical question for development policy is this: what is the impact of the contribution made by foreign experts?

In the history of stoves, technological development up until the late 1940s took place either in peoples’ kitchens or in urban-based laboratories in the ‘North’, largely as part of commercial enterprise (see section 4.1). Improved biomass stoves were first put on the agenda of ‘Third World’ planned development in the 1950s, and international agencies began to become intensively involved after the oil crisis in the 1970s. ITDG
joined the stove development field in 1977, and I will consider the impact of ITDG’s technical assistance in stove projects since that time. In general, we have seen that:

- **Deforestation Was Misunderstood** - A fundamental misunderstanding about household energy and biomass fuel was adopted by most stove development agencies, including the ITDG stoves programme staff. During the early 1980s, ‘experts’ mistakenly thought that reducing domestic fuelwood consumption would decelerate the rate of deforestation in areas of scarcity. As a consequence, while advising on stove design they emphasised the importance of fuel-saving at the cost of other improvements, such as quickening the cooking time, lowering smoke emissions, preventing sparks from burning users and their children, and so on. The unwarranted claims about deforestation also influenced national governments to concentrate on disseminating high numbers of fuel-efficient stoves very quickly (see section 4.2). Quality was sacrificed for quantity. The stoves were not necessarily liked by users, and therefore usage rates were often disappointingly low.

- **Commercial Stove Dissemination Was Pushed** - Following the disillusionment with stoves as a solution to deforestation, from the mid 1980s, ITDG’s stove programme staff argued that there should be a shift from the benefits of stove use to production. In line with the contemporary rising interest in small enterprise, and decline in the welfare tradition, stove programmes were organised on a purely commercial rather than part-subsidised basis. It was claimed that generating income in the rural areas could benefit communities at large because it would: (1) reverse the process of migration to towns, and (2) keep wealth circulating amongst the rural poor (see section 4.3).

In Kenya, one project partner was persuaded to become involved in an income generation project for women potters, while their primary development concern was fuel conservation (see section 6.2). Since the technical expertise revolved around stove manufacture, ITDG staff effectively instructed the groups to produce stoves, rather than offering advice on an enterprise of the women’s
choice. The partner has returned to other fuel conservation projects, such as tree planting and educational work.

In Sri Lanka, ITDG staff argued forcefully against subsidies and stressed the importance of benefits to producers. Even so, the technical experts planned and advised on establishing large-scale manufacture of stoves in tile factories, where most of the benefits accrued to the factory owners rather than poor producers (see section 5.5). The poorer households still cannot afford the urban factory produced stoves, and government subsidies are still given to rural households in some areas for buying the Sarvodaya stove to ensure that low income households can afford it.

**Indigenous Technical Innovation Was Displaced** - The use of cooking technology has been the domain of women as far back as recorded history relates.\(^{206}\) In Africa and Asia, technical improvements to stoves were probably carried out by female cooks, until potters became involved in designing ceramic wood-burning stoves, and artisans began making metal charcoal-burning stoves. Since Indian technologists started working on new biomass stove designs in the late 1940s, stove development has moved into the domain of almost exclusively male engineers. The technical work carried out by ITDG staff follows this pattern. With one exception, the technical stove experts have been male engineers and ceramicists.

ITDG promotes the idea that one of the most successful stove designs is the *Anagi* in Sri Lanka. Adapted from an indigenous model (the Sarvodaya stove which was in turn originally based on an Indonesian idea), this stove has had male engineers from ITDG involved in developing its design, along with the CEB and CISIR. But no potters, the ‘traditional’ stove designers, were involved in the process. Cooks were not consulted about the design of the stove, except to test its ‘acceptability’ after the technical work was complete.

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\(^{206}\) On the other hand, history does not always relate. *A History of Western Technology, from antiquity to the 'Atomic Age',* does not mention technology found in the home except to say: ‘That which fire doth accomplish, either in the kitchen or in the furnace, is alchemy’ \(^{1}\) (Klemm 1959:144).
Thus, the users and producers were displaced from the technical innovation process.

These are general examples. To give a more detailed account of the role of ITDG’s experts, rather than repeating the information given in earlier chapters, I will describe some examples of my own work as a social scientist. Part of my role as social scientist consisted of advising on techniques for data collection during the appraisal, monitoring, and evaluation of stove projects. I visited projects in Sri Lanka, Kenya, and India with this purpose in mind, and will now evaluate the impact of my advice visits on the projects and their intended beneficiaries.

Sri Lanka

The information that I gathered during a survey of potter households in 1988 may have had some use in planning for extensions of the programme. Both in Sri Lanka and ITDG, Rugby, I have repeatedly heard project staff express concern about two of the main themes of that study - the creation of stove-making elites and access to training for women. The latest joint ITDG/project partner plan states that special efforts will be made to ensure that training is not simply offered to one or two male potters in a village, but that all members of the community have access to technical assistance if they wish. Whether this plan is put into practice, or due to ‘lack of resources’ the project concentrates on assisting and training a few, remains to be seen. Nevertheless, putting ideas into plans is the first step.

The achievements of the first project trip I made as a permanent employee to Sri Lanka were less conclusive. My objectives were as follows:

- To facilitate market research into the potential demand for stoves as part of an appraisal of the plans for an extension of the urban programme.
- To follow-up contacts with research organisations who might be interested in supervising the proposed smoke monitoring project (Crewe 1990a:1).

I stated in my ‘Overseas Visit Report’, as ITDG’s reports on overseas work are called, that I achieved these objectives. I met the various market researchers, agreed a deadline for an on-going report on stove demand, and commissioned a study on consumer
response to *Anagi* stoves. I also re-established contact with various organisations who might have wanted to be join the smoke monitoring project, and obtained assurances of support from relevant government and non-government organisations. However, on reflection, two critical observations are apparent. Firstly, though I did not make it very clear in the report, I carried out all these tasks with the ‘in-country’ social scientist for the Agro-Processing Sector. He would have achieved all these objectives on his own if I had not made the visit. Secondly, reaching these objectives has not affected the work of the project, or the intended beneficiaries in any case. The market research, though useful in evaluating the success of the last project, has not seriously affected the planning of the extension (see section 5.5). The smoke monitoring project does not have funding yet, the proposal will be rewritten in the near future, and the potential project partners I contacted are still waiting.

**Kenya**

Prior to my formal employment at ITDG, I was hired as a consultant for one month, to evaluate the Women’s Potter Training Project in Western Kenya. I have mentioned that during the fieldwork I was probably more sympathetic to ITDG’s, rather than the project partner’s, perspective (see section 9.3.2). Furthermore, since I had no direct project experience, I stuck rigidly to the terms of reference, assuming that any doubts I had about methodology were due to ignorance rather than good sense. For example, I was asked to calculate a cost-benefit analysis of the project. I was extremely reluctant, since few of the benefits which were important to producers could be measured in financial terms. Nevertheless, I included a cost-benefit analysis (adding descriptions of the social benefits), because I was anxious to be seen to be completing the tasks I was employed for (Crewe 1989b). I now find the report unsatisfactory because it focuses on economic considerations, is weighted towards ITDG views, and does not give producers an adequate voice in the evaluation.

The main recommendation was that the project should promote fuel-efficient stoves by training women, who were not necessarily members of registered groups, rather than offering general assistance to potters (ibid:32). It could be argued that in this statement the technology driven rationale of the project was sanctioned by an outside ‘expert’, and the project aim was formulated by consultants and project staff, rather than the
intended beneficiaries. The project took no steps closer to participatory needs assessment and by narrowing project scope once again, the staff could respond even less to the varying interests and priorities of women’s groups in the future. On the other hand, I thought this made sense at the time because members of the women’s groups said that until there was an established market for stoves, they were more interested in trading than in stove manufacture. A stoves programme did not appear to have the capacity to offer a choice of income generating opportunities to women or to advise in detail on pottery manufacture. So it seemed to me that the project should offer stove training to as large a number of women as possible, not necessarily in formal groups, so that those who were interested could get involved. Although this advice was accepted and the objectives were rewritten accordingly, the new project partner later stipulated that they could only work through registered women groups anyway.

Many of the general recommendations in the report were apparently useful during the subsequent two years. Four general points were acted on, at least partially accounting for a marginally more ‘participatory’ approach, more detailed monitoring during the course of the project, an emphasis on exchange training between groups, and a more active role for producers in decision-making. The final recommendation, that work should be carried out on improving the efficiency of the three-stone fire for those who could not afford the Maendeleo stove, never materialised (ibid:34). Relatively low income households were still not gaining anything from the project by 1991. Before that time, I made two visits to Western Kenya, to set up a monitoring system in 1989, and carry out a review in 1990. I will comment on the impact of these two trips.

The monitoring ‘system’ consisted of fieldnotes on each group of stove producers, business records, market research, project reports, and assessments of the popularity of the stove with users (Crewe: 1989d). The notes on producers were written by the project officers, after each visit made to a group, in order to compile profiles on the changing social, economic, environmental, and political circumstances of producers, their households, and their immediate community. These notes may not have had tremendous value as a decision-making tool since the staff usually sorted out problems before describing them on paper in the files. Nevertheless, they kept the other staff in touch with the latest concerns of each group and provided relevant information for evaluation. Detailed production and selling information was written down in business records by one group, which was probably of greater value to the project monitors than
the producers, though the record keeper told me that the book was a source of pride. Market research consisted of a small survey carried out by the producers in their surrounding area. They explained that the results were useful, since it revealed a surprisingly low level of stove sales in the neighbouring sub-locations. On the other hand, since they rely exclusively on outsiders to take responsibility for marketing, the research has not been followed up by a selling campaign.

The fieldnotes, business records, and project reports were invaluable for appraising the success of the project the following year. In August 1991, I stayed in Western Kenya for seven days, an absurdly short time to conduct a review, even if I knew the project reasonably well. In the report I gave impressions of progress from the point of view of six producer groups, and assessed these in relation to the five proposed objectives (Crewe: 1990d). I suggested how to collect information on increased income for the potters, employment creation for installers, and improved quality of life for users. I argued that the objective which stated that the project should generally reduce domestic fuelwood consumption was impossible to measure and so should be dropped. Increased fuelwood consumption would be reported by users if they perceived it to be a problem. If they did not, then it was an inappropriate objective in any case. I gave advice on how to make the fieldnotes less vague, and designed a format which would act as a guide.

According to an evaluation conducted in November 1991 by ITDG and GTZ, the monitoring and evaluation plans and guidelines written in 1989 were 'very useful' and the fieldnotes were 'very valuable, the structure is simple and well-laid out so they are easy for staff to fill in, yet informative enough to indicate problems and trends over time' (Ashley 1992:60, 58). On the other hand, there should have been some differentiation between information gathered for evaluation purposes, and information which required a response. For example, there was no procedure for ensuring that project staff reacted to requests from the group (ibid: 59). As far as planning was concerned, the project staff in Kenya did not have enough support from Rugby, the

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207 Not only was the time short but I was too tired to be able to work efficiently. In the same trip, between 21st July and 30th August, I organised and ran a one-week workshop on monitoring and evaluation for GTZ/FWD/ITDG, wrote up the proceedings, went on a short safari, reviewed and wrote a report on a stoves programme in Zanzibar, and evaluated and wrote a report about a stoves programme in Morogoro. During that time I gave myself four days of rest. Not only should I have allocated far more time for the Kenyan part of the trip, but I should have paced the work more sensibly.
MoA and GTZ were not involved, and the beneficiaries had no formal participation in the planning process. Although they were consulted during the evaluations and reviews of the project, the project was ‘intrinsically an ITDG-driven project rather than a potter-driven project’.

The ‘group-led action plan’, devised by ITDG staff in 1989 (see section 6.3), allowed potters to voice their views and was an improvement on merely issuing instructions to groups. The evaluation team found that the plan did not give the potters control over their own training, and ITDG still shaped the direction of the project. Three reasons are given for this ineffectual implementation of a participatory approach: (1) genuine participatory development takes a long time, and project plans had not allowed for lengthy gaps between initial contact and training if requested; (2) procedures to ensure that the project responded to potter demands (rather than vice versa) were not established; and (3) there were cultural obstacles to participation (ibid:40). While I would entirely agree with the first two points, the third mystifies what I would describe as a power relationship between project staff and potters. For example, this ‘cultural’ position was apparently expressed in

> the assumption among the potters that the teacher knows best and that their role is to accept the teaching... [One group] said “we were taught and accepted what we were told.” There was a sense that anything that outsiders, particularly Mzungos (sic), want to teach them, must be worth it: some groups asked for training in “anything else we could offer”. The most extreme case of this idea of obedience was a comment at... [another group] that “even if you give us an axe and tell us to cut off her head, we will.” (Ashley et al. 1992:40, my gloss).

What is described as ‘culture’ in this context is a form of shorthand, it becomes a category for classifying what we do not have the time (or inclination) to understand and explain. Into this category some British development ‘experts’ might also place a Luo belief in witchcraft (which they may argue should be supplanted by more modern explanations of illness), or a Sri Lankan adherence to the tenets of Buddhism. The category ‘culture’ can very quickly become a collection of ‘beliefs’, whose distinguishing feature is that there are simply different from those of the observer. For this reason, British social anthropologists have become very wary of the term culture. I would argue that the perception of project staff as wise teachers is not part of an old-fashioned cultural tradition, which potters need to be be dissuaded from intellectually through discussion and training. This mental construct is an expression of a power relationship. The British project staff at ITDG are in a powerful position over Kenyan
potters partly because of their respective historical roles during colonial rule, and partly because the British staff hold the ‘purse strings’ (see chapter 9).

India

In 1990 I visited a project partner in Nagercoil, Tamil Nadu, to assist the staff in developing a monitoring system for the stoves project. Following the instructions from ITDG, I developed a ‘card system’ for tracing customers to gauge their reactions to new stoves (Crewe 1990a). This involved asking the retailers to give a pre-stamped card to each customer, on which s/he would find four questions about the stove. The retailers would also take down the address of all the customers, ascertain whether they would mind if the stove manufacturers visited them, and ask them to send the cards to the project headquarters.

The four questions were designed to gather a very general impression about the level of acceptability, and, in addition, we drafted a ‘follow-up’ questionnaire to be carried out with a small sample of households. I anticipated that only those who were very happy with the stoves would send the cards back to the project. I was also worried that if the users sent them immediately they would not have had time to appraise the performance of the stoves, while if they waited for weeks or months, then they would be likely to forget about the cards altogether. Even so, I hoped that useful monitoring could be carried out by visiting the households who gave their addresses to the retailers.

A Tamil male project staff member in the partner agency and I wrote the questionnaire in two days. I had almost no knowledge of Tamil Nadu, let alone the immediate area, and my colleague had minimal experience in social science research. We followed the conventional format for assessing the response of users which primarily involves asking how much fuel and time the stove saves, how much smoke it emits, and how convenient it appears in relation to the previous stove. I was not satisfied with this ‘top-down’ method of evaluating stoves, whereby the project, rather than the users, decide which advantages and disadvantages are significant. However, ITDG had asked me to write the questionnaire, and the project partner had no social science staff who could carry out unstructured interviews with users, so I assumed that I had no choice.
The result was that over a year later only 4 out of 100 purchasers returned the cards (all predictably with glowing compliments!). The poor general progress of the project can not be blamed on the monitoring, but reflects problems with the training and distribution channels. At least the retailers have obtained addresses from 100 purchasers, so perhaps project staff will soon be able to carry out interviews with them. This information will be useful when deciding whether the stove is popular enough to warrant training more potters in stove manufacture. Even so, it should be acknowledged that the ‘card system’ did not have its desired function. The work I did on designing the cards made no impact on the project, while the utility of the questionnaire in assessing the popularity of stoves remains to be seen.

8.3 Learning to be An Expert

The visits I made as a student researcher in Sri Lanka and Kenya were probably more useful for project staff, and indirectly for beneficiaries, than those made after I became an employee. There are probably many reasons for this surmise, but the interesting point is that an inexperienced, social anthropology student could be more useful than a more experienced, trained, social scientist full-time employee. Retrospectively, I perceive in my own work a decline in determination to instigate a ‘participatory’ approach, whereby indigenous expertise provided the basis from which we worked, and a shift towards a more technical, quantitative, and conventional economic approach. In short, I suspect that I was being more deeply socialised into ITDG and development ideology. Through practising as an ITDG ‘expert’, I was, not surprisingly, taking on the appropriate ideology, rules and practice to make me ‘one of them’.

I am now faced with a far more complicated question. Why do we, the foreign ‘experts’, as a group, forget about grassroots indigenous knowledge? There are several obvious practical responses to this puzzle. Our visits to countries which we hardly know are too short;\(^\text{208}\) we rarely speak the language of the place we are visiting;

\(^{208}\) Gulliver, a ‘government sociologist’ who worked for the colonial government in Tanganika in the 1950s, is sceptical about the work of academic (rather than applied) social anthropologists for this reason, even though they often lived in one area for one or two years: To those anthropologists who have complained that colonial officers never asked their advice about features of social life of the people they studied (e.g., Evans-Pritchard 1946:98), I am much inclined to reply, “Why should you have been
and we do not have an opportunity to find out the form or substance of indigenous knowledge. The result is that we elicit interpreted information about beneficiaries from documents, from project staff, through interpreters, and cannot enter into a dialogue with users or producers ourselves. When we take account of indigenous knowledge, we use it to formulate advice to be presented to the project, rather than presenting it as the views of beneficiaries.

The argument for employing expatriates is partly informed by the evolutionary idea that the ‘locals’ are behind the ‘Westerners’ in terms of education. The apparent consequence is that the ‘locals are not yet ready to work on their own’. Ideology within ITDG is still at least partially informed by the evolutionary heritage of modernisation theory, which influences the way in which people are classified. We have seen that these are given expression in phrases or words like: ‘Third World’, ‘developing countries’, and ‘local’ and ‘expatriate’. While there is nothing intrinsically evolutionary about ‘local’ as a word, the locals, either staff or ‘beneficiaries’, are labelled with characteristics which classify them as being less technologically and managerially capable. As examples, ‘the locals don’t understand about management’, and ‘Africans just can’t hack it’.

In the eyes of the expatriates, the ignorance of the ‘locals’ is confirmed by the fact that ‘they’ do not seem to ‘speak our language’, literally and figuratively. ITDG, like any organisation, has created its own language which is only familiar to ‘insiders’. Take this example: ‘ITDG directs a substantial proportion of resources to non-C of C projects in a careful ops (UK)-Spearheaded move’, does not mean much to an outsider but is meaningful to those ‘in the know.’ This statement, written in a memo on the subject of ‘internalisation’, is referring to a policy whereby the project staff can spend 20% of their income on work outside countries which have been designated as our main areas of regional concentration. It is described as a ‘move’, because keeping this 20% could be viewed as a way of ensuring that Operations staff can retain management control in some countries.

Other examples of words and phrases which exist elsewhere, but have a specific meaning within ITDG, include: ag and fish, appropriate, comms, Ex-Co, feasibility,
in-country management, ground floor, indigenous knowledge, information and influence, intermediate technology, internationalisation, locals, market research, Management-Information-System, project cycle methodologies, project partners, resource-poor, social scientist, stovies, strategy, support staff, sustainability, targets, technical skills, third floor, traditional technology, vision, and so on. Familiarity with the domain of meaning for each, the limits of which are fought over by individual speakers, plainly gives an agent a more powerful position in a debate. Though it was not necessarily created with this in mind, unfamiliarity places you in such a weak position that it is difficult to enter into the debate at all. It is unreasonable enough to expect in-country staff (whose first language would not usually be English) to have to adopt this new Rugby-derived language; and it is highly unlikely that a stove user or stove producer would have the time or inclination to hear an explanation of what is meant by ‘project cycle methodologies.’ The result is, that from the perspective of the foreign ‘expert’, the local staff, and certainly the local stove producers and users, are apparently ignorant.

More significant still than the words used in ITDG’s lexicon, are the very ‘project cycle methodologies’ themselves. As a Rugby social scientist, I was asked to comment on the work of counterpart social scientists, and even advise and/or train them on social science methods. This was highly irrational considering they plainly knew far more than I did about choosing appropriate methods for the country in which they had been living and working all their lives. I would also comment on every other team member’s work, but the difference was that in Rugby ‘advice’ involved a dialogue, since we worked in the same room and could negotiate over whose view to adopt. Project staff in Africa or Asia had no choice but to accept my ‘advice’, as if it was given by a social scientist with superior expertise. This pattern, repeated over time, creates such an imbalance of power that in many cases it appears to be internalised by the receivers of knowledge as well. As one ‘Southern’ colleague points out, during a discussion about power relations, about the assumptions of many Africans and Asian experts:

they believe that the authority of knowledge belongs to the Europeans and Americans. They are not ready to accept the fact that western science is not the only source of knowledge. They completely forget the innovative capabilities of their own and of other people in developing countries. This, I believe, is not because of their fault but rather due to western domination which expresses itself from two ways - money and so-called knowledge. The people who are working in North-based organisations give interpretations by themselves, that knowledge is derived from western science. The people in south-based organisations follow this for funds and other opportunities...
Although I had such discussions with project staff in Africa and Asia, although I was well aware that institutionally power was falsely invested in me as an ‘expert’, and although I was determined not to fall into the trap of ethnocentric arrogance, in practice I did little to challenge the power structure. Maybe I suffered from the syndrome which is reputedly common amongst young, inexperienced development ‘experts’, according to one Nepali social scientist. They feel such a pressure to prove their professional worth, and such a need to demonstrate an extensive and important knowledge, that moral and political rhetoric is swallowed up in practice by a need to gain recognition. She elucidates: ‘the young graduates are the worst. They come to learn but pretend to be experts and have no respect for Nepali people. If students come to learn about the culture, Nepali people are very pleased, but they should be honest about why they come.’ Consequently, the assumptions made by young foreigners are often misplaced. For example, foreigners think that most Nepali families eat dal bhat (rice and beans) whereas in fact rice is a relatively prestigious food, and would only be bought by poorer households on special occasions. It is more common for poorer households to eat rotis or porridge, both of which are cheaper than rice. When asked, people prefer to give the impression that they are not impoverished, and so may claim that they eat rice on a regular basis, when they really eat it very rarely.

Expatriate development ‘experts’ appear to try and impose their particular interpretation of reality, as if they do not realise that in doing so, they undermine the perceived importance of the knowledge of indigenous counterparts. The extent to which experts marginalise indigenous knowledge varies according to relative social and institutional positions. As examples, while many ITDG experts view Rugby expertise as relatively more powerful, others appear to think that the technical know-how of people in the ‘South’ is non-existent. During a conference in Helsinki, a freelance ‘inventor’ in Finland asked: ‘why do we need to visit these developing countries. We can learn all we need to from books.’ When I suggested that people should be in control of their own technological development, another replied: ‘there is no point in letting them re-invent the wheel’. (Someone should have taken him literally and pointed out that ‘they’ already know about the wheel.)
According to Weber, power acquisition strategies are intentional:

Every bureaucracy seeks to increase the superiority of the professionally informed by keeping their knowledge and intentions secret... More and more the specialised knowledge of the expert became the foundation for the power position of the officeholder. Hence an early concern of the ruler was how to exploit the special knowledge of experts without having to abdicate in their favour but preserve his dominant position (1947:233-235).

Whether through imposing ideas or keeping them secret, I would argue that as a social scientist, I was not creating a special domain of knowledge just in order to demonstrate my superiority over African and Asian colleagues. I was being socialised within an organisation which defined my social position as having a particular domain of knowledge. If I had no specialist skills worth transferring to projects, I would not just have a lowly social position, I would have no job or social position at all. Thus, in order to function in practice as an ITDG member of staff, and remain part of the social order, I took on ITDG knowledge, such as quantitative “project cycle methodologies”.

ITDG staff who were outside Rugby, (i.e., in-country staff), developed different methodologies within the context of their country, but had fewer opportunities to ensure that they became incorporated with ITDG’s body of knowledge.

Thus, I do not mean to portray this process as a consciously greedy strategy followed by individuals, but wish to imply that, when seen retrospectively, the more powerful agents can be seen to assert their knowledge as superior by virtue of their social position. I was acting according to the rules of my assigned role as a social science specialist. In contrast, an indigenous ‘southern’ social scientist was compelled to carry out structured surveys about the benefits of a stoves programme, when s/he would have preferred to hold discussions about the positive and negative impact of stoves. The more quantitative approach was accepted by the southern social scientist, not because s/he thought it was appropriate, but there was no apparent choice. So power is not a commodity which can be measured; it is an expression of unbalanced, hierarchical relationships.
8.4. Beneficiaries

The main groups of intended beneficiaries in stove projects, the apparent receivers of 'expertise', include the following: (1) users - cooks, fuelwood gatherers, and those that tend the fire; (2) producers - potters, metal-workers, and stove installers/assemblers; and (3) distributors - wholesalers and retailers. In most African, Asian and Central and South American countries, the overwhelming majority of cooks, fuelwood gatherers, and those tending the fire are women, and sometimes children.

The producers are a more varied group: potters in Sri Lanka are relatively poor lower caste women and men, working in rural based household units; while in Western Kenya they are relatively poor women, also working in rural areas, but often in registered or informal women's groups. The metal workers making charcoal stoves in Kenya are urban based men. The stove-installers in Sri Lanka are usually extension workers paid by Sarvodaya or the CEB, while they are mainly Home Economists (employed by the Ministry of Agriculture) or members of women’s groups in Western Kenya. Assemblers of ceramic stoves are often the same potters who manufacture the stoves, except in the case of the Sri Lankan urban stove programme, where those throwing the stove pieces are male potters while those assembling them are women.

The distributors are generally either government agents or male entrepreneurs in both countries. Since neither are intended to be ITDG’s beneficiaries, the role of remaining larger groups will be considered - the potters and the cooks.209

8.4.1. Potters Pottering with New Technology 210

According to Foster, potters in a Mexican village show a reluctance to try new methods which

reflects a basic conservatism in the psychological make-up of potters in other parts of the world. As a rule-of-thumb guide to community development work, I would suggest that new community development programs avoid pottery-making villages as initial targets (Foster 1962:143-4).

209 The number of metal workers affected by ITDG’s Western Kenyan programme is extremely small, and I have not talked to them, so they have not been included as a group for special consideration.

210 Adapted from Kirk's title Pottering with Incorporation (1983a).
He gives two reasons for their resistance to change. Firstly, to ensure a sufficient income potters cannot afford to make any mistakes in the production process, which causes them to be wary of the risks involved in trying new techniques. Far less convincingly, he claims that potters learn motor patterns in childhood, which are difficult to modify as adults and so restrict the kind of techniques they can master (ibid:87-88). On the other hand, he claims that people in general emulate those deemed to be in a 'higher position' by acquiring high prestige symbols: 'the savage is delighted with a black silk top hat and the middle class American strives for a high-priced automobile. For both the urge is the same' (ibid:147). This desire for prestige is apparently complemented by the motivation to secure economic advantage in increasingly competitive market situations (ibid:150-5). Foster suggests that envy and competition between villages should be encouraged, though they can be dangerous when they lead people to spend money on prestige goods which they 'do not really need' (ibid:155).

Kirk has countered Foster's generalisation about potter conservatism by demonstrating that potters in Sri Lanka require considerable flexibility to deal with changing climate and materials. Furthermore, the Sinhalese pottery making process involves only two or three critical points at which errors could cost a substantial amount of money (Kirk 1984b:4). Adjusting to new techniques involves a minimal amount of risk. Most significantly, Sri Lankan potters, far from being obstinate conservatives, have taken advantage of the radical transformation in the pottery industry. In Kandyan times Potters were often farmers, and usually men, making pots for rajakariya or exchange, and for their immediate locality. Presently, Kirk points out, both men and women potters produce pots for a mainly impersonal market and merely supplement this with agricultural work, on land which has also become a market commodity (ibid:10).

The potters' response to the Sri Lankan stoves programme further supports Kirk's argument that choices are not made according to fixed psychological dispositions. Potters do try out new methods, as long as they have sufficient access to resources. The new methods in the case of the stove programme involve considerable changes in both production and marketing techniques. Making stoves requires a different composition of clay, throwing different shapes, assembling the pieces (rather than beating pots), and stacking the kiln in a different way. In contrast, marketing stoves is
rather easier than selling pots, since it merely involves waiting for the CEB staff to collect them, rather than negotiating with wholesalers and retailers.

So, we have established that potters are by no means conservative people 'by nature'. Yet ITDG project staff give technical assistance and advice on the assumption that outsiders are needed to stimulate change. Potters’ skill at making pots is marvelled at, but their technological expertise, like their culture, is viewed as ‘traditional’, backward, and static. They may be treated as passive recipients of new technology by the development consultants, but that is not necessarily how the potters see themselves. In theory potters have tremendous respect for the urban-based or expatriate ‘experts’, but in practice they act according to their own expertise, knowing that it is the most effective for their particular circumstances. Using examples from Sri Lanka and Kenya, I will illustrate how potters actively reject, filter, modify, replace, and/or merge knowledge from outside with their own, thereby resisting the stereotype of passive recipients of aid.

**Sri Lanka**

The stove project in Sri Lanka presented stove manufacture to potters as worthwhile because their industry was in a decline. What did potters make of this? They did not agree that the demand for their products was decreasing dramatically. They argued that while it is apparent that some cooking pots are being replaced by cheap aluminium products, not all clay goods are in fact losing their popularity. They point out that in Kurunegala, where a thriving wholesale market for pots has been developing over the last few decades, the economic security of potters is, if anything, relatively better now than it was fifty years earlier. In contrast, Kandy potters have less access to marketing networks and find selling a larger problem. Even so, when the CEB asked Kandyan potters if they would like stove training, most refused to start with, partly because the production process looked awkward and partly because they were not convinced that there would be a market for new stoves.
Initially it was so difficult to persuade potters to make the new stoves, that the Project Manager gave them some of his own money as an incentive.\textsuperscript{211} Not surprisingly, it tended to be those who supported and trusted the government, who finally decided that involvement in the project would be worth the extra work and risk. Foster’s view on risk is persuasive in this case in one sense - the poorer the potter household, the less inclined they are to take risks. But in this instance, selling pots on the open market can be more risky than fulfilling guaranteed orders from the government. Nearly every stove-making potter explains that one of the main advantages of making stoves is that the CEB will automatically buy as many as they can produce, and collect them from the workshop. Thus, many only agreed because they knew that the government would provide a guaranteed market for stoves. Thus, it was not a perceived declining demand for clay pots which worried potters, since they believed that they would never be abandoned in Sri Lanka, but a concern to avoid the laborious business of selling. It was this that enticed them into the rural stoves programme.

Even after they began producing stoves, the potters did not unanimously view the CEB as their generous benefactors. For many there were significant disadvantages to working for the government. Aside from losing a part of their independence, the potters had to cope with the delay in payments, which could be anything from two weeks to three months. Several potters abandoned stove production because delays placed them in greater debt than they could afford. Others who could have asked their stove-making relatives to show them how to produce stoves chose not to because they were concerned about the delayed payment. Also, there was a perception amongst some that the CEB was not altogether reliable. One potter claimed that the officials never kept to their promises about when they would collect stoves. His store of stoves, and his consequent debts, would accumulate while he ‘obeyed’ the CEB instructions not to sell them himself (see section 5.6). An observer claimed that the reason for the CEB’s reluctance to collect stoves from this potter can be attributed to the fact that he wrote a letter of complaint about the payment delays. He told the CEB Head Office that

\textsuperscript{211} The potters near Nagercoil in South India were also sceptical initially about the benefits of stove manufacture. ITDG took the Anagi stove from Sri Lanka to a project partner in South India, and offered funds for establishing commercial dissemination of this stove. One potter tried making the renamed Agni stove, but found that no one would buy this completely new product. The retailers would not even take the stove on sale or return, and his neighbours were all potters who could make their own improved stoves according to their own tastes. When I met him he had returned to making the Megan Chula, and was also working on a design for a new sawdust-burning stove. However, later on, the project persuaded him to take up Agni production once again, acting as an intermediary distributor until the market was established.
one delay had been as long as four months. This apparently annoyed one of the District Co-ordinators so much that he stopped collecting stoves from this producer.

In contrast, some of the most productive stove-makers did see the CEB as their benevolent patrons. The CEB gave 20 potters large grants for investment in equipment for stove-making. When a potter in Hambantota spent his on a retail business instead, the CEB saw him as being obstructive. After this incident they gave only half the money, and retained the other half until the work on a new kiln and workshop were completed. The potters were instructed to spend the money on building a new kiln (designed by the Dutch) and a larger workshop, in order to expand their production and storage capacity. Obviously these twenty potters were delighted with their new facilities. Whether they would have preferred to spend the money on something else was not considered to be a sensible question by potters - after all it was not up to them. The CEB needed the potters for their stove programme, so it is easy to see why they stipulated how the money should be spent. The consequence was that this small elite of 20 potters was passively receiving aid in the sense that they made no decisions about how it should be spent.

The situation was different again in the urban programme. The tile factories in Negombo were not offered any funds by ITDG for establishing stove manufacture, but the distributor was initially given refunds for breakages.212 The factory owners, far from seeing themselves as passive aid beneficiaries, set their production levels according to their own, rather than ITDG's, estimates of demand. They even used their critical position in the programme to exert pressure on the project. For example, I was told by one producer that he would stop making stoves unless the project covered the debts incurred by the distributor. When staff explained the project was over, and no more funds were available, the factory carried on making stoves anyway.

Once stove businesses had become well-established, large numbers of potters started copying the new stove. These stove-makers, or pirate producers as they were called, were written into the plans for an extension to the urban programme. There was a

212 A fund was established from which he could take money to cover the costs of breakages during transport, or when the stoves cracked during use. For this reason users could be offered a guarantee so that if their stove broke, it would be replaced free of charge. The fund lasted for 1-2 years, but the distributor kept demanding financial help from ITDG for several years, and incurring considerable debts with retailers by promising that ITDG would repay them.
concern that the quality of the pirates' product would be poor, and before asking users for an assessment of the performance of these stoves, it was assumed that these potters would need production training. It could be argued that this will act as a constraint to further modification by the producers, and evidence of the project trying to take control once again.

Kenya

What did potters in Western Kenya make of the proposal that stoves would be a good new source of income? One group had a thriving pottery business, selling cooking pots in the surrounding areas and flowerpots to urban customers in Kisumu and Nairobi. During an evaluation of the project they expressed gratitude to the ITDG/KENGO project for providing both stove production and marketing training. 'It was a useful exchange of ideas,' said one woman who would not elaborate on which specific parts of the course she found useful. I surmise that she would not offer any details because she was too polite to admit that the training had not made any tangible difference to her work. This group chose not to make Maendeleo stoves, because they decided that it would be too difficult to market them, and they continued to manufacture and market flowerpots in the same way and through the same networks. They told me that they would only change their mind if the project placed an order for stoves, and sold them on behalf of the women. Their actions can be read as a resistance to the suggestions of the outsiders, with their apparently superior (but intangible!) expertise.

Two other potter groups were more interested in developing trading enterprises than in making and selling stoves. When asked what ITDG/KENGO could do to assist them, one group told the project staff to obtain a permit for trading and to help them transport maize from the Rift valley. One added that although training in marketing gave them some confidence and a feeling of 'oneness', as if they were 'all children born of the same mother', it was not beneficial in any immediate way:

\[\text{if you have been to hospital and you come home feeling healed you should not look down on the doctor. But the training was not immediate enough, not proper aid so that each member could benefit. We thought it would lead to something concrete.}\]
The same group did not even want to have stoves installed in their own homes, let alone produce them for others, because they suspected that they would break under the strain when stirring thick porridge in heavy clay pots.

When two members of Keyo WG began producing stoves on a regular basis, the other members of the group were dubious about their prospects for financial success. They recalled that they had received stove training from CARE Kenya, another development agency, which came to nothing because they received no help with the selling. Most of the members thought the stove makers were being led astray once again and so wasting their time. However, once the partnership of the MoA was established, and large orders for stoves were placed with Keyo, the pottery group membership grew. As soon as the government became involved in distribution, and there was an assurance that stoves would be bought in bulk, ITDG then persuaded other groups to get involved during the second phase of the project.

Thus, it is clear that the scope of the project expanded and contracted several times, because the project had to respond to decisions made by potters. The project began by offering stove training, and when the staff found that not many groups were interested in stoves, it widened the brief to pottery training in general. During the 1989 evaluation this decision was questioned, particularly because two of the women’s groups were more interested in trading than pottery. During the second period from 1989, the programme concentrated on stove manufacture once again. Two facets of this project should be highlighted: (1) that ITDG did not base its plans on the decisions of potters in the first place; (2) if ITDG draws up plans without consulting potters, they will be more likely to fail than succeed (see chapter 6).

The picture that emerges from these examples is not one of ignorant, unorganised beneficiaries, receiving superior expertise from expatriate and urban outsiders. The projects in both Sri Lanka and Kenya demonstrate that stove producers are acting according to what they want to do, even if it means ignoring the instructions of staff. Whether they refuse to be part of the project, agree only on the condition that the project pays for their produce, say they are involved but actually produce no stoves in practice, or take trouble to be appearing to ‘obey’ project staff, they are not doing so because they assume that the outsiders are always right. In practice, they agree to the
‘assistance’ given by the project according to their own terms, even if those terms are invisible to the project staff. For example, beneficiaries may show respect for project staff as wise teachers, and express tremendous appreciation for the advice given. At the same time, in practice they may decide that the technical assistance is irrelevant to their work. As potters, they will sort out their solutions and make decisions during the practice of making pots or stoves, rather than in the meetings held with project staff. They may use the suggestions from the project to experiment with, for example by trying out stoves as a new product to see if they will sell, but they will not continue to do so unless it fits in with their own idea of success.

8.4.2. Cooks Judging Stoves

In the vast majority of the world’s households, cooks are female. In about half of these households women use biomass fuels for cooking, space heating, lighting, drying crops, getting rid of insects and so on. Although the biomass fuelled fire often has these, and many other functions, the principal one is cooking and so for convenience, this group of biomass fuel users will be referred to as cooks. Goody points out exceptions to the rule of women dominating domestic cooking. Men sometimes play a part in roasting, as opposed to boiling, meat, especially in the forest or fields, rather than house, and for ritual and ceremonial purposes (Goody 1982:71). Furthermore, as far back as the Egyptian period, the courts of Europe and the Mediterranean employed men as cooks, who took the female recipes of daily cooking and transformed them into haute cuisine (ibid:193).

Cooks are probably the world’s second largest occupational group after farmers, and yet they have very rarely received any attention from social scientists. Until the 1940s, in rural areas cooking technology remained largely in the domain of women, and for most rural areas of Africa, Central and South America, and Asia, the equipment consisted of a three stone fire. I have argued that since technology is usually associated with tools, rather than the organisation of tools with techniques, technical innovation carried out on the three stone fire is often invisible (see section 2.2). The complexity of this technology is found in the way fuel is conserved, heat is controlled, and different functions are performed by varying the relationship between the fuel, the pot, and the stones.
Goody maintains that the ‘kitchen was the birthplace of many technical operations and apparatus’ concerning the preparation and cooking of food (1982:193). But ‘when these processes left the kitchen for specialist control they generally shifted from the hands of women to those of men’ (ibid). The history of stoves provides evidence of this trend. Since the late 1940s, alternatives to the three stone fire have been designed, produced, and promoted - almost always by men in urban, and even foreign, locations. Since women were usually marginalised from the stove design process it is not surprising that the models are often rejected.

Later, as stoves were gradually tested in the field, which gave the cooks a chance to appraise their performance, the designs improved. But in what way did they satisfy the demands of cooks? It has been argued that some of the problems associated with cooking work have been alleviated by improved stoves. According to stove users, the cooking (or supervision) time has been shortened, the discomfort of smoke emissions has often been reduced, and the process has become safer, cleaner, and more convenient with improved stoves (see chapter 7). Although I have implied that women have been marginalised from the design and production work of stove technology, does that mean that they are merely passive recipients of superior machines? I would argue that they have an active, innovative role in the use of the new technology, though diversity in the substance of those roles is the over-riding pattern.

What form does this diversity take? A Ghanaian proverb states that ‘every village has its own distinctive way of cooking a chicken’ (Robertson 1984:146). Meanwhile, in other countries chicken is an unacceptable food. *Ugali* is cooked in Kenya, while Sri Lankans prefer *hoppers*. Some women in both countries do their cooking work outside, while others always cook in a kitchen or under a lean-to. In cooler climes the fire provides useful heat, in the low country of Sri Lanka more heat is the last thing you want. Some stoves in Central America are raised on a platform, while others in Fiji have iron chimneys attached to them. This incredible diversity means that women react differently to different stoves according to location-specific, or even household-specific, practices. In many cases, new stoves will be tried, tested, and abandoned. Some users will tell you politely that they find the stove works beautifully, but on noticing that it is ‘stone cold’ and there is a three-stone fire blazing behind the house, you have to assume that it is not necessarily regularly used! Stove designers have been
known to account for the failure of their model by complaining that users have not been properly trained in how to use the stove. In practice, it is not training or good sense that is lacking. The user has the more realistic perspective on her own work, and simply may not have the time to chop the fuelwood into small pieces, dismantle and clean out the chimney regularly, and so on. She may not want all the smoke removed from her kitchen when the mosquitoes are particularly abundant.

Cooks frequently adapt stoves, and since these are seen as improvements by the users, they should be regarded and recorded as such. Users in South India are accustomed to a larger gap between the pot and the stove than they find on Agni stoves, so they often create or enlarge the gap by putting stones under the pot. Heat loss in this instance is presumably not so important to the cook. Other Indian cooks find that the chimney part of the Megan Chula gets easily blocked, in which case they disconnect the stove from the pipes. To give another example, when the Morogoro stoves in Tanzania began collapsing, the cooks repaired them to their own specifications with mud, sticks, wire, and stones. In addition to modifying their own stoves, users often have advice about improving new models designed in workshops. Users in Zanzibar told me that the project stove needed to have a larger door, more space between the grate and the floor, a taller firebox, and higher pot-rests. Kenyan users suggested that the Ceramic stove should have its pot rests widened, its firebox raised, and its fire door enlarged. Cooks told researchers that the Kuni Mbili should be generally enlarged and made more durable; the Nofflie should have its upper shield removed, its fire box raised, its handle moved, its pot rests lowered, and its legs strengthened; and the Maendeleo needed greater durability, a larger firewood door, and larger pot-holes (Miguiyi 1990:78-81). Unfortunately, by the time these suggestions reached the project, the design had been chosen and completed.

This survey also showed that the flexibility of the three-stone fire is difficult to match. While the Kuni Mbili and Maendeleo were declared to be the most versatile of the improved stoves, the only stove satisfying all household demands was ‘probably the traditional fire place’ (ibid:84). But are these perceptions and ‘demands’ really taken seriously? In the same report, the writer warns: ‘these comments represent “perceptions” of the users and are not necessarily related to technical performance’ (ibid:83). It appears that technical knowledge is not measured and valued by its utility for users when put into practice; its value is predetermined by its source. Cooks,
despite their daily practice of cooking, apparently have less 'technical knowledge' in their perceptions, than designers in laboratories do in their findings. The implication is that while users 'perceive', but do not know, the technical experts 'find' and do 'know' in an objective, scientific sense. Behind this implication is a perception of 'western science' as the only path to objective knowledge in the sense of truth. But what makes science true? It works? And yet, watching cooks at the stove alerts an observer to the complex technical skill involved in manipulating fire, stones, air, earth and wood, which also works. If stoves are promoted for their benefits for cooks, rather than designers, then the technical skills and views of the former should surely be central to an assessment. After all, very often the designers are not even regular cooks.

8.5. Conclusion

The question implied throughout this chapter arises from the weakness of participatory development in practice. While ITDG development policy states that producers and users are the 'architects' of development, my interpretation of the practice of experts contradicts this rhetoric. ITDG is typical, rather than exceptional, if Wisner is correct:

The rural poor nowhere in these brave new improvements of rural development are actually defining their own needs and struggling on their own behalf. One has an eerie sense that some of this new sensitivity to linguistic, cultural, social and ecological nuance is simply in aid of more effectively communicating messages packaged by experts (Wisner 1988:220).

How can we account for the disjunction between rhetoric and practice? In chapter 2 a critique of the Schumacher heritage, and present policy, was presented as the starting point. I tried to make it plain that my own views diverge from some aspects of policy, for example the emphasis on neo-classical economics. With reference to case studies of stove programmes in Kenya and Sri Lanka, I evaluated objectives in relation to results and their impact in chapters 5, 6 and 7. In this chapter I have implied that policy and practice are on two different levels, shaped in different ways.

We have seen in this chapter that practice is often reinterpreted retrospectively as adhering to policy rules, even when the divergence is clear to an outsider. Project reports are written under an inevitable socially created public pressure. To be accepted
as an ITDG member of staff, it is necessary to appear to follow the policy rules. This affects their interpretation of the past, so that even when the results of project work are ambiguous, they are reinterpreted to give the impression that rules have not been broken. In the example of stoves development, in this chapter I have tried to show that despite ITDG’s policy of building on existing technical innovation, and ‘helping people to help themselves’, the practice usually involves giving instructions to producers, almost as if they were employees. The assumption which shapes overseas project visits is that ITDG’s expatriate experts are imbued with specialised knowledge, which is presented as necessary for acting as a catalyst for technology development. The impact of expatriate and urban technical assistance is that potters and cooks have been conceptually marginalised from the technical innovation process in stove technology development, despite their continual experimentation with the wheel, clay, stones, wood, fire, air, earth and so on.

I have tried to portray this process as relating to social institutional structures, political relationships, and ideological constructs, rather than the urges of individual consultants, greedy for money, status and power. Their mental constructs are informed by an androcentric and evolutionary heritage, which remains unchallenged by consultants in the practice of their work. Even so, the practice of producers and users does not appear to follow a passive acceptance of orders from outsiders. It is clear that they do not always agree when project staff claim stoves will give them a higher income. Furthermore, they do not necessarily see a higher income as the only guaranteed route to health and happiness, especially when the jealousy of neighbours reaches such a pitch that communication breaks down.

Even when producers appear to be obediently following the instructions issued by project staff, in practice, they are usually pursuing their own ideas. When potters refuse to make stoves, or design their own models, or adjust the clay composition to increase durability, they are doing so on the basis of their own theories and interpretations. When cooks dig a shallow hole for their three stones, or detach the chimney from their new stove, or place sticks inside the stove in order to balance smaller pots, they are doing so informed by their own expertise developed over years and years of practice. Potters and cooks will only incorporate new theories into their worldview when they make sense in practice.
9. THE SPIRIT OF PROJECT AID

'To give is to show one’s superiority, to show that one is something more and higher... To accept without returning or repaying more is to face subordination, to become a client and subservient.'

(Mauss 1970:72)

9.1. Money, Causality, and Power

In chapter 8 I portrayed recent new stoves as a domain of technology development which has been kidnapped by predominantly male, urban-based, and expatriate specialists. The result has been to marginalise women stove users and artisanal producers from the innovative process. If all planners and policy-makers were to acknowledge that ‘participatory’ planning should be a pre-requisite for technology development, would that ensure that the new technology met the rhetorical objectives? Probably not. For a start, different planners would attach different meanings to the concept of ‘participatory’. If it was taken as a call for more detailed and accurate grassroots ‘needs assessment’, then they could fall into the trap of assuming that technology can be politically and morally neutral. Whereas, in fact political decisions are made as soon as they decide to take part in the ‘development process’, and then

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213 This is a reference to Sahlins’ ‘The Spirit of the Gift’, the title of Chapter 4 in *Stone Age Economics* (1974). In fact, when he explores the concept of spirit, he reinterprets Mauss’s translation of the Maori *hau* by distinguishing between the spiritual and mundane contexts. The *hau* of the forest has a spiritual quality and is the principle of fecundity; while the *hau* of a gift is its material yield. In both cases, according to Sahlins, the *hau* is not a force or spirit, as Mauss maintained, but a ‘principle of productiveness’ (ibid:168).
answer the question: whose needs should be assessed? The needs of poorer rural Sinhalese potters in Kurunegala are critically different from those of a middle class household of professionals in Colombo. The former may live in coconut frond huts, with no electricity or piped water, amid a large number of related households; the latter may have brick houses with supplies of electricity, gas, and running water, but no neatly definable surrounding ‘community’. As soon as ITDG decides to provide technology for one group rather than the other, the potentially alterable material conditions of the ‘target group’ become the most urgent moral matter for the agents planning social change.

The development process is not portrayed neutrally in ITDG’s policy statements, where the ultimate moral or political aim is to enable poor people to gain greater control over their lives and develop their communities through increasing their economic power (see section 2.4.). Within ITDG, it has been implicitly assumed that the economic benefits of stove development for users and producers emerge out of the following causal processes:

**THE POTENTIAL IMPACT OF STOVES ON USERS / PRODUCERS**

| Sell/purchase a stove | earn more money/spend less money on fuelwood | increase economic power | greater access to resources | less vulnerability and greater control over life | long-term development of community |

I would argue that the universal validity of this causal chain should be questioned. How exactly do users and producers make the jump from one action or state to another? For example, how do very different households gain greater control over their lives through more economic power and greater access to resources? To answer this question, it is assumed (usually by social scientists) that we require information about the impact of technology projects. Unfortunately, the social, economic, and political impact of stove projects has been neglected as a subject until fairly recently. In the stove technology area, in which there are still relatively few social scientists, there has
been little discussion or writing about the wider, ‘non-technical’ implications of adopting new stoves. The ‘social science’ component is usually confined to pre-project appraisal, financial analysis, on-going monitoring, and economic evaluation. To make a small dent in this neglected ‘non-technical’ area, the proposal for my research originally stated that I would look at the ‘impact of new technology on stove producers in Sri Lanka’. Much of the information I collected about impact has been presented in chapters 5, 6, and 7. In the example of Sri Lanka, we saw that releasing time for women was more significant than monetary fuel savings. The impact did not follow the causal chain as proposed above. In fact, even when stove use and production can have positive financial impact the causal chain is at best only a fragment of the story and must be viewed in its context. Most importantly, this context involves understanding the relationship between users who take part in the process of change, i.e., the process in the space between the causal jumps. Even so, there is another more illuminating way at looking at these causal jumps.

By the time I began my impact assessment task in 1988, it had become customary for social scientists in other development areas to consider the effect of projects on ‘beneficiaries’, as if ‘development’ is something that is done to the helpless ‘poor’, the ‘recipients’, the ‘target groups’, and so on. The donors, staff, and advisers are portrayed as the active protagonists and givers, and the poor take on an image of passively receiving skills, information, and money. While I was living with technology producers, those ‘poor people’ became decidedly active agents in my world view, and so I became more interested in the relationships among all the actors involved in projects. It occurred to me that social scientists rarely study the impact of the behaviour of producers on new technology, on the projects, and on project staff, advisers, and donors. ‘What about the impact of new technology projects on national and expatriate staff, advisers, and donors?’ I wondered. I began to realise that the giving of assistance and money to the ‘poor’, should be seen not as a straightforward disinterested economic transaction from donor to recipient, but viewed within the moral and political context of what Mauss called ‘total social phenomena’ (1970:1).

Within stove projects we have seen that economic power is often perceived as the biggest step on the path to development. For Sahlins, ‘money is to the West what kinship is to the Rest’ because they have parallel organising functions, classifying the ‘entire cultural superstructure’ (Sahlins 1976:216). As Bloch and Parry argue, contrary
to this structural-functionalist line taken by Sahlins, the meaning of money and
exchange is not determined by its function but by a particular ‘world view’ (1989:19).
Male fishworkers in Sri Lanka conceive of money as unclean and a potential threat to
the correct order of caste relations and so do not deal with it (Stirrat 1989:99), while
market relations in Fiji are seen to be morally neutral, morality and order are tied up
with exchanges between kin, so that, for example, to refuse a request from a relative
for money or goods, if you can afford it, would incur disapproval (Toren 1989:151).
In Madagascar money is morally neutral and can even be given to a lover after sexual
intercourse without bringing to mind any uncomfortable associations with prostitution
(Bloch 1989:166). In contrast, in Britain money is perceived as impersonal, and
associated with business, and so it is usually highly inappropriate as a gift between
lovers. It is especially revealing to look, not at the social purpose of exchanges, but at
the moral concepts which make sense of money within the context of relationships.

If we consider the causal jumps in stove development (see above) within the context of
the different meanings which are attached to money, they can be exposed as a culturally
specific part of Western European discourse. The assumption that an increase in
economic power is the precursor to development at a higher level (community or
nation) has its roots in ideas propelled by political economists, most influentially Adam
Smith (1776), Ricardo (1811), and Marx (1976), and by neoclassical economists such
as Rostow (1960).214 Bloch and Parry elucidate on perceptions of money:

Regardless of cultural context and of the nature of existing relations of production and
exchange, it is often credited with an intrinsic power to revolutionise society and culture,
and it is sometimes assumed that this power will be recognised in the way in which the
actors themselves construct money symbolically... Money, we believe, is in nearly as
much danger of being fetishised by scholars as by stockbrokers (1989:3) (original
emphasis).

They are addressing an academic audience, but this perception of intrinsic power
plainly circulates within the world of political ‘agents’ as much as it does in centres of
learning and finance. There are many representations of money and morality within
Western Europe, but the two most potent ones are still associated with Marx and Adam

214 Marx cites an Ancient Greek origin for the opposite discourse within Western Europe, which portrays
money as a source of evil: ‘Nothing so evil as money ever grew to be current among men. This lays cities
low, this drives men from their homes, this trains and warps honest souls till they set themselves to
works of shame; this still teaches fold to practise villainies, and to know every godless deed’ (Sophocles
Smith. Both assume not only that society can be radically transformed through changing the relations of production and exchange, but also that the motivating premise is one of material interest. This materialism is described rather differently since within capitalism, for Marx, class interest is expressed via the fetishism of commodities because they are products of labour (1976:165); while for Smith society’s needs are met through the economic self-interest of individuals, so that ‘it is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own self-interest’ (Smith as quoted by Bloch and Parry 1989:17). In view of the revival of Smith’s individualistic ideas during the Thatcher years of Conservative Party rule, it is not surprising that Schumacher’s anti-materialist approach to appropriate technology has hardly survived within ITDG. Though many now laugh at Thatcher’s declaration that there is no such thing as society, the new development fashion for wealth creation and small enterprise, which parts of ITDG are keenly following, is consistent with her perspective.

Moral assumptions about money in planned development are also married to various discourses on the concept of power. Weber was one of the first social theorists to explore power, arguing that

Man does not strive for power only in order to enrich himself economically. Power, including economic power, may be valued “for its own sake.” Very frequently the striving for power is also conditioned by the social ‘honor’ it entails (1948:180).

Power is portrayed as something which people want in order to acquire prestige, and money is merely a means towards this end. Individuals within classes or bureaucracies obtain power (and consequently status or prestige) through political structures (ibid:160), securing economic interests (ibid:162), property (ibid:185), style of life (ibid:187), caste or ethnic group membership (ibid:188), specialised knowledge (ibid:235), and so on. But Bourdieu shows that it is not as simple as accruing power through money, land or whatever. He argues that while wealth certainly can exert power, it only does so in the form of ‘symbolic capital’ (Bourdieu 1977:195).

Symbolic capital is wealth converted into another form (such as giving feasts or loans), which become unrecognizable as money but is socially recognizable as wealth. As the Kabyles in Algeria say: ‘the rich man is “rich so as to be able to give to the poor” ’ (ibid). Gifts or loans will be repaid in the form of homage, respect, protection, loyalty,
or services, and the latter may be the basis for a new accumulation of material goods (ibid:195, 181).

Liberation theologians have also portrayed power as a quality invested in some more than others, but in the work of Freire, it is the oppressed who contain transformative power through their collective identity and shared vulnerability:

Only power that springs from the weakness of the oppressed will be sufficiently strong to free both. Any attempts to ‘soften’ the power of the oppressor in deference to the weakness of the oppressed almost always manifests itself in the form of false generosity; indeed, the attempt never goes beyond this. In order to have the continued opportunity to express their ‘generosity’, the oppressors must perpetuate injustice as well as caste or ethnic group membership... Freedom is acquired by conquest, not by gift’ (1972:21,24).

However, these approaches to the concept of power may be too narrow. Foucault claimed that:

Power is not something that is acquired, seized, or shared, something that one holds on to or allows to slip away; power is exercised from innumerable points, in the interplay of nonegalitarian and mobile relations (1976:94).

What, in that case, is this thing called “power”? It is not, according to Foucault, a group of repressive institutions, a mode of subjugation, or a general system of domination, but the actual process of struggle which transforms, strengthens or reverses social organisation (ibid:92). This omnipresent network of power is found in tactics or strategies and ‘points of resistance’ which can be deduced from logical systems rather than found in choices made by individuals. For example, the discourse on sexuality is composed of strategies which produce exploitative power relations between men and women (ibid:101-2). There is apparently no single all-encompassing strategy around sex in societies, but many strategies varying enormously even in one place and time according to age and class. He argues that the ‘disciplining’ of societies in Europe has shifted from a system of pastoral power, which involved leading people to their salvation in the next world, to a new secular version concerning the distribution of economic and communication resources between people in this world (Stamp 1989:131). He describes one set of eighteenth century strategies in Western Europe, when women’s bodies were reduced to being saturated with sexuality, placed in the position of reproducing society with all the biological and moral responsibilities for
their children, and constituted by a form of ‘hysterization’ through a derogatory image of nervousness (ibid: 104).

Without referring to individual rational choice or moral agency, he discovers strategies logically through historical interpretation, but then does not acknowledge that the word ‘strategy’ implies intentionality. If a strategy implies an intention, with a plan and objectives, then it involves cognitive processes which can not be pursued by a society or institutions. While Foucault makes valuable points about the relational character of power, he confuses the discussion by implying intentionality behind social processes which may not have been intended at all. Women are still described as nervous and over-emotional by some. This is not necessarily part of a strategy to produce particular relations between men and women, it is a perception about women relative to men, which reproduces particular gender relations whether anyone wants it or not. The perception belongs to an ideology which informs us about the difference between men and women, and the result may be a power imbalance in societies where rationalism is valued above emotional behaviour. The process does not reveal that the perception is part of a planned strategy.

With those reservations, I will now return to my particular field to see how useful this explanatory model may be for understanding relationships between groups of people who work in planned development? Can I find strategies which transform, strengthen, or reverse the power relations between donors and recipients, or between female and male beneficiaries? If I can interpret behaviour in terms of strategies, to what extent are they rational, explicit, and functional? In this chapter, I will attempt to challenge the assumption that agents are driven by a simple desire to maximise material gain or acquire status and power. I will continue to use stove projects as the recurrent theme, but will explore some aspects of the political and moral relationships between the various organisations, groups, and individuals involved.
Very crudely speaking, as far as money is concerned, stove programmes involve two kinds of organisations - donors and recipients. The rhetoric states that their objectives are as follows:

1. **Donor** organisations give money in order to promote stoves, which benefit users and producers, and/or have a positive impact on energy, health, the economy or environment, in line with their particular perception of ‘development’. This group includes international multilateral agencies (such as the United Nations and World Bank), as well as national bilateral donors (like ODA and DGIS), and non-government organisations (NGOs) (such as Oxfam, Christian Aid, and ITDG).

2. **Recipient** organisations receive money to develop and promote stoves in order to benefit users and producers, and have a positive impact on energy, health, the economy or environment, also in line with their particular perception of ‘development’. This most often refers to national agencies (government or non-government) but also includes expatriate NGOs (such as ActionAid, Save the Children Fund, and ITDG). Their staff can include managers, policy planners, engineers, social scientists, ‘communicators’, extension workers, drivers, administrators, and secretarial staff.

These crude divisions are not discrete, fixed, or objective entities - in many cases organisations fall into several categories at the same time. Departments within ITDG regularly perform both roles. The Fuel For Food Programme has acted as a donor to organisations in Sri Lanka, Kenya, and India, and is a recipient of donor funds which, in the case of both the Sri Lankan and the Kenyan projects it currently spends on implementation. Relationships between organisations will be described in this chapter, with reference to ITDG and the various agencies involved in stove projects, mainly in Sri Lanka, Kenya and India.

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215 Within ITDG this group includes those involved with the press, information, exhibitions, public relations, fundraising, information for schools, and publications.
9.2. Donors

Donating aid to Africa and Asia has its roots firmly embedded in colonialism. One of the first ‘programmes’ was devised by the Belgium’s King Leopold in 1906 for the development of the Congo, including finance for mining enterprises, roads, and rail networks (Robertson 1984:15). The British were probably the first to put forward ‘an integrated ten-year development plan’ for the Gold Coast in 1919, providing for surveys and research as well as actual development work (ibid). The British approach to ‘centrally guided economic development’ for the colonies was first formally established with the Empire Marketing Board in 1926, followed by the Colonial Development Act in 1929, which designated £1 million a year for industrial and agricultural projects in the colonies. By the end of the Second World War, the call for decolonisation, as well as development, of British overseas territories was being urged with greater insistence, by political groups such as the Labour Party Fabians (ibid:19).

Several international agencies for development emerged in the 1940s with the establishment of the World Bank, the United Nations, and the Food and Agriculture Organisation (of the UN) in 1945; United Nations Educational, Scientific and Cultural Organisation (UNESCO) in 1946; and the World Health Organisation (WHO) in 1948. The model for the World Bank was taken from large American banking corporations and, according to Adler, it began with a ‘firm and pronounced bias in favour of the advantages, not to say virtues, of a free market economy and system of private ownership and enterprise’ (as quoted by Robertson 1984:23). While colonial development was geared towards satisfying interests ‘at home’ rather than advancing the welfare of the colonies, at the same time, British colonial planning was apparently characteristically decentralised. Stanley, the Secretary of State for Colonial Affairs, told Parliament in 1945:

I have made it clear that there must be no question of detailed planning done in this country. It is not the idea of the administration of the Act to impose on the colonies a new heaven prefabricated in Whitehall. In the first place you cannot do that sort of planning efficiently in this country... you have to allow the maximum opportunity for the people of the territory themselves to be associated with planning, since it is their future that is being planned (as quoted by Robertson 1984:20).
In 1947, USA agreed to give $300 million of aid to Greece and $100 million to Turkey 'in the interests of maintaining "free peoples", containing the growth of communist influence, and consolidating American national interests' (ibid:21). In 1949 President Truman pledged American scientific and technical expertise to 'underdeveloped areas' and effectively instigated a trade and economic blockade of socialist countries (ibid:22-3). It has been well-documented that national donor governments often explicitly hold the interests of their own nation as one of the principles guiding their overseas development policy. The purpose of US aid was clearly stated in the Foreign Assistance Act of 1961, as follows: 'to promote the foreign policy, security and general welfare of the US by assisting peoples of the world in their efforts towards economic development and internal and external security' (that is, in response to the threat of international communism) (Charlton 1984:200). British Government aid policy has apparently always been explicitly influenced by its own economic interests (Riddell 1987:9, 137). While she was Minister for Overseas Development, Hart wrote:

There are two basic ways in which the aid programme helps British industry. By helping foster income creation and widely-distributed economic growth in the developing countries, it increases the overseas markets for British goods. In the process it also provides opportunities for aid-financed exports both under bilateral and multilateral aid arrangements... Bilateral technical co-operation involves British advisers, consultants and executive staff, and training of people from developing countries here. This too has some impact on our commercial position. For instance, aid financing or pre-feasibility studies for projects with considerable commercial potential may exert strong influence in introducing new business for the UK at a relatively low cost (Hart as quoted by Arnold 1979:47, 49).

It can be difficult to pinpoint the detailed substance of policies of aid agencies, particularly in multilateral agencies representing many different countries, and since in international politics generally 'the art is to say as little as possible as convincingly as possible' (Robertson 1984:109). Present ODA policy can be elusive, partly because different parts of it appear to follow different, if not conflicting, principles. However, recent speeches made by Lynda Chalker (Minister for Overseas Development) give the overall impression that the rhetorical priority is to relieve poverty (1991a). Her interpretation of development experience is that economic growth places countries in a position to reduce inequality. Indonesia, Costa Rica and Thailand are given as examples of countries who have had success in reducing inequality as a result of

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economic growth. Logically it would be possible, and just as unconvincing, to put the argument the other way around. Streeten, for example, claims that attending to basic needs and reducing inequality has been a precursor to economic growth (1986:26). Putting aside the difficulty in measuring ‘political equality’ or a healthy economy, observing that one follows another in particular examples does guarantee that there will be any relationship between them in other countries at all. In both arguments, everything is reduced to one lineal, arbitrary cause and effect.

Chalker expresses a fundamentally conservative viewpoint when she says that ‘the poor cannot get a bigger slice of the cake unless that cake is itself growing’ (1991a:5). This preservation of the political status quo is thrown into relief when contrasted with Broke-Utne’s more radical interpretation of a similar metaphor about gender inequality. She advises women not to grab a larger slice of the pie, but to change the recipe altogether (1989:497). Chalker maintains that appropriate technology projects, giving the example of those developed by ITDG, are the most effective way of reaching the poor (1991a:5). Literacy expands income-earning opportunities of the poor, while population control is essential for reducing poverty and protecting the environment (ibid:7). In addition to this, the relatively recent policy on ‘good government’, initiated by Douglas Hurd, has been adopted by the the Second UN Conference on the Least Developed (Chalker 1991b:1).

Chalker defines good government as a mixture of a pluralistic, democratic, and competent system, which respects human rights and ‘the rule of law’, is free from political interference, and spends as little as possible on the military. In addition to implementing the IMF’s policy reforms, good governments will apparently introduce market forces and competition so that the private sector can act as an engine of growth and ‘ensure a more efficient use of resources’ (ibid:2). Presumably this rules out socialist governments, particularly if they are at war. Chalker is keen to wriggle away from accusations of neo-imperialism by claiming that ODA do not intend to ‘directly impose good governments on developing countries’ (ibid:1). Even so, she states that Britain is not ‘afraid to take action’, so that while governments which are being good in their eyes will be looked on favourably when they allocate resources, bad governments will receive less money:
In deciding our approach in individual countries we not only look at the level of achievement in good government criteria, but also the direction of any trends. Most governments are trying to improve the effectiveness of their policy implementation. They deserve and are getting our encouragement and support. Where trends are negative we look carefully at the reasons and discuss with recipient governments how to reverse them. But if governments are unwilling to draw the necessary conclusions we are prepared to re-evaluate our aid programme. And in severe cases, such as the Sudan or Burma, where good government criteria are deliberately flouted, we will cut off long-term development aid... There are many ways of exerting pressure on governments (ibid:5).

There may be many ways to exert pressure, but presumably this particular kind of political interference, whereby obedient governments are rewarded with money, meets with reassuring and fast (if rhetorical) responses. But Chalker adds, somewhat defensively, that this policy is merely a logical extension of linking aid to conditions connected with human rights, and would prefer to call it common sense rather than conditionality (ibid:4). It is perhaps ironic, in view of ‘Western’ ideas of inevitable political progress, that rhetorical common sense this year seems to have become more controlling than the decentralist statements made by Stanley nearly half a century ago (see above).

However, organisations involved in planned development include not only international agencies and national governments, but NGOs as well. There are plainly some important differences. Government funds, usually raised through taxation, are sent either bilaterally (directly from government to government), or multilaterally (through international agencies such as the United Nations, and World Bank). NGOs are run on a commercial or charitable basis, and either earn money through employment or receive money from private donations, government grants, and/or business sponsorship. If they donate money it is usually sent to national NGOs, or directly to beneficiaries, and sometimes, though less commonly, to national governments.

So what about the ‘interests’ tied to aid channelled through NGOs such as ITDG? It might be expected that ODA funded ‘appropriate technology’ (AT) projects would be exceptions to Hart’s assertion that aid programmes directly help British industry. For many, including the ITDG policy-makers, the AT concept implies that technology is appropriate only when it promotes national self-sufficiency. Inappropriate technology, on the other hand, creates a dependency on imports, destroys local initiative and fragments local organisations (ITDG 1990b:12). Thus, rather than creating a demand for foreign goods or consultants, appropriate technology enterprises should presumably
generate employment and a demand for goods within that country. In fact, self-sufficiency overseas is potentially damaging to British industry since the demand for goods could be met internally rather than by a so-called developed country such as Britain.

Biomass stoves development does not directly benefit the ‘developed’ world. The main international donors to stove projects to date have been ESMAP, FAO, UNDP, UNSO, USAID, NORAD, SIDA, DGIS, GTZ, and ODA. The stove projects funded by donors do not generate demand for goods from their own countries directly. All the technology being produced and sold is constructed out of local materials, requiring no machinery from overseas. Some of the technical R&D work may necessitate foreign equipment, but once the design is complete, the users and producers require only indigenous technology. On the other hand, an argument could be made to suggest that all income generating projects indirectly benefit the international capitalist system, because they result in a demand for foreign consumer goods. As Dickson puts it: ‘intermediate technology can quickly become the seed-bed for small-scale capitalism’ (1974:163), and technology is used by capitalist interests to maintain their dominant economic control over poor countries (ibid:167). At the same time, it has been perceived to be in the interests of the so-called ‘advanced’ capitalist countries to engender wealth creation for consumers in economically ‘backward’ countries, especially those with open markets such as Kenya and Sri Lanka, and thereby generate demand for their own products.

Does this set of capitalist interests ‘trickle down’, so to speak, from the international financial community, to national governments or NGOs through which they channel their aid, and have an influence on policy? If it does, I would argue that what has been called ‘underdevelopment’ is not the result of a conscious capitalist conspiracy, constructed to further the interests of the wealthy financiers. I have much moral sympathy with the observation that many of the results of capitalism, and development aid which is ideologically founded on the principles of the ‘open market’, are inequitable, exploitative, and therefore undesirable. Even so, it does not logically follow that business enterprises have been promoted through planned development exclusively in pursuit of the material interests of the owners of the means of production within capitalist economies. Such an argument depends upon insufficient reasoning.
It is an example of what Campbell observes in most causal statements where ‘one explanation is abstracted from a number of competing ones and emphasised in such a way that it obliterates the others by denying them’ (1989:102). In this instance, the materialist asserts that ‘underdevelopment’ is a strategy to maintain the status quo in the interests of the capitalist states, and that the concept of appropriate technology is part of the ideology which falsely justifies it (Emmanuel 1982). The implication is that if we take an appropriate technology project as an event in the past, then its ultimate function and final cause, were to maintain capitalism. Surely we should have to justify choosing this cause above others, such as a ‘belief’ in ‘people’s technology’, the intellectual influence of Gandhi, the findings of a needs assessment carried out by a local research institute, the lack of capital available for purchasing ‘high’ technology, and so on. The primacy of materialism, like all processes of adjudicating amongst priorities, is a matter of judgement and not objective proof (Campbell 1989:101-2). Once material interest within organisations has been acknowledged as only one of many forceful elements, it should then be set in its place amongst the many other interesting patterns.

These material based patterns can be clearly seen within ITDG. In 1989-90, ODA gave over £2,000,000 to ITDG for ‘core-funding’, which was allocated to the different departments by its Executive Committee. In addition, the Operations Division and Policy Unit submits proposals to ODA (for example to its Joint Funding Scheme), and each one is appraised and accepted or rejected on an individual basis. So, during the same financial year, over £620,000 was given in joint funding and research. Not surprisingly, these enormous sums of money (nearly 60% of ITDG’s total income) render ODA’s advice critically important in ITDG’s policy formulation. ODA conducts a thorough review of ITDG’s progress every four years, advises on policy and managerial matters on an ad hoc basis, and receives copies of all the ‘Project Idea Appraisals’. The objectives of the proposals are studied and questioned occasionally, and it is understood that continued funding to ITDG relies upon improving policy according to ODA’s requirements. In ITDG’s case the main donor by no means explicitly attaches conditions to the donations it offers. On the other hand, when ODA asks (even informally) why ITDG does not have a policy statement on the environment, as a recipient of considerable financial support, it addresses the omission immediately. Interestingly of the two areas which have been relatively neglected by

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217 These act not only as appraisal documents, but often as proposals for the life of the project as well.
ITDG (as compared to other overseas development agencies) - impact on the environment and gender - ODA have been reported as remarking critically on the former but not the latter. Since these are ODA’s two explicit priorities for consideration in project work they would be unlikely to ignore gender, so ODA may be under the false impression that Ops staff in ITDG are already adopting a gender policy.

I shall now consider funding patterns at the project level within ITDG’s FFF Programme. In the last five years FFF has received large amounts of money from ODA, GTZ, the State of Guernsey, the State of Jersey, Christian Aid, several charitable trusts, a publishing company, and various individuals. These organisations, and even various departments within them, advocate different approaches to policy and exert different kinds and levels of pressure. Within ODA, one adviser regularly stresses the importance of treating stoves as a consumer product. He recommends a neo-classical free enterprise model - generating demand, establishing stove businesses, and working within existing marketing networks. Even if stoves are sold primarily to the middle classes to start with, the argument goes, the production costs will inevitably fall, the price will come down, and those with lower incomes will eventually begin to buy them. Where does this idea come from? Plainly there is a discourse within ODA (and British NGOs) which assumes that the poor are difficult to help directly and the poorest can never be reached. For example Clausen explains that within ODA

we have not found very effective ways to raise the productivity of the poorest 10 to 20 per cent of the population - landless labourers, for example. Some of the very poorest people in any society are sick or handicapped and will always need help from relatives or from society as a whole (Clausen as quoted by Wisner 1988:139).

On the other hand, there is another, more sociological discourse within ODA, which has its most vocal members in the economic and social division. An ODA evaluation expert, on a team reviewing one of ITDG’s projects in 1988, was more concerned about the political objective of reaching the poorer households, than reaching production and wealth creation targets. Since the original proposal stated that the poorer and middle income households would benefit from using stoves, disappointment was expressed at the small number of lower income people buying stoves during the course of the project (see section 5.5.). Christian Aid have criticised another stoves project for related reasons. One of their representatives wrote that they were concerned about how much the project ‘is addressing the poor, whether it helps
the poor to organise (not much, I think), whether it improves the position of women’ (original gloss ). They explained in the same letter that they could not continue funding beyond the following year. So, ITDG’s stove programme is being pressurised by different donors to adopt different ideological standpoints.

What about ITDG’s impact as a donor? Although ITDG does not officially describe itself as a donor, it does give funds to ‘project partner’ organisations in ‘countries of concentration’. These funds are usually spent on administration, salaries, travel expenses, equipment, and grants given for technology development and training. Since 1985, FFFP has donated funds to organisations including the following: the Gandhiniketan Ashram, (near Madurai), and the Centre for Appropriate Technology (Nagercoil), both in Tamil Nadu, India; the Sri Lankan Ministry of Power and Energy (Colombo), Sarvodaya (Kandy), and IDEA (Kandy) in Sri Lanka; and KENGO (Nairobi) in Kenya. FFFP explicitly tries to ‘influence’ its recipient ‘project partners’ in much the same way that donors partially construct ITDG’s project proposals. For example ITDG has been trying to influence both the partners who use some degree of subsidy - the Sri Lankan Ministry and the Gandhiniketan Ashram - to commercialise their programmes gradually. In the strategic overview for 1990-1995, FFFP was commended for changing attitudes and policies because:

In Sri Lanka, ITDG has demonstrated that stoves dissemination projects do not require subsidy at the production and sales levels, and has convinced the Government to drop subsidises of this type218 (ITDG 1990b:7).

During my last field trip to the Gandhiniketan Ashram, staff were proposing that they should generate more demand for stoves, and gradually stop relying on their government’s subsidies. The staff appeared to have shifted towards commercialisation through choice rather than coercion on the part of ITDG. Even so, they hoped that ITDG would fund training for more potters, and the visiting advisers have certainly given the impression that they would be more likely to give funds for training under a commercialised programme. It was probably partly for this reason that the request for funding was formulated within a market-orientated strategy. In contrast, while I was visiting potters, a member of staff gave the impression that the Ashram still had different concerns from ITDG. He explained that the most important rationale for

218 In fact, the Government has not dropped subsidies, but has recently agreed to give Rs.14 million for continuing the subsidised stove programme in rural areas.
training more potters was to avoid creating tensions within communities through favouritism, rather than merely to increase production levels to meet demand. Although the request for funding was presented with an emphasis on marketing, the staff talked informally about the ‘needs’ of potters in moral and political terms.

These examples show that neither ITDG’s donors, nor ITDG as a donor, are representing international capitalist interests in any simple or straightforward way, but their advice can act as a form of pressure on recipient agencies to formulate policies. In the cases cited so far we have seen that these are consistent with neo-classical models for economic growth. On the other hand, the push towards commercialisation is not the only kind of ‘influence’ which ITDG and other donors hope to impress upon recipients. Influence is also structured by the way the organisation classifies its different tasks. For example, the flexibility of FFFP as a donor is severely limited because its subject area is so narrow. When advising partner organisations, the ‘stove’ experts are restricted to their own area of expertise. The following story illustrates this technology-driven constraint.

During a visit to an Indian Ashram, I was asked to find out whether they were interested in carrying out a survey of the needs of potters and the current demand for ‘traditional’ products. They expressed interest, maybe partly because they were in need of funds, but also because they were concerned about the welfare of potters. The staff wrote a proposal and drew up a budget. They suggested that they might hold seminars for 1,600 potters to celebrate the anniversary of the Ashram, discuss the teachings of Mahatma Gandhi, and elicit ideas about their problems and needs. It was clear that the seminar would merely touch on the subject of the decline in the pottery industry, the demand for products, and more particularly, ceramic stoves. I told them that FFFP funds could not be made available for such a seminar. Since I knew that ITDG expected some kind of ‘survey’ to be carried out, I suggested that holding interviews with potters, to discuss their problems and needs, seemed the best solution. The staff drew up a budget, and agreed to a questionnaire, as long as I would write it. The budget amounted to double the sum I could hand over, so I asked for it to be halved. By the end of the study (about six months later), ITDG had a report and the Ashram had held a seminar with 200 potters to discuss the results. As the information did not directly affect the stove programme, and it was argued that the analysis section
was not an accurate reflection of the results, the report was not published. This extract from my diary gives an impression of how I interpreted the episode at the time:

An Officer of the Ashram suggested that eight conferences should be held, each attended by 200 potters... I pointed out that I did not see how the potters could come to any concrete conclusions with such large numbers of people. The Officer said he could reduce the numbers. I voiced a concern that the people invited might only be men. He replied that they would make a special effort to invite women as well. I was stumped - I could not think of direct objections which I could use to express my doubt. I felt acutely self-conscious in my role as donor. How could we genuinely negotiate, since I was the one to decide whether or not to release funds? He had absolutely no way of imposing or even advancing his will.

To relinquish my 'purse-string' power, I thought, I should hand over the money allocated for the study (about £1000) and merely try and influence the way in which they organised the study. I did not do that for two reasons: (1) I would have got into trouble with ITDG, and jeopardised my place in the programme; (2) I thought it would not serve the purpose of the promotion of stoves for which donors in Britain had given the money...

Eventually the Officer told me to write down an alternative suggestion and present it to him the following day. He was busy, and did not have the time to wait while I worked out how to dissuade him from his ambitious plans. I did as I was told. I proposed some data collection with a questionnaire and a seminar for 40 potters to discuss the findings of the survey. I met the Officer once again and he merely nodded when he read the Terms of Reference. I asked for his opinion and he said: "it will be very expensive". We worked out some costs, and found that it would not actually cost very much. I asked whether he thought it would be useful to get their sister organisation... involved in the research. On reflection, it could have been read as a threat (i.e., "if you don't agree to this then I will give the money to..."). The Officer protested that they had sufficiently qualified people in his Ashram.

By now it was taken for granted that my suggestion would go ahead. The Officer appointed an economist to supervise the research. I asked if he could design the questionnaire, but the Officer insisted that I write it. Once again, I felt unable to counter him, but thought to myself, "if the economist is not qualified to do it, then it should be an opportunity for me to pass on social science skills". The whole experience made me think that I needed better negotiating skills!

(March 1990)

By 'social science' skills, I presumably meant techniques for carrying out survey work. Ironically, at this point, I had attended a short course on quantitative research methods at university, but had never been formally taught about survey work as a social anthropologist, and had never written a questionnaire myself. It is more than likely that the economist could have passed some 'social science' skills on to me.

One of the most revealing aspects of this description is the final aside - the declaration that I needed to learn how to negotiate, that I thought of my role as that of negotiator,
rather than advising donor representative points to the disparity in policy between ITDG and the Ashram. The conditions I laid down for giving the money were a mixture of ITDG’s instructions, and a product of what I decided would be best for the stoves work. The whole exchange is more reminiscent of arranging a business contract than collaborating with a partner on a ‘needs assessment’ exercise. The result was a compromise which did not greatly benefit either side. My behaviour was not so much a conscious calculation, or an unconscious result, of material interests but more a reflection of how I perceived my role within ITDG in relation to project staff in the Ashram. When I have expressed doubts (at the beginning of my job) about my ‘expertise’ ITDG staff have replied: ‘you are representing 10 years of accumulated knowledge about stoves. That is valuable expertise.’ By the time I made the trip to India, I assumed that as a donor and ‘adviser’, representing Rugby headquarters, I was giving voice to greater expertise about stoves than the Ashram. The Ashram staff, having spent over 30 years working in stoves development, would not necessarily have agreed (!) but could do little to alter my proposals since they needed the funds I was offering.

Another example of the technology-driven nature of ITDG’s assistance as a donor has been described in chapter 6. KENGO was offered funds for carrying out a women’s potter training project, but would have preferred to spend the money on a wider fuel conservation project. Meanwhile, the women’s potter groups were offered stove production training, and agreed (since it was the only training on offer and was judged to be a prerequisite to financial help) despite their greater interest in maize trading (see section 6.2.). The ‘expertise’ of the ITDG advisers, who also act as donor representatives to their project partners, is classified into such narrow technology departments that freedom of choice is minimal for the recipients. Furthermore, the effect of the advisors also being responsible for disbursing funds, means that their advice is extremely difficult to ignore.

The situation is different in some respects amongst the larger donors, but equally partial. Many donors insist on engaging ‘internationally reputable consultants to ensure impartiality and lend authoritative legitimacy to their proposals’ (Nindi 1990:52). Since the donors choose their own consultants, and then decide whether or not to finance their own expert’s proposals, it is hardly startling to find that most development projects reflect donor rather than partners’ or recipients’ preferences. During a visit to
the World Bank I observed an example of manipulation which was far from subtle. A scientist had been commissioned to co-ordinate a team of researchers to conduct an evaluation. When the contract was drawn up it was understood that the scientist would choose the researchers, but the Bank refused to agree on the ones put forward and chose its own.

Donors are often portrayed as strategically wielding the control they have over recipients for their own ends. Often, their interventions are neither strategic nor for their own ends because frequently, in practice, abuse of power is overshadowed in importance by a lack of rational co-ordination between donors. The International Monetary Fund (IMF) limits the staff and supporting services which recipient countries can allocate to development projects, as part of the structural adjustment programmes which are conditional to aid, and yet donors very often demand that staff salaries are paid by the recipient government (ibid:44). The proliferation of projects can be so substantial that some governments are forced to employ large numbers of expatriates and divert much of their resources to managing the various activities (ibid). As examples, in 1980 Zambia had 614 donor-financed projects to administer, while in 1981 the small country of Malawi was managing 188 projects supported by 50 different donors, which distracted them from determining their own policies and kept them fully occupied 'simply trying to please their donors' (ibid:44-5).

Absence of communication between donor agencies, and sometimes even the atmosphere of competition between them, often leads to endless duplication. UNICEF initiated a programme in 1989 disseminating mud owner-built chimney stoves in Sri Lanka, even though Sarvodaya, ITDG, and others, had established almost ten years earlier that expensive chimney stoves were not popular in rural Sri Lanka. In Nepal, a colleague and I held a seminar for all agencies involved in stove dissemination, and to our surprise, found that many had never met before. In 1989, the Social Anthropology Department at Edinburgh University organised a meeting for NGOs on behalf of ODA, and found that many were making contact for the first time. The consequence of these barriers is not only that the same mistakes are made over and over again, but also that donors concentrate their efforts in the same geographical and

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219 Hancock gives an example of inter-agency bickering in Somalia which led to WHO and USAID ignoring warnings of imminent widespread human starvation and malnutrition and reacting too slowly to prevent many deaths (1989:26-9).
technological areas without realising it. Although their action was much criticised, it is understandable, according to Whittington and Calhoun, that the Sudanese government expelled several NGOs in 1987 because they had not registered or co-ordinated any of their activities with the government (as cited by Nindi 1990:46).

The aforementioned proliferation of projects is partly the result of administrative convenience for the donor agencies. It is easier to monitor and manage the disbursement of funds through discrete projects, with a beginning and an end, a set of objectives, an agreed budget, and one person to take responsibility (see section 4.4). This is often accompanied by an inflexibility about objectives and strategies, a narrow technology focus, an automatic response to spend the whole budget even when not required, and a tendency away from shared responsibility and involvement. Larger, expensive programmes are logistically more convenient, since spending the same amount on several cheaper, more labour intensive development projects generally requires more time, staff, and organisation. In particular, stove development entails the administration of awkwardly cheap programmes with large number of personnel. The results of stove projects usually develop gradually in rural people’s kitchens - a marginalised, or even invisible, place to urban development planners - and are therefore difficult to monitor and evaluate. These pieces of kitchen equipment are perceived to be relatively unimpressive as feats of engineering. Thus, it is harder to imagine well-heeled donors bending their heads as they enter a smoky rural kitchen to see a new stove encased in mud, than it is to conjure images of visiting dignitaries cutting a ribbon draped across a towering, new power plant.

The commonly held assumption especially within the larger, multilateral agencies, that expensive programmes which focus on developing hardware will have greater national impact at a faster rate, has been described as the ‘idolatry of gigantism’ (Kitching 1989:94). Since the perceived economies of scale dictate that it is more ‘cost-effective’ (in staff time and funds) to have projects which are as large and capital-intensive as possible, there are individual incentives in many agencies which encourage staff to write proposals for large projects. As one World Bank member of staff explains, the quantity of funds disbursed is one of the main criteria for obtaining promotion. This is plainly not the case in ITDG, since its whole approach is geared towards small-scale AT projects such as stove development. This partly accounts for ITDG’s continuing
support for, and the larger donors’ declining interest in, improved biomass stove promotion.

Finally, I would argue that the sexual discrimination within donor agencies is not only distressing to women staff (or rejected applicants), but influences their development policy as well. Rogers has pointed out that the situation had changed relatively little since the Colonial administration barred women from any part of the overseas Civil Service (1980:48). The bar was officially instigated by the Order of Council passed in 1921 (despite the 1919 Sex Disqualification [Removal Act]), and was not withdrawn until 1946, by which time the ‘Empire’ was coming to an end so very few women were admitted. She claims that the greatest forms of discrimination are still to be found in the international sphere, including development planning for the ‘Third World’ (ibid). A survey conducted at FAO during the UN’s International Women’s Year (1975) found that 56% of women staff felt that they were treated as inferiors and required to carry out services for their male superiors which were additional to their official job descriptions, and 50% considered that they had suffered discrimination in terms of promotion (ibid:49). The practice of sex discrimination at the UN headquarters in New York, though immune from prosecution, is referred to as a classic case of infringement of United States anti-discrimination law. In 1976, areas of discrimination at the UN, where 86% of female professionals felt handicapped by being women, included recruitment, promotion, work assignments, overseas travel, the imposition of additional work outside the job description, and sexual harassment (ibid). Rogers writes that it is common to find UNDP and FAO rejecting professional women for particular posts because some places are deemed to be ‘inappropriate for a woman’ (ibid:51). It is assumed that women are not well received by certain governments, especially in Arab countries, and yet this rather insulting accusation is highly questionable as a generalisation. Sudanese government officials were extremely distressed when they discovered that their country is one of many on a list of those which are considered unsuitable for women (ibid).²²⁰

How does Roger’s experience compare with mine within ITDG? We have seen in chapter 3 that in May 1991 there were only 7 Rugby-based women regularly travelling

²²⁰ Although it is highly dubious to decide on behalf of women that certain places are unsuitable for them, their particular concerns should not be ignored. For example, since women are victims of sexual harassment, measures taken to prevent attacks are obviously desirable and welcomed.
overseas for project work (about 21%), and of a total of 17 managers, only 2 are women (about 12%). There is an extreme shortage of women in ITDG, especially at senior levels, partly due to the historical background of science and technology as a male dominated domain. This shortage within the organisation re-establishes a patriarchy, within which men are continually recreated as the dominant class with little resistance from women. On the few occasions when discrimination was raised as a topic by Rugby-based staff, I noticed that the protagonists were always women. This illustrates Agarwal’s comment that ‘while increasing numbers does not automatically mean that women’s needs and priorities are taken into account, professional women can serve as catalysts for change’ (1986:52). When interviewing a Sudanese male candidate (for the post of Country Director in the Sudan), I was amazed to hear him voice a concern about ensuring equal involvement of women in projects, since it was extremely unusual for men to initiate such views in Rugby. Discussion about discrimination is rarer still, since it appears to imply a criticism of the actions of men rather than be perceived as a statement about relationships between men and women.

Since the majority of men in the Operations Division arrive with an acutely androcentric engineering background, willingness to confront sexual discrimination as a political and moral issue is exceptional. It is acknowledged that it is unfortunate that ITDG has only one female engineer, but many retort that nothing can be done since there are very few female engineers in Britain. ITDG’s male engineers are working on a few projects which exclusively benefit women, so for most staff gender relations are not perceived to be a ‘problem’. When it was proposed that ITDG should make some policy statement on gender, any specific reference to women gaining greater access to resources was deemed to be ‘tokenism’ or ‘sexist’. The following views were expressed by engineering staff in Ops. during informal discussions which I held on the proposed gender policy:

The justification for a gender policy refers more to African than Asian women...
ITDG should not impose its values on either project partners or beneficiaries...
(it) should not necessarily force cultural changes’ on people by trying to improve the position of women...
In some instances project partners will not agree with our approach to gender, and it is not appropriate for ITDG to insist on policy changes.

The assumption that African women have less access to resources than Asian women reflects a widely claimed assertion in ITDG that African men are more sexist than those
in Asia. The resistance to imposing ‘cultural change’ on project partners is particularly interesting since these statements were made at a time when the policy department had explained that Rugby-based ITDG should shift its emphasis from direct technical assistance to ‘informing and influencing’ other agencies. Promoting technology for the poor is portrayed as an apolitical and morally neutral process, while relationships between men and women apparently never can be. It is also significant that these responses assume that constructing a position on gender automatically involves ‘imposing’ on sexist project partners. Do we have any evidence that African men are more sexist than male Europeans? According to Tandon, European NGOs often mistakenly forcefully assert, with the promise of funds on their side, that Africans should follow the more gender-enlightened example set by cultural systems in Europe (1991:75-6). Are the highly individualised and commercialised relations between men and women, the reliance on state social security rather than the family, and the ‘unitisation’ of the family (i.e., every person a “unit” unto himself or herself), necessarily the best models for Africa? he asks (ibid:76). This position does not embrace cultural relativism, since moral judgements are not evaded, but he makes the point that systems should be explored within their historical and cultural context.

Not all men in ITDG resist an explicit policy on gender. Even so, almost all those men who do comply with the various gender related proposals put forward by staff have left it largely to women to carry them out (with the exception of one male social scientist). While this might make sense in an organisation with enough women to take this work on, in ITDG, where the policy and planning budget is too small to cover the cost of such ‘luxuries’, there are not enough women to cover the workload. It would be logistically more realistic to spread the responsibility for banishing discrimination against women. However, the responsibility will not be shared until the existence of the problem is recognised by male staff. It is the blindness to the political and moral dimension of gender relations which recreates the Schumacher tradition of conceiving technology as man-made, and excludes women from from policy-making, from publicity material, from training courses, from seminars and conferences, from income-generating opportunities, and even from whole projects.
9.3. Recipient Agencies

While the donor agencies are virtually all based in Europe or America, recipient agencies are located in every corner of the world, and are consequently an even more heterogeneous group. In this discussion, ‘recipient’ agencies refer to organisations not only receiving money, but also at least minimally involved in the implementation of projects. I am mainly concerned with African, Asian, and Central and South American agencies (government or non-government) who receive funds from ITDG in its capacity as donor, and I will merely mention the role of expatriate NGOs (such as ITDG). In this section, I am more concerned to portray the position of Southern national, rather than expatriate, development agencies in relation to their expatriate donors.

Robertson points out that since the 1950s, the history of development for recipient agencies has been structured by the emergence of planning. With the boom in the western industrial economies and their Cold War with the Soviet bloc, ‘East’ and ‘West’ were competing for allies amongst new nations, partly for their raw materials and markets (Robertson 1984:35). The recent independence of many ex-colonial states gave ‘nation-building’ and development planning an urgency because

> In the expanding international arena, planning had become both a credential and a manipulative device, but it was also a means by which each regime could express to its subject population its will, its identity, and its active concern for progress. Without nationhood, without authoritative links between the mass of the people and the new and often fragile state structures, orderly progress was impossible (ibid:35-6).

It is difficult to generalise about the power relations which informed national development planning. It is true that the advocates of the major ‘modernisation’ paradigm in international aid agencies put pressure on recipients to adopt a free market economy with strong authoritative state structures. It is also clear that plans have often

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221 I have given an account of ITDG’s philosophical heritage in chapter 2. While I hope that this dismantles some of what Tandon describes as secrecy amongst western NGOs (1991:70), I should add that this provides a historical picture of one British-based NGO which cannot be applied to others. Oxfam, for example, lays much less stress on technology and much more on empowering local groups, while Christian Aid follows a similar orientation but also works closely with church organisations. ITDG is still uniquely associated with the ideas of its founder, Schumacher (even if current policy and practice frequently depart from his anti-materialism), and is probably more influenced by ODA than most aid charities, since it provides more than half of ITDG’s funding. In fact, Tandon questions whether an agency receiving the majority of its funding directly from government, can strictly be called a non-government organisation (ibid:70-1).
been tailored to meet donor requirements. At worst, they have been shopping lists of the latest fashionable donor buzzwords, such as ‘basic needs’, ‘gender equity’, ‘sustainable enterprise development’ (McNeil 1984:9). On the other hand, some new states looked to the Soviet Union for inspiration; for example, India’s main planner after Independence was trained in Moscow, and the Soviet New Economic Policy and Five-Year Plans influenced Indian planning policy. Furthermore, it became apparent during the 1950s that ‘developing countries were developing minds of their own’, with America displeased to see Cuba choosing a revolutionary path, and China disappointing the Soviet Union with its independent communist line (Robertson 1984:36).

‘Indigenous socialisms’, as Robertson calls them, sprang up in Africa and Asia, weaving strands of communism, liberalism, and their own ‘traditional’ society (ibid:37). Nyerere stressed the importance of Tanzanian ideas in his second Five-Year Plan (1969-74), presented in the Arusha Declaration of 1967:

> Independence means self-reliance. Independence cannot be real if a nation depends upon gifts and loans from another for its development... How can we depend upon foreign governments and countries for a major part of our development without giving to those governments and countries a great part of our freedom to act as we please (Nyerere as quoted by Arnold 1979:171-2).

Development in Tanzania would be achieved through social equality, *ujamaa*, self-reliance, economic and social transformation through rapid expansion of the productive capacity, and African economic integration (Robertson 1984:37). Since the 1960s, ‘Third World’ government proposals for redistributing wealth, self-reliance, and promoting collective organisation have become gradually more obscured or, more recently, absent altogether. In Sri Lanka, once the left-wing SLFP was ousted in 1977 by Jayewardene and his UNP, rhetorical ‘socialism’ and ‘self-sufficiency’ was supplanted by a determination to attract foreign aid with an open economy (Spencer 1990:10). At present, while the UNP struggles to persuade donors to continue foreign aid despite colossal human rights abuses, the SLFP would probably also be rejected on the grounds of its socialist agenda.

The pressure to reject socialism is not so blatant for national NGOs. Bratton points out that since governments usually see their role as tied up with imposing order ‘the

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222 This involves the ‘development of forms of economic activity which encourage collective and cooperative efforts and avoid wide differences of wealth and income’ (Nyerere as quoted by Robertson 1984:37).
organizational imperative of the State is administrative command and control, whereas NGOs seek to inculcate autonomous and participatory action' (1987:10). I would argue that NGO status far from ensures empowerment at the grassroots. NGOs may construct idealistic utopian visions for the future, but in practice 'participatory action' usually involves, rather than empowers, people at the grassroots, which does not necessarily engender autonomy. The concept of participatory development has been over-used and under-explained. It has been applied to at least the following: (1) sharing information between managers and beneficiaries; (2) consulting beneficiaries for their views about the project; (3) arranging decision-making so that beneficiaries have a greater degree of control or at least influence over the course of the project; (4) responding to actions initiated and entirely controlled by beneficiaries. I have argued in chapter 6 that despite efforts to the contrary, ITDG, rather than the producers, led the stove project in Western Kenya. Beneficiaries may have been consulted, but they certainly did not control the project. On the other hand, in general there are far more indigenous NGOs than governments who are at least seeking to strengthen power structures at a grassroots level.

In 1981 the OECD counted up to 6,000 international development NGOs world-wide, and in 1986 there were at least 400 in Kenya alone, delivering about 35% of health services (ibid:4). They are an increasingly popular channel for aid amongst the international development community, as demonstrated by a threefold increase in funds from 1973 to 1983 (from $332 million to $1.18 billion respectively) (ibid:5). ODA's Joint Funding Scheme, which gives money to NGOs only, increased its contributions from £11.5 million to £23 million between 1988/9 and 1991/2. If it was problematic summing up government planning, it will be impossible to generalise about NGOs. From a left perspective, NGOs are seen as vehicles for empowering the oppressed and enabling 'beneficiaries' to take control of their own lives, while the right perceive NGOs as performing a useful market-orientated function in the absence of indigenous large-scale businesses (ibid:2). On the other hand, neither of ITDG's main NGO stove programme partners - Sarvodaya in Sri Lanka and KENGO in Kenya - neatly fit into either of these categories.

Sarvodaya's founder, Ariyaratna, rejects both the capitalist and Marxist paradigms and has built a Buddhist movement on the concept of sramadana, the 'selfless gift of labor' (Gombrich and Obeyesekere 1988:244). The organisation of work camps for village
development to uplift the poor, assumed a heterogeneous, communistic idea of Sri Lankan villages which bears little relation to real patterns of rural social organisation. Although this ‘indigenous model’ of development has been extremely popular with many Northern donors and agencies, it has also been interpreted as a construction by urban middle class protestant Buddhists (ibid: 243-250). The result is that ‘Sarvodaya’s vision of village society and the past of Sri Lankan civilization is a projection of the bourgeoisie, a fantasy that has no social reality’ (ibid: 250). More recently, at the insistence of donors, Sarvodaya Economic Enterprise Development Scheme (SEEDS) has been set up to encourage greater involvement in the market economy.

In contrast, KENGO is an association of ‘50 NGOs active in renewable energy and community development’ who are firmly rooted within a physical and ecological model of development (Aworry 1985: 102). It has a strong technical focus, with environmental conservation as its main goals, and has been described as a ‘clearing house’ for technical information and ideas on stoves (ibid). An assumption guiding their involvement in stove programmes is that production and distribution is more efficiently achieved through the market, while long-term environment concerns should be tackled through education about afforestation and fuel conservation (ibid: 103).

I have touched on some of the main ideological strands within recipient agencies which influence their models of development, but have not described the kind of relationship they have with donors. How much influence do donors have over their recipients? Does this vary according to the size of the organisations involved? Does financial dependency inevitably compromise the freedom and autonomy of the recipient agencies? To shed light on these questions I will look at different perceptions of the relationship between recipients and donors, and then offer observations from my own work with national governments and NGOs.

At a conference on ‘Development Alternatives: The Challenge for NGOs’ held in 1987, the role of indigenous and international NGOs was discussed from a ‘southern’ and a ‘northern’ perspective. The views expressed by Kajese (from Zimbabwe) and Smith (from the USA) are deemed to be fairly characteristic of the South and North positions respectively. Kajese advises:

The burden of responsibility for development in the South lies ultimately with the southern countries and their indigenous NGOs... Our friends in the international NGO
community seem to have a kind of mental block against accepting this fundamental option: that however poor or underdeveloped our countries are and however ill-managed or non-professional our NGOs are in the South, the burden of responsibility is ours and ours alone... Judging by the fact that the basic relationship between international NGOs and indigenous NGOs is conditioned by the former’s wealth and status as “donor”, and the latter’s financial poverty and status as “recipient”, I strongly suspect that, for the international NGOs, the nature of the partnership is, at its most benevolent, that of “junior/senior” partner or at its most malevolent, that of “horse and rider”... The Shona people of Zimbabwe have a saying: “Kandiro Kanoenda Kunobva Kamwe” - a gift from one direction is reciprocated by another gift from the opposite direction... Do our northern counterparts see us as in any way reciprocating their “generous” donations of money and know-how? What do they take back in their purses after they have “emptied them” in the South? (1987:79-80).

Kajese addresses some of the familiar criticisms thrown at national agencies. Firstly, in answer to the accusation that indigenous agencies have not put the concept of grassroots participatory development into practice, he points out that international agencies have not either. For a start they could practise what they preach about devolving power by giving members of recipient agencies more autonomy and decision-making control, he advises (ibid:80-82). Secondly, the assumption that all the technical expertise resides in the North is partially incorrect, according to Kajese, since the North lacks ‘practical, relevant, and valuable development experience’ which is just as essential. The northern agencies, like colonialists in a former era, are not assisting the shortage of technical competency by refusing to invest in ‘human resource development’. Although some funds are allocated to training indigenous personnel, the courses are often inappropriately modelled on the ‘western commercial sector’ (ibid 82-83).

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223 The Shona are not the only ones to express the obligation of reciprocating gifts. Mauss explores the idea that gifts in all societies must be repaid even if the repayment varies in kind (1970).

224 He implies that the North does have a greater grasp of theoretical technical issues. I do not find this distinction between practical and theoretical knowledge useful since the ‘practical’ experience which informs Southerners only makes sense because it is structured by ideological constructs or theories (see section 2.1.).
In contrast, Smith counsels:

there are those (both in the North and the South) who... believe that full and effective partnerships between international and indigenous NGOs require delegation by funding agencies in the North of authority to their counterparts in the South to make decisions regarding resource allocation, accountability procedures and project performance evaluation. In so doing, the argument goes, not only would indigenous NGOs be given the respect and full trust they deserve, but decision-making and oversight could be brought nearer to the local needs and realities of the grassroots poor in developing countries... Although such a future division of labor between international and indigenous NGOs might seem optimal to some, there are at present several obstacles to its implementation in the near future... Addressing these issues is the task of both international and indigenous NGOs together. It cannot be solved merely by decentralizing more decision-making authority in the NGO community toward the South (Smith 1987:87-89).

What are these 'obstacles'? I would argue that the main 'obstacle' to recipients taking control is their financial dependency on the donors. The agency with the funds is bound to control those who depend on its gifts. But Smith's views on the obstacles to devolvement of control are more typical for the majority of European development planners I have talked to about North/South decision-making. The indigenous NGOs are portrayed as incompetent, corrupt, or simply as having a different approach. To be more specific about incompetence, indigenous NGOs are reputedly lacking in management capability, do not reach the poorest sectors, and exclude grassroots participants (especially women) from decision-making (ibid:89). The alleged corruption is also generalised so that it potentially applies to every Southern agency, though Smith admits that much of what is called 'misallocation' of funds actually amounts to spending money on what the recipient, rather than the donor, decides is more crucial for their development work. For example, when funds are obtained on the understanding that they will not be spent on 'political activities' or on 'overheads', recipients have been known to bend the agreement in order to get involved in overtly political action for the poor, or, perhaps when their survival is at risk, to spend donor funds on administration (ibid:90).

As far as the perceived notorious example of corruption amongst church organisations is concerned, estimates are presently that less than 1% of funds is 'misallocated' including money diverted for alternative development activities (in 1986) (ibid). This is far, far lower than is generally assumed by those who put corruption forward as a main obstacle to decentralising control over decision-making. Furthermore, whatever the level of misallocation or embezzlement, I would also argue that this does not invalidate the proposal for devolution of control any more than tax avoidance and
evasion should encourage governments to forget about collecting taxation. Rather than maintaining ultimate authority and merely issuing instructions, donors should reach agreements with recipient agencies which are considered to be appropriate by both sides from the outset. They might also seek to ensure that recipients account for money spent to show that individuals are not embezzling funds, although some organisations assume honesty is assured. For example, Christian Aid invest more time developing partnerships with recipient agencies so that they can take their good faith for granted, and less time checking up on their accounting.

What does Smith mean by indigenous agencies adopting a ‘different approach’ and why does it matter if they do? In view of the bad press that planned development received during the 1980s, he argues that the increasingly cautious, right-wing, northern private and government donors are demanding greater ‘accountability’ for the money they give (ibid:90). This calls for evaluation of impact, not only to provide evidence that money is or is not being spent ‘effectively’ to reassure the tax-payers, but also to generate information which can be useful for ‘replicating’ successful projects. For these purposes, we apparently need more than the current humanistic, informal, qualitative evaluations which are popular amongst indigenous NGOs; we need ‘empirical verification of effectiveness’ and ‘careful and systematic evaluation’, which presumably makes greater use of quantitative methods. He implies that evaluation to date indicates that ‘small private development projects’ are making significant headway, and that indigenous NGOs may increase in professionalism if they raise funds from their own countries (e.g., from business and government sectors). As if to reassure us, he does state that helping the ‘hard-core’ poor must be the ultimate aim, and that ‘none of the recommendations for greater professionalization of performance need be in opposition to the more humanistic objectives of empowering people and enhancing their self esteem’ (ibid:89). Even so, he offers no justification at all for the assumption the more qualitative, humanistic approach of indigenous NGOs is less professional that northern empirical verification.

I have quoted Kajese and Smith at length because they both represent a mildly expressed version of what I have heard repeatedly during fieldwork. The recipient Southerners perspective is characterised by an individual locked into an angry, frustrated, exasperation with the arrogance of donors, who feel it is their duty to develop the backward south, abuse their position of economic power by imposing their
decisions, and give little respect to national ‘experts’ (and certainly not to grassroots beneficiaries). At their most extreme, the donor Northerners viewpoint makes derogatory claims about the inadequacy of Southerners (particularly Africans but Asians and South/Central Americans are also targets), working in governments or NGOs. I have noted the following remarks: ‘they are not ready to take charge yet’, ‘they always take project funds’, ‘they couldn’t organise a picnic let alone a development project’, ‘they could not manage without us’, and ‘they’re so lazy ’cos they don’t really care’, and so on.

It will be clear already that I find the critique of the northern agencies far more convincing than the stereotyped picture of incompetent Africans, Asians, and South/Central Americans shirking work in indigenous agencies. For a start, the criticisms directed at donors are usually based on statements about the relationship between donors and recipients. For example, it logically follows from the system of donor-tied technical assistance that the donor is assuming that the expertise of recipients is insufficient. In contrast, the accusation of incompetence amongst Africans, Asians, or South/Central Americans is a speculative, prejudiced assertion which is based either on the ethnocentrically evaluated performance of individuals, or even more tenuously, on the results of development projects. Like all stereotyping, the perception of inferiority is not based on any objective observation of reality, but is based on subjective, prior judgements about the intrinsic superiority of certain groups and their traditions.

To give a concrete example, assume for a moment that professionalization is seen as being tied up with writing memos regularly. If we compare a London-based charity with a Colombo-based NGO, we may observe that the former produces many more memos, and decide that it is therefore more professionally run. However, our assumption about memos emerges from a western business style which arbitrarily gives greater weight to the written word than to the importance of debate.225 On the other hand, Smith does have a good point about reaching the poorest people, which Kajese does not address. Indigenous NGOs, and governments to an even greater degree, tended to be staffed by middle class, urban professionals whose interests potentially

225 In my experience, writing everything down can ensure that individuals are given credit for their own ideas, but often wastes valuable time and paper, and as such might compromise organisational professionalism.
clash with the rural, relatively low income, agricultural-based people. In a pattern which is increasingly familiar within Britain, they do little to change the political structures so that wealth is redistributed nationwide. Kajese’s argument that Northerners also guard their own interests in aid transactions does not absolve the Southerners. It does not provide a justification for donors retaining control either.

It is often assumed that recipient agencies agree with evaluations made by donors, for example that they need external technical assistance. This may be true in some instances, but is false in others where disagreement may prevail but is not explicitly voiced for fear of losing financial support. When donors try to impose their perceived superior knowledge and skills, recipient agencies do not always accede in practice, but find ways where possible to circumvent the donor-constructed rhetoric. The ‘receivers’ of aid are subordinate in one sense to donors, due to their economic dependence, but they are also actively engaged in creating alternative alliances, concerned about their own rhetoric, and reinterpreting their own practices. To illustrate this contention, I will highlight some aspects of the relationship between ITDG and project partners involved in stove programmes in Sri Lanka and Kenya.

9.3.1. Sri Lanka

The relationship between ITDG and Sarvodaya, Sri Lanka, began in 1980 with a visit from an ITDG technical adviser. Sarvodaya was the leading stove agency in the country, until the government also embarked on a national programme to promote the Sarvodaya rural stove. Although Sarvodaya had had some success disseminating small numbers of stoves through their extension workers in Kandy District, they could not compete with the extensive government network and resources when the new CEB programme began. ITDG saw the potential for using Sarvodaya’s Kandy District Headquarters as a production centre, where new production and marketing techniques could be tested. They decided to provide funds for setting up adequate facilities to develop production, which should eventually become commercially viable. ITDG paid the salaries for three members of staff (Rs. 3,780 a month), purchased a motorbike, and covered the expenses of the workshop. As a consequence the three members of staff were no longer given wages by Sarvodaya. Since the co-ordinator was paid
slightly more than the District Co-ordinator in the Kandy Office, resentment from other sections of Sarvodaya ensued.

In 1989, an ITDG staff member visited the project and decided that the funds were no longer giving Sarvodaya any incentive to establish a commercially viable stove-making enterprise. Funds were withdrawn but, according to project staff, the wages were not reinstated from Sarvodaya Head Office. The Sarvodaya Stoves Project tried unsuccessfully to secure funds to cover their salaries from SEEDS, but managed to obtain some finance from the Estate Development Boards for installing chimney stoves in tea plantation ‘line houses’ in Nuwara Eliya District. Meanwhile, stoves production increased at a sufficient rate to cover most of the expenses of the workshop, including the employment of a stove-making potter. According to Sarvodaya staff, ITDG’s project was in their interests in the short-term, but damaged their relationship with Head Office, which has jeopardised their long-term interests. Thus, once they found that support from donors, and even their own Head Office, evaporated, this Sarvodaya branch moved away from community work into a commercial stove enterprise for its own survival.

From 1987 ITDG’s attention in Sri Lanka was mainly directed towards working with the CEB following ITDG’s proposal for an urban stoves programmes. ODA agreed to give a proportion of the funds through ITDG, while the MPE put up the remainder. Part of ODA’s funds covered the cost of technical assistance by ITDG’s consultant advisers - the production engineer, marketing specialist, and socio-economist. In addition, an American consultant ceramicist trained the potters, and a Sri Lankan social anthropologist was employed part-time by ITDG to carry out various monitoring surveys with CISIR staff. There was substantial input from the expatriate advisers, as reflected in the project expenditure. During the project ODA gave just over £100,000 while the CEB contributed about £4,000 (excluding the value of supervisory services provided by senior staff) (Aitken et al. 1989:32). ITDG’s expenditure, as a percentage of the total, was as follows: 74% was spent on ‘external support’ (in the UK) and 19% on ‘direct support’ (in Sri Lanka) - that is, a total of 316 days of ITDG/consultants time. The remaining 7% was spent by the CEB (on salaries, publicity, transport, and miscellaneous) (ibid).
From an economic point of view you might expect that ITDG had complete control over this project, but the CEB did not express the relationship in these terms. Firstly, the enormous amount of money spent on expatriate salaries gives the misleading impression that their inputs were critical all the time. In fact, their daily wage was relatively high so their presence was sporadic, with the result that the CEB would be in complete control during much of the course of the project. Secondly, the CEB were not displeased by the considerable expatriate involvement since, even if their training and management skills were certainly not lacking, they were already overstretched with their rural programme. Since the ITDG funds did not cover CEB salaries, they had every reason for not wanting to take on too many additional responsibilities. In particular, in view of the way that the project was designed with an emphasis on generating demand and establishing a new market for stoves, the marketing advice from ITDG was perceived as especially useful. Thirdly, the CEB is part of an enormous state structure with its own planning system, store of knowledge, and connections with other government departments. Although ITDG was under the impression that the CEB had been ‘influenced’ into accepting that subsidies were inefficient and unsustainable, the Ministry later approved an extension to the subsidised rural stoves programme. Ultimately, the Ministry was in control of the programme and not ITDG.

What about relationships with project partners since the end of the urban programme? In 1989, at the end of the project, four stove enterprises were established. Two years later, despite the political turmoil which has had a battering effect on the Sri Lankan economy, between four and six factories seem to be regularly producing the stove. This success has encouraged ITDG to continue their partnership with the CEB Project Manager, who is setting up a new NGO, called IDEA, which will implement a new stoves marketing programme. The UK staff inputs are projected to consume about 22% of the expenditure over four years, which is considerably less than the former urban stoves programme. It is still a significant proportion, especially since it does not include the salary for the project manager of this new programme, who is an ITDG employee. This staff member is presently accountable to IDEA’s Executive Director for stove activities, but is ultimately responsible to ITDG’s Country Director in Sri Lanka. Thus, the project manager is partly managed by a project partner director, but remains under the control of ITDG, thereby allowing them to maintain some managerial influence over the project. Since IDEA is financially dependent on ITDG, it would be difficult for IDEA to insist that the project manager should be entirely responsible to
their own Executive Director. It would not be surprising if ITDG secured a far greater degree of influence over IDEA than it ever could over a government department.

In general, the relationship between staff in ITDG and the CEB has always appeared to be amicable226 and ITDG had no means of enforcing suggestions. As part of the MPE, with the personal backing of the President for their fuel conservation programme, and money from DGIS, the CEB was in a strong position. During the urban stoves programme the CEB could take up ITDG’s suggestions when they fitted in with their own objectives or ignore them if other matters were more pressing. For example, we have seen that the CEB choose to continue to subsidise rural stoves even though ITDG argued strongly against them. On the other hand, as far as the NGOs are concerned—in the past for Sarvodaya, and in the future for IDEA - negotiating with ITDG is more complicated. The financial arrangements made by ITDG render the Sarvodaya stoves project, and the new IDEA as an organisation, dependent on ITDG for their survival. If ITDG insists upon a particular strategy, for example for monitoring stoves sales, the NGOs have little choice but to accept.

9.3.2. Kenya

While ITDG’s relationships with project partners in Sri Lanka have been characterised by a relatively high degree of agreement, the opposite might be said about relations with the main project partner organisation in Kenya. Although ITDG was primarily concerned to improve income earning opportunities for women potters, stoves were still firmly perceived as part of the energy sector at the time, and so KENGO - the main energy NGO - was chosen as a partner. In 1986, ITDG entered into a formal agreement with KENGO as the implementing agency of a stove project in Western Kenya. At the time, it was anticipated that interests might conflict:

> objectives can vary depending upon the viewpoint of a particular organisation. Thus, while ODA, KENGO and ITDG would all agree on the general objectives of the stoves programme, namely to: (1) help alleviate the growing shortages and increasing monetisation of fuelwood being experienced by households and to (2) help create employment for low income groups, through the production and sale of stoves, it is likely that the emphasis may vary. For example, ITDG’s prime interest is to help the rural poor, whereas KENGO is more interested in maximising fuelwood savings. ODA

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226 In Sri Lanka, I was initially seen as a researcher from ITDG, and subsequently an employee of ITDG, and so project partner staff may have been unwilling to criticise the organisation.
may be more interested in maximising the number of stoves in use, while stoves producers are likely to want to maximise sales and profits. Conflicts inevitably arise (Burne 1985b:2-3).

Sure enough, this foundation of different interests and objectives signalled the beginning of many disagreements over policy, objectives and, more usually, resources or equipment. Differing objectives were expected but ITDG had not considered how conflicting interests would be resolved if they arose. ITDG felt that KENGO were not putting sufficient staff input into the project, and so they established an ITDG Project Officer in Kisumu; KENGO felt that ITDG was behaving as if it was in charge, thereby allowing them no autonomy or independence. As far KENGO were concerned, there were other activities to which they gave greater priority than training women’s potter groups. They concentrated on afforestation, rather than stoves, once it had become widely known that the latter could not substantially reduce the rate of deforestation. Partly for this reason they invested less resources in the stoves project than was planned, and so ITDG, rather than adjusting the project or institutional arrangements, implemented most of the plans themselves.

The evaluation, which I carried out in 1989 as a consultant for ITDG, attributed much of the success of the project to the efforts of the ITDG Project Officer. While it is undeniable that the progress made in one potter group was largely due to the input of ITDG, the reasons for the lack of involvement by KENGO were not explored in any detail. A more open discussion about the conflict of interests, giving greater attention to KENGO’s view point, might have presented a more balanced picture. When I conducted the fieldwork I was new to the country, an expatriate, affiliated to ITDG as a researcher, and staying with ITDG project staff. From a distance of over two years it is easy to see that ITDG priorities dominated my perspective and interpretation.

Most project activities continued virtually without KENGO, with one of the pottery groups being ITDG’s nominal project partner in Western Kenya. Then, in early 1989, the Ministry of Agriculture (MoA) instructed their Home Economists (HE) to include the dissemination of stoves as part of their work. The MoA was already collaborating with GTZ, and asked ITDG to work with the HEs in both Siaya and Vihiga Districts. Installation training began in January 1989, and has continued up to the present as part of an informal partnership. ITDG has not donated funds to the MoA, or entered into a formal agreement with them, but considers them to be project partners in practice.
They choose new producer groups together, and ITDG consults the MoA about plans and objectives. There is an understanding that ITDG is responsible for training producers, while the Ministry ensures that stoves are sold and installed. Effectively there is a complementary, fixed division of labour with disagreements rarely arising.

In parallel with the examples from Sri Lanka, relations with government departments appear to be have been rather more successful than the NGO partnerships. In both of the NGO cases, ITDG took a more controlling role and funds were cut off when it was felt that their partners did not perform the designated role. From their perspective, ITDG constructed the priorities for the stove programmes, and tried to structurally enforce their policies through their position as donor. Although they never said explicitly that the funds were conditional on performance, it was clear to them that ITDG would not extend the partnerships unless the recipient agencies adopted their policies. The MoA, in contrast, never received funds from ITDG, and so could not be pressurised to adopt or change its plans.

9.4. Conclusion

If I take a superficial glance at the relationship between donors and recipients, I might be tempted to suppose that donors are consciously trying to control project planning while poverty-trapped recipients are forced to passively accede to their decisions. But the idea of donors grasping at power, as if it is something that can be acquired, measured, and taken away (Foucault 1976:94), rests upon a foundation of faulty reasoning. As I have argued earlier in this chapter, the method of arriving at such a conclusion is dubious. It involves observing the present, describing those observations as a result of past actions, and then claiming that various agents planned to achieve those effects for their own interests. There is no objective reason for assuming that because something happens, someone necessarily intended it. I propose that donors may appear to be in control, but they do not objectively determine the course events take during projects as they might wish. In fact, it is well known that events in so-called ‘planned’ development rarely occur as planned.
The current terminology for proposals favoured by donors betrays similar reasoning flaws. For example the American devised ‘Logical Framework’\textsuperscript{227} assumes that if an agency makes inputs (equipment, time, and money), it should be able to predict the outputs (results of project activities), the effects (achievement), and the impact (meeting long-term goals), by taking account of the ‘externalities’. The concept of project ‘externalities’ or ‘context’ or ‘environment’ involves those factors over which the project has no control (such as the weather, the actions of other agencies, illness of staff and so on), implying that the agency has control over all other factors. The view of planned development as akin to a scientific experiment, where all the possible variables can be identified, is extremely misleading. It is impossible to isolate social, economic, ecological, political, cultural, and ideological variables from each other, and predict how they will change in the future, because understanding social life is a matter of interpreting relationships and not recording behavioural elements or ‘variables’.

In this chapter I have described aspects of the relationships between recipients and donors to reveal a historically located structural power imbalance. The transfer of aid from a relatively rich, capitalist, ex-colonialist power (such as Britain) to a relatively poor ex-colonised nation (such as Kenya or Sri Lanka) is plainly not a reciprocal exchange. It defies Gregory’s neat scheme dividing exchange into two possibilities: (1) gift exchange of inalienable objects between interdependent givers and receivers; and (2) commodity exchange of alienable objects between people who are reciprocally independent (Gregory 1982:100). Development aid involves the exchange of alienable objects (such as money and equipment) in return for the acceptance of ‘technical assistance’ (which ‘gives’ employment to donor/adviser agencies), between interdependent givers and receivers. That is to say, in return for gifts or loans, recipient agencies accede to the rhetorical assertions of donor agencies which say that the latter are the ‘experts’ in control.

People within recipient agencies construct their own rhetoric, interpret their own world, and engage in their own practices which could be read (following Foucault) as defiance

\textsuperscript{227} This is a ‘project cycle management tool’ devised in the late 1960s by an American consultancy team, Practical Concepts Incorporated, for USAID. The framework is used to encourage planners to prepare projects so that the activities are designed to meet realistically formulated objectives, with assumptions explicitly stated and taken into account. It has since been further developed in many aid agencies, notably by the German Gesellschaft für Technische Zusammenarbeit (GTZ) in their ‘Goal-Orientated Project Planning’ (Eggers 1992:5).
of donor control. For example, the Sri Lankan Ministry are continuing to subsidise stoves, despite ITDG's claims that they have convinced them to commercialise all their programmes. An Ashram in India insisted that a seminar for potters should be held, during which Gandhi was a more important topic than stoves, even though ITDG was providing the funds for a survey about potential demand for new stoves. KENGO, in Kenya, declined to invest their own resources in training women potters, since it was obvious to them that ITDG could manage on their own. Even so, departing from Foucault, I would not describe the rationale behind these apparent 'strategies' as an attempt to resist the powerful position of the donor in order to acquire power for themselves. Rather, I would argue, staff within recipient agencies are responding to their own ideological constructs within the limits of their economically dependent position. These constructs amongst the recipients are inaudible and invisible to the donors, who can ignore them because they are in a stronger economic and political position in the relationship. Even so, recipients can defy the control of the powerful donors by giving the appearance of obeying the rules of aid exchange without actually putting it into practice.
10. CONCLUSIONS FOR THE FUTURE

Once one sees the persuasiveness, dispersion, intricacy, contingency, and layering of our social practices, one also sees that any attempt to sum up what is going on is bound to be a potentially dangerous distortion (Dreyfus and Rabinow 1983:xxvi).

For British development practitioners the stereotype of an academic is an object of suspicion, treated alternately with impatience and grudging respect. S/he is seen as forever quietly navel-gazing in sheltered isolation; free from responsibility, anxiety, and concerned involvement with the 'real' world; applying densely packed cells of grey matter to obscure tiny, tangential questions; driven by a petty passion for precision; churning out hundreds of pages of jargonised and turgid musings; and unable to write in short sentences. Or is that just my own prejudice?

While some academics explicitly try to influence the world outside the ivory tower, for example by advising on development policy, others do so without intent. Through their interpretation of the rural development, chemical processes, human perceptions about animals, how women are portrayed in literature, or whatever, they reinvent the past and create the future. Departing from Marx, it seems to me that it is not the function of philosophers or academics generally to change the world, any more than anyone else. Academics should pursue knowledge, purge ignorance, and inspire others to do the same. The result, but not the function, of their work will ripple to any corner of the world, for which they must take responsibility. As much as anyone else, but no more, they are accountable for the world view they create, modify, recreate, or
destroy. There should be no compunction about trying to change the world; they are all doing so already whether they like it or not.

So although I do not deem it necessary to justify my work by laying down recommendations for the future, in this chapter I offer advice because it is implied throughout my observations. In this thesis, I have pointed to misconceptions, misunderstandings, clashes and conflicts, and have hinted that many could have been avoided. Rather than leaving these hidden, and to partake more explicitly in contributing to future knowledge, I will describe how my observations could logically contribute to policy. I have depicted ITDG as politically naive, but this character is not necessarily typical of development agencies in general. Even so, I present these suggestions as a part of a campaign to throw politics into the debate surrounding appropriate technologies, and hope that not only ITDG, but others in development agencies or research institutes also, find some ideas worthy of catching. Before I begin offering advice, I will summarise the thread of the story so far:

10.1 A Summary

In chapter 1 I introduced myself as the researcher, a female postgraduate social anthropologist from London, bent on travelling and working in Asia. I sketched a chain of events which took me from Gujarat in the summer of 1986, to Edinburgh in 1987 to prepare for fieldwork in Sri Lanka amongst Sinhalese Buddhist Potters. In 1988, I spent three months interviewing potter households about the socio-economic impact of the CEB’s rural stoves programme. I visited 36 households in 22 villages in Kandy, Kegalle, Kurunegala, Ratnapura, and Hambantota Districts, and held discussions with the help of Mallika (a Sinhalese interpreter) and various checklists. While this time was challenging but enjoyable, the second phase of fieldwork in Sri Lanka during 1989 was sad, anxious, and difficult. I stayed with stove making Potters in a community in the wet and hilly district of Ratnapura, making pots, learning how to behave and speak Sinhala, and teaching English. In September, I met a member of ITDG and I heard that there was a vacancy for a social anthropologist in ITDG’s stoves programme. In view of the increasing political violence and the temporary end of the CEB programme, I decided to take the job and carry on with the fieldwork from ITDG’s Headquarters in Rugby.
During fifteen months of working as a social-scientist for the Fuel For Food Programme (FFFP), I made five separate trips outside Europe to India and Sri Lanka, Kenya, Nepal, Tanzania, and USA, and visited GTZ in Germany several times. My work involved advising on how to collect information in stove programmes, giving lectures about women and appropriate technology, arguing about development policy, devising guidelines for monitoring and evaluation, editing a stoves journal, attending planning meetings, and so on. I describe my economic and political position in relation to the other main categories of people involved in the work - the potters, the cooks, the engineers, and the donors. Chapter 1 concludes with remarks about the business and ethics of writing a thesis. In an attempt to evade moral relativism, I argue that while my interpretation of stove programmes may not be a representation of objective truth, it could become a part of the next chapter in the story of stoves in ITDG, for which I take moral responsibility.

In chapter 2 I try to reveal some of ITDG’s ideological and philosophical orientation, firstly through a look at the writings of its founder, Schumacher. He attacks the dominant scientific ‘laws’ of the nineteenth century - evolutionism, natural selection, Marxism, Freudian subconscious, relativism, and positivism. While I sympathise with his determination to place morality back onto centre stage, and his rejection of reductionist materialism as the obsession of development theorists, he falls foul of his own criticisms. Following Mao he portrays the ‘ordinary people’ as practical but uneducated, unorganised, undisciplined, and backward. ‘They’ apparently need our more theoretical, scientific, sophisticated knowledge, and ‘we’ appear to be Western Europeans, rich, and male. I set these evolutionary and androcentric perspectives within their historical context, that is as emerging over centuries in the imperialistic European nations. Finally I compare Schumacher’s criteria for ‘appropriate technology’ against ITDG’s current work. I conclude that while ITDG has soaked up much of the development rhetoric about small enterprises creating wealth, it has relinquished neither a male-centred nor an evolutionary approach. Materially based modernisation theory still thrives within ITDG, though there are signs of change as the recent emphasis on building on indigenous knowledge has been revived.

In chapter 3, I introduce the social organisation within ITDG. My comparison with segmentary lineage systems did not go very far because the individual units within ITDG are too different. On the other hand, constantly referring to the differences
between the various units (often in the form of accusation or gossip) was a means of establishing individual identity with the social order, I argue. For example speculation about power games proved false more often than not, and so I surmise that while self-interest has an influence on behaviour, behaviour is not merely an accumulation of those interests. ITDG more than doubled in staff between 1986 and 1990. I rejected both Weber’s idea that this was a result of individuals acting according to their self-interest, and Handy’s ideal typologies, on the grounds that neither are borne out in practice. Most of the growth has taken place overseas, following a policy of decentralising project management to the South, because increased specialisation and devolving power are deemed to be progressive developments. On a more negative note, there is a clear sexual division of labour with ITDG Headquarters. In March 1990 there were 42 men and 60 women working in Rugby, and yet only 12.5% of the management posts were held by the latter, which compares badly with other British charities. This patriarchal system is perpetuated by the continual recreation of gender stereotypes (and vice versa): with women as sexually desirable, vulnerable, understanding, emotional and caring; while men are technically knowledgeable, assertive, inventive, and consequently, more powerful. To challenge these provokes humour. Finally, I introduce the objectives, social organisation, and project work of the stoves team since it began in 1979.

Chapter 4 begins with the invention of fire as the first cooking stove. Rejecting the portrayal of the evolution of stoves from a three stone fire to a microwave, I try to relay the main advantages and disadvantages of different stoves in terms cost, function, and performance as judged by cooks. The technical work on improved biomass stoves begins in India in the late 1940s, and continues with Raju making a plea in 1953 to improve the conditions of smoky kitchens for ‘our sisters’. During the 1960s and 1970s technologists developed new chimney stoves, (e.g., in Ghana and Guatemala), but then the oil crisis of the late 1970s turned everyone’s attention to energy problems. It was thought the domestic consumption of fuelwood was outstripping supply and causing deforestation, the rate of which could be reduced by making stoves more fuel-efficient. Unfortunately, I suggest, the focus on fuel led designers to ignore the many functions of fire and users’ other priorities, and cooks to ignore the new stoves altogether. By the early 1980s it was acknowledged that rural women were not cutting forests for fuel, but using dead or cut trees, which had already been felled by timber companies or farmers clearing the land for agriculture/cattle ranching.
The approach towards stove programmes switched from a concentration on design to attending to larger-scale dissemination. There was a move away from subsidising programmes and towards commercialised distribution working within the market economy. Although this trend might have been popular in principle with the larger donors, several appear to have become disillusioned with stove programmes since it has been found that they can do little to decelerate deforestation. Other reasons for a hiccup in their popularity may be attributable to their low capital but high administrative cost, the poor implementation record of multilateral agencies, the diversion of interest towards Eastern Europe, and lack of value placed on programmes which involve and benefit predominantly women.

In chapter 5, I give an historical, economic, geological, and political background to Sri Lanka and the stove-making Sinhalese Potters. Then I outline the story of stoves in Sri Lanka, beginning with Sarvodaya and ITDG in Kandy District between 1979 and 1983. In the following year the government became involved, with the CEB devising a National Fuelwood Conservation Programme. Potters were trained to make stoves, government officials distributed them, and cooks bought them at a highly subsidised price. Looking at the national, community, and local objectives, I evaluate the programme and draw out some of the flawed assumptions. The aim of combating deforestation was probably the least successful, while both potters and cooks derived considerable benefits through production and use respectively. However, with an elite of predominantly male producers amassing fortunes through selling stoves, and the product still only affordable to the relatively richer households, these benefits were inequitably distributed. In the CEB/ITDG joint urban stoves programme the access to benefits was concentrated in the hands of the mainly middle class households who bought the stove, and the factory owners who controlled production and retained most of the profit.

In chapter 6, the background to Kenyan stove programmes is presented. In the historical context I pay special attention to the past of the Luos, who are presently involved in ITDG’s stove programme in Western Kenya. I mention the urban stove programme, which developed an improved charcoal stove known as the Kenya Ceramic Jiko, and describe the KENGO/ITDG joint stove testing project which began in 1986. The only stove satisfying ‘all household demands’ was the traditional fire place (Miguiyi 1990:84). Nevertheless, the project launched a stove training
programme for women potters in Western Kenya. The project began with the intention of assisting stove producers, but found almost none, so the aim was widened to general training in pottery production. After two years only one group remained actively involved in the project, having produced about 1000 stoves. The official collaboration between KENGO and ITDG ended, and the latter carried on, determined not to give up on the stove-making women’s group. During the second phase of the project, the stove training programme expanded to include five other groups, or 55 potters, and selling became far easier once the MoA began distributing stoves through their network of Home Economists. On the other hand, jealousy from neighbouring potters in the communities around the stove-makers has been intense and awkward.

In chapter 7, I take a closer look at the benefits of stove projects. According to project rhetoric the improved stoves respond to people’s need for particular resources, such as fuel, time, money, comfort, and so on. And yet, where is the line drawn between luxury, want, and need? How do we decide who needs what? Wisner claims we should attend to ‘basic needs’ by changing the socio-political structures which cause deprivation, but take it for granted that the outsider can decide what is basic. I compare the donor defined needs encoded in project proposals with the opinions of the targeted beneficiaries and argue that the discrepancies are transparent. Stoves are supposed to reduce expenditure on fuel and generate income for producers. The former is rare because fuel is usually gathered, and the latter is often only available to a small number which engenders greater inequality between producers than before. Stoves apparently save time and energy for the fuel gatherers. Time spent fuel gathering is not usually greatly diminished by improved stoves, although cooking or supervision times can be shortened. Rather than increasing women’s productivity this time may be dissipated into many activities (including childcare and rest), which will be valued for women but perhaps considered less significant by the donors. Finally, there is evidence that both fuel scarcity and inhaling biomass smoke is harmful to health, but as yet, there is little evidence that stoves can alleviate these dangers. In any case, from the cook’s viewpoint, when the smoke is irritating but has other purposes, only they can balance the advantages and disadvantages of reducing the level of emissions. It is clear that stoves cannot overturn the structures which recreate economic inequalities, and have in practice accentuated elitism in some cases. I argue that value of the benefits of stoves for particular individual producers or users can only judged by them, and not outsiders.
Chapter 8 tries to account for the continued practice of relying on outsiders to judge, and not the beneficiaries themselves. The problem is that the indigenous voices are not merely ignored by many expatriate donors and their advisers, their very existence is not even acknowledged. In the technology area of biomass stoves, the opinion of the majority of cooks is invisible because their cooking is carried out in rural areas, is not part of the market economy, and is considered untidy, unhealthy, and smelly. In short, cooks are a marginalised group. The new ‘planned development’ technicians, on the other hand, are busily devising clever new gadgets in laboratories, hence my claim that we now see ‘men making machines for women’s progress.’ I consider the two groups of consultants, apparently the experts according to development rhetoric, and the cooks and potters, to explore their position in relation to assumptions about expertise. I dismiss the idea that ITDG consultants are pursuing their own self-interested strategies, but trace the result of their recent contribution to the field of stoves. I argue that consultants have misunderstood energy systems, tried to impose commercialisation, and displaced indigenous technical innovation. I critically appraise the overseas visits I made, and come to the tentative conclusion that the earlier visits made as a student were more useful and open-minded.

The two main groups of beneficiaries - the potters and cooks - did not fulfil the stereotypes which have emerged in the development literature. Potters are not conservative, acquisitive, or backward. Like anyone else, they experiment with the new when it fits in with expectations, interests, perceptions, plans, prejudices, and a large bundle of other considerations. Contrary to what they say (partly out of politeness), they do not always act as if they believe that outsiders have superior, powerful expertise. When potters refuse to take up large scale stove production, rather than looking for obstacles to explain such behaviour I would argue that they are often simply making rational decisions according to what they want (or wish to avoid) at that particular time. The cooks’ refusal to buy or use a new stove should be seen in a similar light. Rather than assuming that women’s ignorance or poverty deny them access to new technology, it is more likely that they resist, adapt, abandon, use, or build new stoves for good reasons, as the true cooking experts with a holistic view of the many functions of a stove. I conclude that potters and cooks make sense of their world with their own ideas, taking on new ones only when they work in practice. The same might be said of engineers, economists, and anthropologists in their own, very different, locations.
In my penultimate chapter 9, I consider the ‘spirit’ of project aid, by which I mean the role played by ideas about money, causality, and power. The current causal chain employed to justify stove programmes assumes that beneficiaries will make jumps from, for example, more income to greater control over their life. I set the presupposition about money within the context of Western European discourse about money, with its roots in the work of political economists such as Smith, Marx, and Ricardo. These should not be taken for granted, since attitudes towards money can be radically different, as seen amongst male fishworkers in Sri Lanka who perceive it as unclean. I describe how our ideas about money are tied to various ideas about power. I challenge the conception of power as a commodity which is simply bought with money, knowledge, or lifestyle, and draw from the ideas of Foucault and Bourdieu to paint a picture of power relations working within the social order.

To appraise the validity of Foucault’s view of strategies revealing power relations, I consider the position of donor and recipient agencies to see how much material transactions define their relationships. On an institutional level, I argue that aspects of aid development, like colonialism before it, are arranged at least in part to satisfy the interests ‘at home’. It is difficult to identify the policies and objectives of multilateral and bilateral agencies, but the general underpinning tenet (in the face of much evidence to the contrary) is still that economic growth is a precursor to reducing absolute poverty. Some departments within ODA, as ITDG’s main funder, have considerable influence over policy formulation with ITDG, but messages from different ideological standpoints can exert pressure in different directions. ITDG, when acting as a donor, mainly pressurises its own recipient agencies to adopt a neo-classical model for economic growth, but also assumes a focus on stoves, on their behalf, rather than an integrated approach. Contrary to widespread comments by staff in recipient agencies about NGO donors in general, ITDG does not impose a gender policy on them, - because it does not have one itself!

I trace the history of planning in post-colonial governments in Africa, Asia and South/Central America, and contrast their policies with some examples of indigenous NGOs. Contrasting perspectives on the relationship between donors and recipients are reviewed. I assert that the customary arguments for imposing policy, technical experts, and management on recipients usually amount to no more than a rationalisation for
retaining control. On the other hand, it is acknowledged that it cannot be assumed that indigenous governments or NGOs represent the interests of the most exploited classes or castes of society. Although staff in recipient agencies may try to resist the conditions behind tied aid, examples from Sri Lanka and Kenya illustrate my claim that refusal to comply can lead to a critical loss of funds for smaller agencies with no other support. Finally, I conclude that as with any system of rules, it is the appearance, but not the practice, of obedience that it usually the criteria of success. It is this which allows people within recipient agencies to construct their own rhetoric, interpret their own world, and engaged in their own practices which make sense within their own context.

10.2. Conclusions and Recommendations

The main points for the future relate to the following five areas:

1. evolution;
2. gender;
3. classification;
4. decentralisation;
5. the role of anthropologists.

10.2.1. Evolution

Schumacher wrote that ‘the beginning of wisdom is the admission of one’s own lack of knowledge (1974:166).’ ITDG’s founder counselled humility and yet his followers have lost some of his critical questioning of western ideology and ways of living. As Huxley points out:

We can be proud of our scientific and technical achievement, our knowledge and art, our organization and our wealth; but we cannot, I hope, be proud enough of them to wish to give them to another continent if this also involves the gift of the other concomitants of our civilization, including slums and overgrown cities, gross inequality of wealth and opportunity, class discontents and chauvinist nationalism... and the horrors of modern war (as quoted by Alcade 1987:33-34)
Aside from the violence of social ills plaguing our cities, the assumptions keeping the concept of progress alive should be questioned once again. Social evolutionism implies that societies move towards increased sophistication, for example, with more efficient, powerful and highly attuned technology. The Appropriate Technology (AT) movement ideology has not escaped this presupposition. AT may be designed on a smaller scale, and for poorer producers and users at a more decentralised ‘grassroots’ level, than the scale and level which high technology reaches. Even so, technology transfer is still falsely rationalised by arguing that advancement is to be judged by technological efficiency, and that so far the West is technologically best. But what is efficiency? We have seen that despite all the ‘home technology’ available in the USA, women do not spend less time carrying out household work. Stoves, like any other technology, do not guarantee objectively measured progress.

**Recommendation 1 - for development practitioners**

The concept of ‘technology transfer’ should be treated with extreme caution irrespective of the level. The abstract concept of progress plagues ideas about the process of the North giving assistance to the South. Solutions should only be devised within the context of knowledge about existing technology, the availability and distribution of resources, and relationships between people and their environment.

**Recommendation 2 - for stove development planners**

Stoves should not be promoted as part of a ‘development package’, the implication being that progress towards a Western model will be assured by climbing the energy ‘ladder’. Rather, household energy specialists and cooks should engage in an *exchange* of information and skills in a collective effort to widen women’s access to technology choice which, by their own assessments, will improve living and working conditions.
10.2.2. Gender

A theme running throughout this thesis, sometimes explicitly and at other times implicitly, consists of an exploration of roles as defined by gender. This should not be a surprise bearing in mind that the vast majority of stove programme beneficiaries are women, while the technicians and engineers are overwhelmingly male. Why then have I not presented this study as an reflection on women and technology through the example of stoves made for women by men? I have treated the subject as anthropologists usually do when the agents are predominantly men. I have not highlighted my emphasis on women’s work in a generalised way (e.g., in headings), any more than other writers do when they write exclusively about men. When Richards wrote about indigenous knowledge systems (1985), when Kirk looked at social change amongst Sinhalese Potters (1983a), when De Wilde investigated rural industrialisation in Sri Lanka (1980), they did not specify that they were mainly occupied with men. Neither do I place an explicit women category on this thesis. I do, on the other hand, always make it clear in the text when I am referring to one particular group, such as either men or women, when is it relevant.

Recommendation 3 - for academics and development planners

There should be a greater symmetry and consistency in writing about or planning with men and women. When the gender dimension is relevant, it should inform the picture in the same way as race, class, or any other classificatory category does. When only referring to one group, their identity should be revealed.

So what are the gender roles within ITDG? I have tried to show in chapter 3 that there is a clear division of labour based on gender. With a few exceptions, in Rugby men are technical specialists and managers, mainly with engineering and economics backgrounds, women are administrative, communications, and secretarial specialists.
The few current exceptions are two male secretaries, and a handful of women social anthropologists, food technologists, and a marketing specialist. I propose that this is by no means exceptional for development agencies - donor or recipients - but even so, in technical and managerial areas ITDG in the UK is more male dominated than its equivalent British charities. On the other hand, in the ITDG offices overseas there is a much better balance between the numbers of men and women.

**Recommendation 4 - for ITDG only**

Make a greater effort to recruit more women in technical areas, and at a more senior level, where an imbalance continues. The first step is to support the work on equal opportunities policy as a matter of urgency.

I have also argued that the history of stoves development reveals a transfer of the loci of innovation from cooks' kitchens to urban-based laboratories. A consequent dimension has been that design of cooking technology in rural Africa and Asia, which was once predominantly in the hands of women cooks, has now become primarily a male domain.

**Recommendation 5 - for development policy makers**

Involve women in technical innovation and management. There are two aspects to this recommendation relating to recognition and training: (1) to *recognise* that cooks are already engaged in innovation requires a redefinition of technology (to encompass techniques as well as tools, see chapter 8), and devolvement of power in decision-making to the stove users and producers (see chapter 9); (2) to involve more women in technical work requires specialist *training* and possibly formal and informal education (see below).
10.2.3. Classification

Classifying people, or theories about people, is a political process. As examples, Morgan wrote about evolutionary stages of savagery, barbarism, and civilisation; Schumacher distinguished between modern technology, intermediate technology, and traditional technology; Marx divided the population of industrial societies into bourgeoisie and proletariat classes; and Moser categorises women’s needs as strategic or practical. Once you have chosen the organising principle with which to classify theories, you have already attached significance to particular values and revealed your allegiance to an encompassing viewpoint.

While there is nothing intrinsically objectionable about classifying people (in fact social existence would impossible without it), the organising principles employed deserve scrutiny and reflection. Categories do not determine ideology in any simple one-way causal way; but they express ideological constructs, and thus reveal how people think. If the categories are based on misplaced assumptions, I would argue for changing the classification. Although changing the ideological constructs requires a rethinking of the principles behind the classification, simply outlawing certain words will probably have no effect on the ideology at all. Word prohibition achieves little on its own; as Marx puts it: ‘Man’s innate casuistry! To change things by changing their name! And to find loopholes for violating tradition while maintaining tradition’ (as quoted by Engels 1972:87). It is the tradition which should be challenged.

With regard to this study of stove programmes, the following opposing categories are problematic:

- Third World
- Developing
- Social
- Needs
- Producers

First World
Developed
Technical
Solutions
Users
Taking each category in turn:

- “Third World” has become an irrelevant phrase since the division between the first (capitalist, industrial) and second (socialist/agricultural) is no longer meaningful.

- “Developing”, as a term used to describe countries whose economies are growing, is inaccurate. Many Sub-Saharan African countries are regressing economically, and even if they were not, the evolutionary process implied in the concept of “developing” is patronising and insulting (see section 10.2.1 above). It may be that the term is tempting to use because everyone in Britain recognises it. On the other hand, ITDG will never change peoples’ attitudes if the ‘traditional’ language of development is continually repeated. Underdevelopment, on the other hand, as a classificatory term makes sense in specific contexts. It usefully describes part of the power relationship whereby richer nations or classes economically and politically dominate and exploit poorer nations or classes. It should not be used to measure the relative progress of African, Asian, or South/Central American countries in materialistic or technological terms as defined by ‘Western’ ideology.

**Recommendation 6 - for academics and development theorists/practitioners**

Replace the phrase ‘Third World’, and the word ‘developing’, with specific regional, national, local area names as appropriate to the context. Use underdevelopment as a term to refer to exploitative relationships between nations or classes.

- In many technology development agencies, such as ITDG, “social” is used in at least four senses: (1) relationships between people; (2) methods for data collection; (3) everything that concerns the project beneficiaries (from heating the house with a fire to dealing with witchcraft), rather than the scientists and engineers; and (4) the project cycle procedures (appraising, planning, monitoring, and evaluation). Most
staff within ITDG talk about social and technical concerns as if they opposed, or even in conflict with each other, while a few claim that social scientists are as technical as engineers because methods of data collection involve specialist skills. On the other hand, techniques for collecting information are also designed by technicians and management specialists (e.g., stove performance tests). I suspect that all this proliferation of meanings for “social” leads to considerable confusion.

Recommendation 8 - for ITDG only

Be more precise about the concept of “social”. (1) The “social” side of projects should refer to relationships between people, and people and their environment. For example, the social impact of a stoves project might involve a change in the intra-household relationships. (2) Data collection methodologies are not exclusively social, but are a general information area also concerned with technical and scientific matters. (3) The concerns of beneficiaries should not be generalised as ‘social’, but broken down into more precise areas (such as religious, physical, ritual, political, economic and so on). (4) The project cycle is a way of describing the planning and monitoring process and should be treated as a management, rather than a social scientific, set of tasks.

- Needs and solutions are relative and not absolute concepts. They can only be meaningfully understood in terms of relationships between people, and between people and their environment. For the same reasons, wealth and poverty only make sense within relational explanations. For example, I have pointed out that new stoves do not meet people’s ‘needs’ in an abstract, absolute sense. In certain places, certain people do prefer new ceramic or metal stoves, and over time continue to use and/or buy them, which is the most convincing test of their contextual value. They are liked for multiple functions that are often missing from the catalogue of benefits in project proposals. Thus, it is the potential stove users, rather than planners or technicians, who should decide what they need in a new stove design: whether they would rather remove smoke with a chimney, or forget the chimney, live with the
smoke, and keep more of the heat inside the kitchen. It is only the cooks who can decide whether they need a new stove more than a latrine or some money for paying school fees.

**Recommendation 9.**

If used at all, 'needs' should be viewed as relative terms, in relation to the wider context. It makes more sense to use the word as a verb, thereby requiring both a subject and object (Wisner 1988:27).

- Producers and users should not be placed in opposed categories because many people can be both at the same time. For example, women stove users (i.e., cooks) are also producers. Rural women may not necessarily be engaged in waged labour, but they produce food, welfare, medicine and so on, for their household and very often for their community as well.

**Recommendation 10.**

Recognise that activities can be productive even if they are not part of the market economy. Thus, people are producers even when they are not employed.

10.2.4 Decentralisation

Visiting development experts, who often know relatively little about the conditions and circumstances of the countries they advise, have a particular predilection for generalising about solutions for the poor (Nindi 1990:59). Streeten notes that they
‘tend to fasten onto single problem solutions: get rid of the government, raise the price of food, produce more food for your own consumption etc.’ (Streeten as quoted by Nindi:ibid). Hirschman asserts that there is only one valid universal rule:

looking for uniform solutions to development problems invariably leads us astray... I can lay claim to at least one element of continuity in my thought: the refusal to define ‘one best way’ (1990:1122).

In ITDG central project planning and management from the Headquarters in Rugby has not worked effectively because: (1) plans were based on abstractions and generalisations, which had little connection with the contextual details of reality; and (2) people affected did not take part in the decision-making, and so felt less committed to the plans. The recognition of this several years ago led to the internationalising of the management of ITDG’s work. The responsibility for managing projects has completely shifted from Rugby to the respective ‘in-country’ office, and the vast majority of the technical work is now carried out by national experts, with support from Rugby when requested.

The question of whether to use expatriate consultants at all might provide the focus of debate within ITDG in the future. The assumption that ITDG’s expatriate consultants have superior expertise justifies both hiring out Rugby-based technical staff to other development agencies, and securing large amounts of funds for expatriate technical assistance in project work. In the light of decentralising project management, ITDG Rugby will become increasingly involved in advocacy, or what is internally called ‘informing and influencing.’

Although the transfer of control from Rugby to the other offices makes moral and practice sense, decentralisation should not stop there. The decision-making is still firmly in the hands of the technical experts, but the users and producers should gain more control.
Recommendation 11 - for development agencies and donors

There are at least two ways of working towards an approach which discusses problems and solutions in context. Do not make grand generalised statements about the content of development work; and provide support for far more detailed appraisal work to be carried out by in-country offices before they design the plans.

The rhetoric about participatory development will not be transported into practice until the planning process changes. However, systems are always open to abuse; disobedience to institutional rules is easy to disguise. Devolvement of power is ultimately in the hands of individuals.

10.2.5 The Role of Anthropologists

Development agencies have been dominated by engineering and economics. The result has been an attempt to impose technology solutions and European macro-economic principles (Schumacher 1974:131-2). To give an example, economists tend to calculate net income over relatively long periods while the poorest farmers or artisans may be concerned with today, tomorrow, or possibly next week. These economic calculations have often been ignored by those who have been targeted as beneficiaries (see chapters 8 and 9). Failure has been blamed on the ‘beneficiaries’, or their circumstances, by identifying ‘obstacles’ or constraints to account for their resistance to advice or assistance. Social anthropologists have been recruited in increasing numbers to locate these obstacles and find ways to circumvent or destroy them. I propose a rethinking of these assumptions behind this brand of modernisation theory which still thrives in some parts of ITDG.

The engineers/economists do not necessarily have the most powerful, or even the most useful, knowledge for improving technology. Partly for this reason social anthropologists are often employed to find out the ‘needs’, ‘skills’, ‘technical ideas’, and ‘assessments’ by users and producers. They take this information to the technicians who then remain in control of technology development. At other times, the
indigenous knowledge is taken less seriously and social anthropologists are used to identify the cultural habits which obstruct the path of progress. Social anthropologists continue in a go-between role: 'I concluded that maybe much of the value of someone like me is simply that I can talk to both poor villages and to development planners and policy-makers' (Green 1986:80). In effect, social anthropologists are being used, apparently as experts on people, to find out the best way to develop 'them'. This misunderstands the skills of anthropologists, and throws doubt on the process of technology development.

**Recommendation 12 - for ITDG**

Within ITDG the particular skills of the various social scientists should be more clearly defined. Decentralised project planning assumes that the decisions should be taken by prospective beneficiaries. Social anthropologists can be useful in this process as go-betweens - relaying the concerns, requests, and decisions of potters and cooks, for example, to the policy-makers and planners. They cannot perform this role if they are: (1) told what to find out; (2) given too little time and money; (3) expected automatically to use quantitative techniques.

This is not the appropriate place to delve into details about the practical difficulties of applying these suggestions. I introduce them as points for discussion. Planned development has been under attack for a number of years; its failure being attributed to a lack of research, or misunderstandings, or inefficiency, or corruption, or material exploitation, or cultural obstacles, or top-down approaches, and so on. I would argue against reducing complex political and economic relationships to one homogenising, dehumanising law. Chalmers points out that social scientists may want to change the world, rather than merely interpret it but that: 'people, societies and ecological systems are not inanimate objects to be manipulated in the way that the objects of physics can be conceived to be' (1990:19).
In this thesis, I have tried to describe political relations between the various groups involved in stove development, without sweeping them all under one all-embracing carpet of motivation. Even so, one must not forget there are universals which are hard to describe, and which are on such an abstract level that they have an almost spiritual tone. Perhaps T.S. Eliot had a point when he wrote:

The endless cycle of idea and action,
Endless invention, endless experiment,
Brings knowledge of motion, but not of stillness;
Knowledge of speech, but not of silence;...
Where is the knowledge we have lost in information?
(T.S. Eliot 1940:77).

There is more to understanding than circulating information. We need to listen with stillness to the potters, the cooks, the engineers, the donors, and the anthropologists, so that we can glean what ‘goes without saying’. Allowing stillness is not an excuse for avoiding or obstructing change, motion is inevitable. However, wisdom can not be found until people understand the partiality of their own inventions.
## APPENDICES

### Appendix 1

**KISWAHILI AND SINHALA GLOSSARY**

<table>
<thead>
<tr>
<th>KISWAHILI</th>
<th>ENGLISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>fundi</td>
<td>artisan</td>
</tr>
<tr>
<td>jiko</td>
<td>stove</td>
</tr>
<tr>
<td>kuni mbili</td>
<td>two sticks of wood</td>
</tr>
<tr>
<td>maendeleo</td>
<td>development</td>
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<tr>
<td>mzungu</td>
<td>European</td>
</tr>
<tr>
<td>panga</td>
<td>large curved knife</td>
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<tr>
<td>shamba</td>
<td>field</td>
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<tr>
<td>ugali</td>
<td>porridge</td>
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<tr>
<td>ujanama</td>
<td>co-operative effort</td>
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<tr>
<td>wanawake</td>
<td>women</td>
</tr>
<tr>
<td>wzungu</td>
<td>Europeans</td>
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<table>
<thead>
<tr>
<th>SINHALA</th>
<th>ENGLISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>akka</td>
<td>elder sister</td>
</tr>
<tr>
<td>amma</td>
<td>mother</td>
</tr>
<tr>
<td>ayya</td>
<td>elder brother</td>
</tr>
<tr>
<td>anagi</td>
<td>excellent</td>
</tr>
<tr>
<td>Badahela</td>
<td>Potters caste (derogatory)</td>
</tr>
<tr>
<td>bali</td>
<td>a kind of Buddhist ceremony</td>
</tr>
<tr>
<td>banda</td>
<td>respectful form of address</td>
</tr>
<tr>
<td>cajun</td>
<td>woven dried coconut leaves</td>
</tr>
<tr>
<td>chula</td>
<td>stove</td>
</tr>
<tr>
<td>reddha(redhi)</td>
<td>piece(s) of cloth worn by women</td>
</tr>
<tr>
<td>dhal</td>
<td>lentils</td>
</tr>
<tr>
<td>diga</td>
<td>virilocal residence</td>
</tr>
<tr>
<td>hartner</td>
<td>strike or closure</td>
</tr>
<tr>
<td>Goyigama</td>
<td>Farmers caste</td>
</tr>
<tr>
<td>Grama Seveka</td>
<td>village level government official</td>
</tr>
<tr>
<td>Jana Saviya</td>
<td>Government programme for poverty alleviation</td>
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<tr>
<td>Janata Vimukti</td>
<td>People’s Liberation Front</td>
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<tr>
<td>Peramuna</td>
<td>stove</td>
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<tr>
<td>lipa</td>
<td></td>
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<tr>
<td>mahathaya</td>
<td>polite way of addressing a man</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>malli</td>
<td>younger brother</td>
</tr>
<tr>
<td>nona</td>
<td>polite way of addressing a woman</td>
</tr>
<tr>
<td>paddi</td>
<td>unharvested rice</td>
</tr>
<tr>
<td>piriṭh</td>
<td>purification or blessing</td>
</tr>
<tr>
<td>pol sambol</td>
<td>dish with chilli, coconut, and lime</td>
</tr>
<tr>
<td>putha (puththu)</td>
<td>son(s)</td>
</tr>
<tr>
<td>rajakariya</td>
<td>King's Duty including exchange of services for land</td>
</tr>
<tr>
<td>sramadana</td>
<td>gift of labour</td>
</tr>
<tr>
<td>thaththa</td>
<td>father</td>
</tr>
<tr>
<td>thovil</td>
<td>exorcism of demons</td>
</tr>
<tr>
<td>toddy</td>
<td>juice from palm trees</td>
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</tbody>
</table>
## Appendix 2

### ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AGA</td>
<td>Assistant Government Agent (Sri Lanka)</td>
</tr>
<tr>
<td>ARI</td>
<td>Acute Respiratory Infection</td>
</tr>
<tr>
<td>A-P</td>
<td>Agro-Processing (ITDG)</td>
</tr>
<tr>
<td>ATI</td>
<td>Appropriate Technology International (USA)</td>
</tr>
<tr>
<td>BP</td>
<td>Boiling Point</td>
</tr>
<tr>
<td>CEB</td>
<td>Ceylon Electricity Board</td>
</tr>
<tr>
<td>CILSS</td>
<td>Inter-State Committee for Drought Control in the Sahel</td>
</tr>
<tr>
<td>CISIR</td>
<td>Ceylon Institute for Scientific and Industrial Research</td>
</tr>
<tr>
<td>CO</td>
<td>Carbon Monoxide</td>
</tr>
<tr>
<td>Comms</td>
<td>Communications</td>
</tr>
<tr>
<td>COLD</td>
<td>Chronic Obstructive Lung Disease</td>
</tr>
<tr>
<td>E/DI</td>
<td>Energy/Development International (Kenya)</td>
</tr>
<tr>
<td>EEC</td>
<td>European Economic Community</td>
</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
</tr>
<tr>
<td>ESMAP</td>
<td>Energy Sector Management Assistance Program (World Bank/UNDP)</td>
</tr>
<tr>
<td>EWC</td>
<td>East-West Center (Hawaii)</td>
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<tr>
<td>DCO</td>
<td>District Coordinating Officer (Sri Lanka)</td>
</tr>
<tr>
<td>DGIS</td>
<td>Directorate General for International Cooperation (Holland)</td>
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<tr>
<td>DNES</td>
<td>Department of Non-Conventional Energy Sources (India)</td>
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<tr>
<td>FAO</td>
<td>Food and Agricultural Organisation (UN)</td>
</tr>
<tr>
<td>FINNIDA</td>
<td>Finnish Development Corporation</td>
</tr>
<tr>
<td>FFPF</td>
<td>Fuel For Food Programme (ITDG)</td>
</tr>
<tr>
<td>FWD</td>
<td>Foundation for Woodstove Dissemination (Kenya)</td>
</tr>
<tr>
<td>GATE</td>
<td>German Appropriate Technology Exchange (GTZ)</td>
</tr>
<tr>
<td>GNP</td>
<td>Gross National Product</td>
</tr>
<tr>
<td>GTZ</td>
<td>Deutsche Gesellschaft für Technische Zusammenarbeit (Germany)</td>
</tr>
<tr>
<td>HERL</td>
<td>Hyderabad Engineering Research Laboratory (India)</td>
</tr>
<tr>
<td>IDB</td>
<td>Industrial Development Board (Sri Lanka)</td>
</tr>
<tr>
<td>IDEA</td>
<td>Integrated Development Association (Sri Lanka)</td>
</tr>
<tr>
<td>IDRC</td>
<td>International Development Research Centre (Canada)</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>IPKF</td>
<td>Indian Peace-Keeping Force</td>
</tr>
<tr>
<td>IRDP</td>
<td>Integrated Rural Development Programme (Sri Lanka)</td>
</tr>
<tr>
<td>ITC</td>
<td>Intermediate Technology Consultants</td>
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<td>ITDG</td>
<td>Intermediate Technology Development Group</td>
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<td>JVP</td>
<td>Janata Vimukti Peramuna (Sri Lanka)</td>
</tr>
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<td>KCJ</td>
<td>Kenya Ceramic Jiko</td>
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<tr>
<td>KENGO</td>
<td>Kenya Environment and Energy Organisation</td>
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<tr>
<td>KREDP</td>
<td>Kenya Renewable Energy Development Project</td>
</tr>
<tr>
<td>LTTE</td>
<td>Liberation Tigers of Tamil Eelam (Sri Lanka)</td>
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<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>MIS</td>
<td>Management Information System (ITDG)</td>
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<td>MoA</td>
<td>Ministry of Agriculture (Kenya)</td>
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<td>MoCSS</td>
<td>Ministry of Culture and Social Services (Kenya)</td>
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<td>MPE</td>
<td>Ministry of Power and Energy (Sri Lanka)</td>
</tr>
<tr>
<td>NFCP</td>
<td>National Fuelwood Conservation Programme (Sri Lanka)</td>
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</table>
NPIC  National Programme on Improved Chulha (India)
NORAD  Norwegian Agency for Development
NGO  Non-Government Organisation
Ops.  Operations (ITDG)
PCRU  Policy and Country Representation Unit (ITDG)
PEP  Prevention of Environmental Pollution (WHO)
PIC  Products of Incomplete Combustion
PIE  Public Information and Education (ITDG)
PM  Project Manager (ITDG)
PPU  Policy and Planning Unit (ITDG)
PRU  Production Resources Unit (ITDG)
PO  Project Officer (ITDG)
ODA  Overseas Development Administration (UK)
RWEPA  Regional Wood Energy Programme Asia
SEP  Special Energy Program (Kenya)
SEWA  Self-Employed Women’s Association (India)
SLFP  Sri Lanka Freedom Party
SIDA  Swedish International Development Agency
TO  Training Officer (Sri Lanka)
TSP  Total Suspended Particulates
USAID  United States Agency for International Development
UNDP  United Nations Development Programme
UNEP  United Nations Environment Programme
UNICEF  United Nations Children Emergency Fund
UNIFEM  United Nations Development Fund for Women
UNP  United National Party (Sri Lanka)
UNSO  United Nations Sahelian Office
VITA  Volunteers for International Technical Assistance (USA)
WHO  Wealth Health Organisation
WID  Women In Development
Appendix 3

POEMS AND SONGS

1. Research in Jiangsu Province

From off this plastic strip the noise
Of bussing stops. A human voice
Asks its set questions, pauses, then
Waits for responses to begin.

The questions bore in. How much is
The cost and area of this house?
I see you have two sons. Would you
Prefer to have had a daughter too?

And do your private plots provide
Substantial income on the side?
Do you rear silkworms? goslings? pigs?
How much per year is spent on eggs?

How much on oil and soya sauce
And salt and vinegar? asks the voice.
The answering phantom states a figure,
Then reconsiders, makes it bigger.

Children and contraceptives, soap
And schooling rise like dreams of hope
To whirl with radios and bikes
Round pensions, tea and alarm clocks.

“Forty square metres. Sixteen cents.
To save us from the elements.
Miscarriage. Pickle with rice-gruel
Three times a week. Rice-straw for fuel.

Chickens and fruit-trees.” In Jiangning
Green spurs the psychedelic Spring
And blossoming plum confounds the smell
Of pig-shit plastered on the soil.

Life and production, drought and flood
Merge with the fertile river mud
And maids come forth sprig-muslin drest
And mandarin ducks return to nest.

The Yangtse flows on like brown tape.
The research forms take final shape,
Each figure like a laden boat
With white or madder sails afloat.
Float on, float on, O facts and facts,
Distilled compendia of past acts,
Reveal the Grand Design to me,
Flotilla of my PhD.

On the obnoxious dreary pillage
Of privacy, imperfect knowledge
Will sprout like lodged rice, rank with grain,
In whose submerging ears obtain.

Statistics where none grew before
And housing estimates galore,
Diet and wealth and income data,
Age structures and a price inflator,

Birth and fertility projections,
Plans based on need and predilections,
O needful numbers, and half true,
Without you what would nations do?

I switch the tape off. This to me
Encapsulates reality,
Although the beckoning plum-trees splayed
Against the sky, the fragrant shade,

Have something tellable, it seems,
Of evanescence, light and dreams,
And the cloud-busy, far-blue air
Forms a continuous questionnaire

And Mrs Gao herself whose voice
Is captive on my tape may choose
Some time when tapes and forms are far
To talk about the Japanese War,

May mention how her family fled,
And starved, and bartered her for bread,
And stroke her grandson’s head and say
Such things could not occur today.

by Vikram Seth (1985:19-21)
2. Song of Ocal

I really hate the charcoal stove!
Your hand is always dirty
And anything you touch is blackened...
I am terribly afraid
Of the white man's stove
And I do not like using it
Because you stand up
When you cook
Who ever cooked standing up?
You use the saucepan and the frying pan
And other flat bottomed things
Because the stoves are flat
Like the face of a drum
The earthen vegetable pot
Cannot sit on it
There are no stones
On which to place
The post for making millet bread...

By Okot p'Bitek (as quoted in Stamp 1989:60)

3. The Development Set

Excuse me, friends, I must catch my jet
I'm off to join the Development set;
My bags are packed, and I've had all my shots
I have travellers cheques and pills for the trots!

The Development Set is bright and noble,
Our thoughts are deep and our vision global;
Although we move with the better classes,
Our thoughts are always with the masses.

In Sheraton hotels in scattered nations
We damn multi-national corporations;
Injustice seems easy to protest
In such seething hotbeds of social unrest.

We discuss malnutrition over steaks
And plan hunger talks during coffee breaks.
Whether Asian floods or African drought,
We face each issue with an open mouth.
We bring in consultants whose circumlocution
Raises difficulties for every solution -
Thus guaranteeing continued good eating
By showing the need for another meeting.

The language of the Development set
Stretches the English alphabet;
We use swell words like “epigenetic”
“micro”, “macro”, and “logarithmetric”.

It pleasures to be esoteric -
It’s so intellectually atmospheric!
And although establishments may be unmoved,
Our vocabularies are much improved.

When the talk gets deep and you’re feeling dumb
You can keep your shame to a minimum:
To show that you too are intelligent
Smugly ask “Is it really development?”

Or say, “That’s fine in practice, but don’t you see:
It doesn’t work in theory!”
A few may find this incomprehensible,
But most will admire you as deep and sensible.

Development Set homes are extremely chic,
Full of carvings, curios, and draped with batik.
Eye-level photographs subtly assure
That your host is at home with the great and the poor.

Enough of these verses - on with the mission!
Our task is as broad as the human condition!
Just pray to God the biblical promise is true:
The poor ye shall always have with you.

by Ross Coggins (as quoted by Hancock 1989).
Appendix 4

SUMMARISED QUESTIONNAIRE CHECKLISTS
FOR SRI LANKAN POTTER SURVEY 1988

This list of general subject areas provided a memory aid to prevent basic omissions rather than an exhaustive guide. The questions become progressively more complicated or sensitive, with more delicate subjects being broached towards the end of the interview if informants had the time and inclination.

1. Name, address, gender, and age of interviewee;
2. Members of the household - name, gender, age, level of education, involvement in pottery/stove production;
3. Name, gender, age, and relationship to interviewee of non-household members working in the same workshop;
4. Training - who, when, how, how long, and where;
5. Production roles;
6. Salaries - piece-rate, wages, or kind, paid or received;
7. Products - type and number of pots/handicrafts/stoves/other;
8. Income from pottery/ stove production;
9. Costs of raw materials/transport/marketing/over-heads;
10. Income and costs in the past;
11. Marketing - strategy/ locations/middlemen/ CEB;
12. Hours worked in pottery/stove production;
13. Other employment or household work - income and hours worked;
14. Any other source of income;
15. Expenditure - capital and household expenses;
16. Control of income and expenditure;
17. Savings;
18. Credit and rates of interest;
19. CEB - delay of payments, grant for kiln, frequency of collection, problems encountered and strategies to overcome them;
20. Plans if CEB stop purchasing stoves;
21. Advantages and disadvantages of pot/stove/handicraft production and pottery production in general;
22. Future aspirations and ambitions of all household members;
23. Caste and socio-economic position in relation to rest of the community;
DETAILED QUESTIONNAIRE CHECKLISTS
FOR SRI LANKAN POTTER SURVEY 1988

Socio-Economic Checklist No. 1 for Stove-Makers

1. Name
2. Sex
3. Age
4. Present home
   a) Family Home  b) Family Size
5. When did you start pottery making?
6. Who trained you to make clay products?
7. How long did it take?
8. Who did you work with when you started?
9. Which skills did you have (mixing clay, throwing, beating, moulding, assembling, firing)?
10. Which skills do you use now (mixing clay, throwing, beating, moulding, assembling, firing)?
11. Which kinds of products did you make when you started (pots nos. 1, 2, 3, 4, 5, 6, flower, money, toys, lamps, drainage basin, drainage pipe, U chula)?
12. How many products did you make per month?
13. What were your costs for each product (firewood, clay, other materials, labour)?
14. What was your monthly income?
15. Who trained you to make stoves?
16. What did it involve, who was trained with you, how long did it take, and where did it take place?
17. What income did you have while you were training?
18. How long was it before you made them perfectly?
19. Have you trained anyone else?
20. Do you make one-piece or two-piece stoves?
21. Which part do you make (one-piece - firebox, tunnel, second part; and two-piece - firebox, tunnel, second part)?
22. Which skills do you use now (mixing, throwing, beating, moulding, assembling, firing)?
23. Who do you work with now? What is their relationship to you?
24. Are you employed? How much payment do you receive, piece-rate or fixed-rate?
25. Are you working for your mother, father, other relative, or neighbour?
26. If not, do you employ anyone?
27. If yes, how much do you pay them, piece-rate or fixed-rate?
28. Who else from your household works in your workshop? What is their relationship to you?
29. Which part do they make (one-piece - firebox, tunnel, second part; and two-piece - firebox, tunnel, second part)?
30. Which skills do they use (mixing, throwing, beating, moulding, assembling, firing)?
31. How long do you spend on each process (mixing, throwing, beating, moulding, assembling, firing)?
32. Do you have somewhere to dry your products in the rainy season?
33. How did you acquire your equipment (kiln, racks for drying, pottery shed)?
34. Have you received a grant from the CEB for equipment, (kiln e.t.c.)? If so, how much did you receive?
35. If not, did you buy them?
37. If yes, how much did they cost (kiln, racks for drying, pottery shed)?
38. How long will they last (kiln, racks for drying, pottery shed)?
39. Did you require a loan?
40. Do you need loans at any other time? If so, where do you get them from and how much interest do you pay?
41. How many stoves do you make in one day? Per month?
42. How much do you receive from the CEB for one stove? One-piece and two-piece?
43. When do the CEB pay you (in advance - if so how much? / on collection / later - if so, how much)?
44. Do the CEB place orders?
45. Do you sell to anyone else, if so, how many and to whom?
46. How many other products do you sell now (pots nos. 1, 2, 3, 4, 5, 6, flower, money, toys, lamps, drainage basin, drainage pipe, U chula)?
47. What are your costs for making each product now (firewood, clay, other materials, labour)?
48. Who sells them from your workshop and where do they go to sell them?
49. Who looks after the money in your family? Who decides what should be spent on which items and for whom?
50. Do you have any other source of income (do you own land? / what other jobs do you/your relatives have? / are any family members abroad?)

Socio-Economic Checklist No. 2 for Pot-Makers

1. Name
2. Sex
3. Age
4. Present home
   a) Family Home  b) Family Size
5. When did you start pottery making?
6. Who trained you to make clay products?
7. How long did it take?
8. Who did you work with when you started?
9. Which skills did you have (mixing clay, throwing, beating, moulding, assembling, firing)?
10. Which kind of products did you make when you started (pots nos. 1, 2, 3, 4, 5, 6, flower, money, toys, lamps, drainage basin, drainage pipe, U chula)?
11. Which kind of products do you make now (pots nos. 1, 2, 3, 4, 5, 6, flower, money, toys, lamps, drainage basin, drainage pipe, U chula)?
12. How many products do you make in one day (pots nos. 1, 2, 3, 4, 5, 6, flower, money, toys, lamps, drainage basin, drainage pipe, U chula)?
13. How long do you spend on each process (mixing clay, throwing, beating, moulding, assembling, firing)?
14. How many do you make of each per month?
15. Who do you work with now? What is their relationship to you?
16. Are you employed? How much payment do you receive, piece-rate or fixed-rate?
17. Are you working for your mother, father, other relative, or neighbour?
19. If not, do you employ anyone?
20. If yes, how much do you pay them, piece-rate or fixed-rate?
21. Who else from your household works in your workshop? What is their relationship to you?
22. Which products do they make (pots nos. 1, 2, 3, 4, 5, 6, flower, money, toys, lamps, drainage basin, drainage pipe, U chula)?
23. Which skills do they use (mixing, throwing, beating, moulding, assembling, firing)?
24. Do you have somewhere to dry your products in the rainy season?
25. How did you acquire your equipment (kiln, racks for drying, pottery shed)?
26. If you bought it, how much did it cost?
27. How long will they last (kiln, racks for drying, pottery shed)?
28. Did you require a loan?
29. Do you need loans at any other time? If so, where do you get them from and how much interest do you pay?
30. Who sells the products, where, and to whom?
31. How many do you sell per month and which types?
32. How much do you charge for each product (pots nos. 1, 2, 3, 4, 5, 6, flower, money, toys, lamps, drainage basin, drainage pipe, U chula)?
33. Are they easy/difficult to sell?
34. Do you receive orders, and if so, from whom?
35. What is your monthly income?
36. Who looks after the money in your family? Who decides what should be spent on which items and for whom?
37. Do you have any other source of income (do you own land? what other jobs do you/your relatives have? are any family members abroad?)
38. What do you know about clay stoves? Would you like to make them?
39. If yes, then why don't you make them?
40. Is the demand for each product increasing, staying the same, or decreasing (pots nos. 1, 2, 3, 4, 5, 6, flower, money, toys, lamps, drainage basin, drainage pipe, U chula)?
Appendix 5

WOMEN'S POTTERY PRODUCTION TRAINING

CRITERIA FOR SELECTION OF GROUPS TO BE INCLUDED IN THE PILOT PROJECT

1. The groups should be groups of women controlled by women.
2. Groups should be involved in or have in the past been involved in pottery production.
3. Groups selected should provide a mix of formal and informal women’s groups.
4. Groups should have access to a quality and quantity of clay deposits suitable for stove production.
5. The selection of groups should include some previously involved in stove component production.
6. Groups chosen should be those for which pottery production is likely to provide a significant proportion of income.
7. Groups should have a relatively easy access to the Kisumu and Kakamega markets.
8. Groups should have problems common or similar to others in the area.

ITDG Sector Economist
Dated: 7.8.87
Appendix 6

Time Budgeting of Ten Women in Kisumu District

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours per day</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooking</td>
<td>4-7</td>
<td></td>
</tr>
<tr>
<td>Cleaning, washing dishes and clothes</td>
<td>4-10</td>
<td></td>
</tr>
<tr>
<td>Child supervision</td>
<td>5-10</td>
<td></td>
</tr>
<tr>
<td>Child care</td>
<td>5-10</td>
<td></td>
</tr>
<tr>
<td>Fetching water</td>
<td>2-4</td>
<td></td>
</tr>
<tr>
<td>Handicrafts for sale (pottery)</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Agricultural work</td>
<td>3-8</td>
<td></td>
</tr>
<tr>
<td>Church</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Harambee projects</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Looking after cattle</td>
<td>3-9</td>
<td></td>
</tr>
<tr>
<td>Resting</td>
<td>1-2</td>
<td></td>
</tr>
<tr>
<td>Visiting</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Fetching wood</td>
<td></td>
<td>5-10</td>
</tr>
</tbody>
</table>

(Reproduced from Pala 1975:6)
Appendix 7

Average Monthly Income of 31 Sri Lankan Potter Households

<table>
<thead>
<tr>
<th>Unit - no. of members</th>
<th>Product*</th>
<th>No. of regular workers</th>
<th>Gross income</th>
<th>Cost of materials &amp; labour</th>
<th>Net income (Rupees)</th>
<th>Other income (Rupees)</th>
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</thead>
<tbody>
<tr>
<td>1-3</td>
<td>H</td>
<td>2</td>
<td>788</td>
<td>431</td>
<td>357</td>
<td>no</td>
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<tr>
<td>2-7</td>
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<td>2</td>
<td>695</td>
<td>209</td>
<td>486</td>
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<td>3-7</td>
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<td>2</td>
<td>850</td>
<td>177</td>
<td>673</td>
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<td>4-4</td>
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<td>1125</td>
<td>310</td>
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</tr>
<tr>
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<td>1155</td>
<td>340</td>
<td>815</td>
<td>no</td>
</tr>
<tr>
<td>8-5</td>
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<td>4</td>
<td>1450</td>
<td>570</td>
<td>880</td>
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</tr>
<tr>
<td>9-5</td>
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<td>2</td>
<td>1485</td>
<td>550</td>
<td>935</td>
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<tr>
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<td>425</td>
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<td>225</td>
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<td>2805</td>
<td>1425</td>
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<td>575</td>
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<td>535</td>
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Total (Average) 2.7 3291 676 368 2247

* P = pots, S = new stoves, H = handicraft products, C = combination of products
Appendix 8

INTERMEDIATE TECHNOLOGY DEVELOPMENT GROUP

AGRO PROCESSING SECTOR

Job Description

PROGRAMME SOCIAL-SCIENTIST

Responsible to: Senior Technical Manager (Asia), Fuel For Food Programme

Responsible for: Contributing to the development and implementation of the Fuel For Food and Biomass Programmes in collaboration with ITDG team members and Project Partner Institutions to achieve stated goals.

Specific Duties and Responsibilities:

A) To provide social science inputs (including economic and market aspects) to projects being implemented in the Fuel For Food and Biomass Programmes in the areas of identification, appraisal, monitoring and evaluation.

B) To manage and co-ordinate the GTZ/ITDG Monitoring and Evaluation Field-testing Project which aims to collaborate with other organisations to develop new methodologies for monitoring and evaluation.

C) To contribute to decision making, within Programmes and with Project Partners.

D) Write terms of reference, commission and supervise studies and/or consultancies in conjunction with in-country social studies.

E) To identify potential project partners and projects and take a leading role, or assist project staff, in proposal preparation.

F) Train project partners in project cycle methodologies. Carry out in-depth field work with project partners, most specifically on economic and socio-economic issues. This may relate to feasibility studies, project appraisals and evaluation. (This will tend to concern countries of concentration without an in-country social scientist, but may from time to time complement the work of the in-country social scientist).
G) To provide relevant inputs to the development of group policy on the social and economic aspects of project implementation and gender guidelines.

H) Liaise with and advise in-country social scientists as concerns their work for the Fuel For Food and Biomass Programmes and be responsible for providing advice on ITDG procedures and social science methodologies.

I) To write up activities for internal reference and external publication and contribute to the editing of the ITDG stoves journal ‘Boiling Point’.

J) Other activities consistent with the above as agreed with the Fuel For Food Programme Manager.
Appendix 9

FILENAME OF FIELD VISIT

NAME OF WOMEN'S GROUP: 

By: 

Date of Visit: 

Date of Note: 

Main Informants: 

No. of Members Present: 

Purpose of Visit: 

No. of members making stoves: 

No. of stoves sold to date: 

No. of stoves made since last visit: 

No. of stoves in store: 

Progress 

Problems 

Actions Planned (by who) 

Observations
Appendix 10

Bibliography


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