OPERATION BLACKBOARD:

POLICY IMPLEMENTATION

IN

INDIAN ELEMENTARY EDUCATION

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1993
I certify that this thesis is all my own work.

Caroline Dyer
Edinburgh
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ABSTRACT

In the search to achieve universal elementary education, India's 1986 National Policy on Education initiated a qualitative improvement in elementary education and a move away from textbook-centred instruction towards a child-centred approach. A major strategy was Operation Blackboard, a programme for upgrading physical facilities in small Indian elementary schools by providing an extra teacher, room and set of teaching-learning equipment.

This thesis takes Operation Blackboard as a case-study through which to examine public policy implementation in India's complex federal polity. It contextualises the case study through discussions of the historical development of the elementary sector, and of the specific context of Gujarat State, where field research was carried out. It then draws on the theoretical literatures of policy science-based implementation research and educational innovations to develop a framework through which to understand implementation of educational policy in India, from policy inception through to 'grassroots'. It finds that these literatures cannot fully explain the dichotomy between 'appearance', or policy rhetoric, and the 'reality' of contexts beyond the policy-making environment. By critically analysing Indian policy documents, the study illustrates that they have implicit and explicit rationales, which conflict once policy moves into 'reality': it suggests that implementors operate in the domain of this unresolved conflict and in this derives a major problem of implementation. The methodology adopted to explore this problem is one of 'backwards mapping', starting from three case study sites and working backwards through local and State governments to the central administration in New Delhi.

The study finds that, despite statements protesting its great importance, elementary education is not at the top of any agenda. Centralised national policy does not allow for the varying capacity of teachers in different socio-economic contexts to absorb an innovation, while bureaucrats attach greater importance to operating norms than outcomes of their actions. The centrality of teachers to the education process is acknowledged but not acted upon: education policy is used as a lever in centre-State political relations. The study argues that for universal elementary education to be achieved in 'reality', the State must reappropriate its own educational policy arena; and power conflicts in the struggle for control must be replaced by centre-State dialogue.
Acknowledgements

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### Abbreviations

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<td>AO</td>
<td>Administrative Officer</td>
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<td>CoE</td>
<td>Challenge of Education</td>
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<td>DB</td>
<td>District Board</td>
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<tr>
<td>DDO</td>
<td>District Development Officer</td>
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<tr>
<td>DPEO</td>
<td>District Primary Education Officer</td>
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<td>DRDA</td>
<td>District Rural Development Agency</td>
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<tr>
<td>EBC</td>
<td>Economically Backward Caste</td>
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<tr>
<td>GCERT</td>
<td>Gujarat Council of Educational Research and Training (also known as SCERT or SIE)</td>
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<td>GoG</td>
<td>Government of Gujarat</td>
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<tr>
<td>GoI</td>
<td>Government of India</td>
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<tr>
<td>IAS</td>
<td>Indian Administrative Service</td>
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<tr>
<td>JRY</td>
<td>Jawaharlal Rojgar Yojna</td>
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<tr>
<td>MHRD</td>
<td>Ministry of Human Resources Development</td>
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<td>MSB</td>
<td>Municipal School Board</td>
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<tr>
<td>NCERT</td>
<td>National Council of Educational Research and Training</td>
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<tr>
<td>NDC</td>
<td>National Development Council</td>
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<tr>
<td>nfe</td>
<td>non-formal education</td>
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<td>NIEPA</td>
<td>National Institute of Educational Planning and Administration</td>
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<td>NPE</td>
<td>National Policy on Education</td>
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<td>NREP</td>
<td>National Rural Employment Programme</td>
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<td>OB</td>
<td>Operation Blackboard</td>
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<td>PMOST</td>
<td>Programme for the Mass Orientation of School Teachers</td>
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<tr>
<td>PoA</td>
<td>Programme of Action</td>
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<tr>
<td>Rs.</td>
<td>Rupees</td>
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<tr>
<td>RLEGP</td>
<td>Rural Landless Employment Guarantee Scheme</td>
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<td>SC</td>
<td>Scheduled Caste</td>
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<tr>
<td>SCERT</td>
<td>see GCERT</td>
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<tr>
<td>SG</td>
<td>State Government</td>
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<tr>
<td>SIE</td>
<td>see GCERT</td>
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<tr>
<td>SLEC</td>
<td>State Level Empowered Committee</td>
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<tr>
<td>ST</td>
<td>Scheduled Tribe</td>
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<tr>
<td>Std.</td>
<td>Standard</td>
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<tr>
<td>SUPW</td>
<td>Socially Useful Productive Work</td>
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<tr>
<td>TLE</td>
<td>Teaching-Learning Equipment</td>
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<tr>
<td>UT</td>
<td>Union Territory</td>
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<td>VEC</td>
<td>Village Education Committee</td>
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### Numbers

1 lakh = 100,000  
1 crore = 10,000,000

The value of the Indian rupee has declined steadily against the £ sterling: the rate of exchange was around Rs 28 to £1 in 1987, when implementation of OB began, and dropped to Rs 44 to £1 during most of 1991, the period in which this research was conducted.
Dharamshala: is traditionally accommodation associated with a temple but applies here to residential schools.

Elementary/primary: in India, the first 1-7/8 years of school are referred to as elementary. This may, according to the State/UT, be divided into a pattern of 5+3 or 4+4 or 4+3, which are the primary and upper primary levels respectively. The Indian terminology is used.

Haath: the weekly market in tribal areas.

Navodaya vidyalai: pace setting schools.

Panchayati Raj: local self-government.

Plan/Plan: Plan refers to a development Plan; so for instance Third Plan refers to the Third five year national development Plan.

Pukkha/kaccha: used here in connection with buildings, pukkha means constructed of strong and permanent materials, in contrast with kaccha, meaning of local and less durable material.

Sarpanch: the headman of a village.

Standard: this term is retained as Indians refer to a school year grade as a standard, rather than form or class.

Taluka: is the smallest administrative unit under Panchayati Raj and is used in preference to 'block', its English equivalent.

UEE: denotes Universal Elementary Education. Since the term elementary is used here rather than primary, the abbreviation UPE which is more common outside India is not used.

Zilla: is the Indian term for 'district' under Panchayati Raj: this study uses 'district'.
A qualitative approach needs an uncompromising firm stand on certain minimum essentials

J. P. Naik *Educational Planning in India* [1965: 21]
Preface

Some years ago, I was working as the senior education correspondent for the Hongkong Standard newspaper. In that work, I was interested to find that some of the tensions within the Hong Kong education system seemed to arise from the conflicting influences of the British and Chinese systems of education. When I returned to India in 1988, I began to visit Indian primary schools and to wonder about the influence the British had had on education in India. Sitting in a British Council library reading a book on the subject (Nurullah and Naik's comprehensive History of Education in India), I knew I wanted to pursue this complex and fascinating subject. I applied to Edinburgh to read for a PhD; enquiries to other places got lost in the post, but my letter reached Kenneth King, and apparently fired his imagination as his letters, full of contacts and ideas, greeted me at Poste Restante addresses during the rest of my trip. In Edinburgh, I read for a term about Indian education and the British during the nineteenth and early twentieth centuries. But as I moved forward in history I became increasingly interested in modern India, and what Indians had done to stamp their own mark on the education they had inherited at independence.

Reading the modern policy documents presented me with a problem, however: the image they presented was so unlike the reality of schools I had visited. I started to think about the relationship between policy and practice, and to focus on policy implementation. It took fourteen months to alight on the research problem: i.e an investigation of the implementation of an innovation from the 1986 National Policy on Education. I knew of no other attempt to track down what actually happened to educational policy in India. By the time I was, at last, ready with my problem, the research visa I had applied for some ten months earlier had come through.

From the outset, my guiding principle was to find out what teachers had made of the innovation, and what happened in schools, and to work backwards from there. This approach arose in part from the way in which my own interests in the issue of educational policy implementation had developed; but also because, having worked closely with teachers and taught myself, I was aware that understanding the 'grassroots' is not always a strength of those who conceive educational policies.

Since what I wanted to know was a) what had happened and b) how people had reacted and related to that, I did not set out with a hypothesis to substantiate. I was relieved I had not, for plans I made never turned out quite as I imagined; flexibility - both mentally and in how I conducted the research - was essential. The first prerequisite was to lose my European tempo, which took about four months. Communal strife frequently interfered with my attempts to reach the district office, for the area in which it is sited was often under curfew; and public holidays and an election wreaked havoc with my observation and interview schedule. Some teachers wondered if I was a government agent, for no-one before had asked them about what they did at school and how they felt about it: others perceived me as a 'grievance redressal' channel, as labels on complaints boxes in Indian public organisations phrase it. There were difficulties in tracking down officials: key posts were sometimes vacant for months on end, and the transfer rate is often so rapid that it is clearly impossible for an officer to get to grips with the particularities of an office before moving on.

Despite these vicissitudes, I believe that my interest and our discussions were in some ways directly beneficial, by causing people to focus on their own situations; and less directly, that talking to people and writing about their life and work is instrumental in understanding better perspectives which differ from our own. There is much in the following pages that gives pause for thought; and if one thing is very clear, it is that solutions will not be easy to come by.
INTRODUCTION
Introduction

During the 1980s, important changes took place in Indian elementary education: a new National Policy, preceded by a nationwide canvassing of opinion; and, for the first time, the penetration of external aid agencies into this sphere.

It is not the intention here to examine the role of the latter, but to focus on the circumstances which triggered the search for new options in realising the long-elusive goal of universalising elementary education. It is an appropriate juncture to explore this issue since, following the 1990 World Conference on Education For All, national governments and international bodies have targeted elementary education as a major strategy in renewed efforts to eradicate illiteracy in the world by the year 2000. The Indian government has endorsed this goal but, as this study will illustrate, the capacity of such a large national educational and administrative system - even with external assistance - to make this a reality in such a short time is doubtful.

In his first broadcast speech to the nation, in January 1985, India's newly elected Prime Minister, Rajiv Gandhi, called for a fresh approach to education. He voiced his worry that in its current form, the system was not preparing people to meet the challenges of the next century or of the latest technology. The 1986 National Policy on Education (NPE 1986) which followed expressed concern that the elementary sector, the base of the pyramid, was not providing a firm foundation for the rest of the educational structure. Statistics gathered that same year in the Fifth All-India Educational Survey (date of reference 30.9.1986) confirmed this fear: the rate of wastage was appallingly high, with as many as 51% of the first year intake failing to complete the first, five-year, stage of schooling [5AIES 1990]. Statistical inaccuracies notwithstanding, this was a clear indication that the system was highly inefficient.

At the same time, an important milestone in the history of development of the elementary sector had been reached: the goal of putting in place across the country a network of elementary schools within what is, according to the policy-makers' definition, 'easy' access of every Indian child.

Attention could therefore turn to the vexing question of why this large network of schools was failing to attract and retain children. Closer scrutiny revealed that just over a third of Indian elementary schools were single teacher, single room establishments simultaneously accommodating as many as five Standards; thus, if all enrolled children were retained, they could not be accommodated in the schools. More
shocking perhaps were the findings that 53% of these schools had no playground; 51% had no water; 85% no toilet facilities; and 40% not so much as a single blackboard [4AIES 1980; 5AIES 1990; Kumar 1984].

Yet education had been identified in a highly influential commission report as 'the cornerstone of a nation's progress' [Kothari 1970:xx] and by Mahatma Gandhi as 'the spearhead of silent social revolution' [cit Majumdar 1957:135]. If education is seen to be so central to progress, why is there such an obvious gulf between what is on paper - the policy rhetoric - and what is to be found in so many schools? How have these physical deficiencies arisen; what do they mean; and why do they persist?

A review of academic research relating to these questions indicated a severe shortage of information about the process of schooling in India: numerous statistics, but little that helped explain or qualify them. There appeared to be, for the Indian context, very little published research into the link between public policy and practice - implementation. Reading further, it appeared that Indian policy analysts tend to focus on textual analysis [Guhan 1985] and to regard implementation as a separate, self-explanatory - and less prestigious - phase, which lies in the domain of public administration [Jain 1990]. As a result, little has actually been documented about the procedures adopted to implement policy. But the increasingly widespread Indian concern [cf Dhingra 1991; Jain 1990; Khan 1989] with the failure to implement policy successfully stresses the urgency of attempting to evolve a fresh approach to understanding policy implementation in Indian education.

It appeared, therefore, that it would be useful to attempt a descriptive analysis of policy implementation - a documentation of process with a deliberate focus on the school level. The 1986 policy programme of Operation Blackboard (OB), intended to address physical deficiencies in schools and bring about an improvement in the quality of education, was selected, to provide case study material from which implications could be drawn for the wider issues of policy implementation in the Indian context. Field research took place over the course of one year in one district of a comparatively advanced State of India, Gujarat.

The study begins with a discussion of the character of Indian elementary education as it has developed since Independence, setting out the historical context in which educational innovation takes place, and characterising the institutions which formulate and implement educational policy. Against this background, it describes the emergence
of the new NPE 1986, and details of OB. Specific details which illustrate the particularities of Gujarat as a case study location are given in chapter two, focusing closely on the physical components identified by OB as the 'minimum essential' for educational quality. In the third chapter, theoretical literature relating to policy and Plan formulation and implementation, and educational innovations, is reviewed. From a critical analysis of this literature a framework is developed through which to understand implementation of educational policy both in the past, and with reference to OB. The methodology adopted for the case study is described in chapter four.

Chapter five is the first of the two substantive chapters, and deals with the progress of the policy message through the bureaucracy: how it was communicated and understood, the decisions made and actions taken, and reactions of key actors to OB. Chapter six focuses on the school level and discusses how teachers understood OB, its impact on schools, and the implications for the adoption of an innovation - and hence policy implementation - of the socio-economic context in which a school is situated. Findings from the case study are analysed in chapter seven, and its micro-level insights used to address what emerge as macro-level characteristics of educational policy implementation in India. The study is summarised and conclusions drawn in a concluding section. This final section also reflects on possible directions for future research.

Operation Blackboard is very widely perceived to have been an expensive failure. This study makes no claim to have exposed completely the finer nuances of each strand of the complex implementation nexus. It does, however, illustrate the effect each strand can have, either individually or as an intertwined aspect of the whole, on translating a policy idea into a practical reality. It also exposes a major theoretical deficiency in the existing policy implementation literature; and develops and illustrates the applications of a different perspective which is found to expose crucial dynamics of policy implementation.

Clearly, this is a rich field for investigation and information-gathering for policy input. The research will, it is hoped, go some way towards increasing knowledge of two areas of Indian education which have received little thorough research attention: policy implementation, and elementary education.
Chapter One

HISTORICAL DEVELOPMENTS

IN

INDIAN ELEMENTARY EDUCATION

SINCE 1947
Introduction

This chapter sets the politico-historical context in which Indian education policy has been formulated and implemented, and discusses the emergence and nature of the most recent national educational policy initiative, the National Policy on Education 1986 (NPE 1986).

It opens with an outline of the post-Independence 'vision' - a development strategy of industrial growth and social transformation. The second section discusses planning and centre-State relations, and the constraints of the Indian federal polity. The institutions of public administration and local self-government (Panchayati Raj) which implement public policy are discussed in section three. Following sections discuss educational developments in the elementary sector. Section four links the 'vision' of the newly independent state with the vigorous debate surrounding the elementary school curriculum, centred around Gandhi's proposed 'Basic' education. The fifth section focuses on the problematic issues of quantity and quality in the context of state planning in pursuit of realising Universal Elementary Education (UEE). The NPE 1986, which addresses these issues, and calls for a concerted effort at implementation, is the subject of section six. The final section of this chapter outlines 'Operation Blackboard', a scheme designed to upgrade elementary schools to a 'minimum essential' standard, in pursuit of the policy notion of improved educational quality.

Modern India - the vision

In August 1947, India became independent from Britain, putting to an end the long and bitter years of the freedom struggle. Debates and confrontations that began at the turn of the century had increased in intensity as, through the stages of Dyarchy in 1919 and the Government of India Act in 1935, Indians came closer to taking over control.

Once freedom had become a reality, the challenges facing the new nation state in the aftermath of the Second World War were daunting. Partition of India and Pakistan was a bloody process leaving families torn apart and uprooted, with millions of destitute refugees in urgent need of settlement. British rule had granted autonomy to small princely states, and their privy purses: they had somehow to be integrated into the new nation. Existing provincial boundaries cut across linguistic and ethnic groups, and needed urgent reorganisation.

At the time of independence, Indian society was still largely feudal and agricultural, consisting of hereditary caste groups 'governed in their mutual relationships by
customary norms of reciprocal, non-symmetrical rights and obligations' [Frankel 1978:5]. Perhaps one of the most difficult tasks was the immediate necessity of educating a people used to the hierarchical discipline of a stratified society governed from distant Westminster to exercise their rights as citizens of a democratic republic [Roy 1984].

The vision of a socially transformed future India was largely shaped by the beliefs of Jawaharlal Nehru, first as President of the Indian National Congress and later as independent India's first Prime Minister. His presidential address to the National Congress in 1936 declared that the way forward for India could be nothing other than socialism, for he saw no other way of 'ending the poverty, the vast unemployment, the degradation, and the subjection of the Indian people' [cit Roy 1984:35].

While this was the 'social agenda' for reform, the example of the richer countries of the world seemed to provide evidence that industrialisation was the route to economic prosperity. The 'economic agenda' of the National Congress was a strategy which consisted of 'a publicly-owned heavy industrial base, alongside a private industrial sector whose development would be planned by the state and encouraged through high tariff barriers and import controls, and a modernised agricultural sector' [Taylor 1980:6]. This strategy was expected to lead to the type of economic growth that would allow India to share in and contribute to 'the better life of an expanding technological-scientific world culture' [Hardgrave 1980:1-2; Ahmed et al 1991; Taylor 1980].

Social transformation and an industry-based approach to economic growth together formed the two-pronged strategy by which India would develop. This 'Western' model of development was fiercely contested by the radical thinker, Mohandas Gandhi, who put forward a very different concept of modernisation, to be pursued by a strategy at complete variance with that proposed by the Congress. Rather than adopting large-scale industrial development, Gandhi's strategy was small-scale, focusing on the reconstruction of India's neglected villages. Production would be geared towards supplying goods for use, not profit, and it would be achieved by simple and sustainable technologies developed for and suited to the village. But Gandhi's refusal to endorse the dominant world paradigm of progress through industrialisation did not find sympathy with Congress politicians: his very idea of progress seemed old-fashioned.

Perhaps Gandhi's option might have offered 'hope of redemption from the modern illusion that real meaning could be found in the relentless pursuit of money, machinery and pleasure' [Frankel 1978:11]. Almost fifty years on, urban centres have expanded very rapidly, while villages have been neglected. The positive outcomes of industrial
progress seem to accrue only to a few, while many live in conditions that have hardly improved over the years. Gandhi’s vision did find some practical expression in the adoption of Basic education (discussed in section four), rooted in village culture, as the pattern of national education after Independence: but, as Kumar [1991] argues, this was almost certain to fail since the philosophy that underpinned it was at complete variance with the legitimised value of progress through industrialisation.

The hopes, beliefs and vision of the future society were written into the Indian Constitution, which took effect from Republic Day, January 26 1950. This was perceived by one observer as a document in whose provisions 'general principles and humanitarian sentiments mingle with those embodying level-headed practicality and administrative detail' [Austin 1966:xii]. Factors of importance in its shaping were not only the vision of the future, but also the impact of the past. The British policy of 'divide and rule' gave rise to a desire for national unity and stability; sufferings emanating from religious belief determined that 'modern' India should be a secular state in which all citizens would have equality before the law (Article 14); there was to be no discrimination on arbitrary grounds of religion, caste, sex or place of birth in matters of public employment or access to publicly funded education (Articles 15, 16, 29). Transparent indeed is the notion of social transformation.

But the seeds of future tensions had already been sown. There was the avowed urge for a wide-ranging transformation of the social order - but the impetus was from an external, normative and political imperative. The constitution rests on democracy and by necessity therefore widespread participation in political processes; yet very few people had even any concept of the very notion of democracy, nor the education or socialisation to behave accordingly. The agenda of reform, given expression in the Five Year (national development) Plans (dates of these Plans are given in Appendix 1.1), was set by a new generation of political leaders, who did not consult or try to draw in the traditional leadership groups [Frankel 1978].

The vast scope of the reforms to be made was further hampered by two factors: complex centre-State federal and administrative arrangements; and a public administration set up by the British as a mechanism for administering the imperial empire and ill-equipped to carry out the development tasks that lay before it.
Planning and centre-State relations

India's federal polity is complicated: indeed, 'the political structure of the Indian Constitution is so unusual that it is impossible to describe it briefly...the (constituent) Assembly, in fact, produced a new type of federalism to meet India's peculiar needs' [Austin 1966:186]. There are two basic tiers of government: the Union (central or federal) government at the centre; and separate governments in the 25 States and 7 Union Territories (UTs). Centre and State/UT governments share responsibility for the implementation of national development Plans in various ways, according to three lists set out in the Constitution: State subjects, central subjects, and concurrent subjects. Broadly, items of national importance, such as defence or foreign policy, are placed on the central list; items that are self-contained at local level are on the State list; those which are essentially a State subject but which the centre considers to be of national importance, such as universalising elementary education, are placed on the concurrent list.

Planning itself is listed as a concurrent activity, i.e. a shared responsibility of Union and State governments. This status in practice is complicated by numerous factors which stem from the intrinsic dilemma of conflicting dependencies: essentially, States depend on the centre for development funds, while the centre depends on the States to implement the plans. This tension is a characteristic of much planning activity, and by extension, since the model of national planning is adopted for sectoral planning (see section five), is evident also in the sector of education.

Several reasons lay behind the adoption of national planning as a means by which to bring about the twin aspirations of the new nation, through which also to achieve a 'powerful infusion of energy and rationalism' [Austin 1966:xi]. One was the influence on Nehru of the then USSR, which was held to be progressing steadily under its system of economic planning, while the free market economy was suffering the ravages of the aftermath of the Great Depression. Nehru the socialist believed in democratic social transformation as an integral part of economic growth [Frankel 1978], and thought that India could develop a 'third way', combining the best from both the Soviet, and the American and other systems.

Equally importantly, planning as a methodology accorded with the vision of India as a modern technological state, whose growth should be planned in a logical and rational way, according to the underlying value premise of progress [Kumar 1991]. Politically planning was also attractive to a leadership which had so recently gained control. Not only the power, but also the ability to lead the nation forward along the path visualised
by the National Congress, was concentrated in the hands of a few, who had benefited from the education which had been intended to ensure loyalty to the British Crown but had bred a generation of fighters for freedom and the right to self-government. The course of development had been set by an elite and only they were capable of guiding the country along it.

Inevitably, national planning, which holds that 'those who possess political power are responsible for determining the rate of economic growth and for arranging the distribution of its fruits' [Hanson 1966:1], implies a highly interventionist role by the state. The underlying notion of central control by the state in its own interests was legitimised in the constitution's Article 38, which enjoins upon the state to promote the welfare of the people by securing and promoting as effectively as it may a social order in which justice, social, economic and political, shall inform all the institutions of national life [cit Austin 1966:52].

The apex planning body, the Planning Commission, was set up in 1950. Baker [1976] describes the process of forming India's Five Year Plans, which begins with an examination of the state of the economy and forecast by the National Development Council (NDC) of the rate of growth over the next Plan period, and definition of overall national priorities. Working groups are then formed and the results of their deliberations and those of the Planning Commission are pooled for the Draft Memorandum on the Plan, a 'broad magnitudinal and directional exercise' [Baker 1976:135]. The Memorandum is considered by the Cabinet and the NDC, and the Planning Commission then writes the Draft Outline. This is discussed by governments and published: meanwhile the Planning Commission confers with States/UTs as to the size of their Plan and its targets, and the funding arrangements to be followed. Hanson [1966] captures the consultative nature of federal planning in his description of the process:

There is a formidable flow of correspondence from the Planning Commission to the state governments, from central ministries to state ministries, from a variety of central ad hoc organizations, directly or indirectly, to their state counterparts, and vice versa. There are regular meetings of Finance Ministers, Development Commissioners, Ministers of Industry, Ministers of Agriculture, and the like. There are the visits to the state capitals of the Commission's peripatetic Programme Advisors. There are innumerable journeyings of official personalities from New Delhi to the states, and from the states to New Delhi. There are 'trouble-shooting' missions in both directions, and conferences in great abundance [Hanson 1966:348].

After this, the Planning Commission prepares a new memorandum which is submitted to the Cabinet and NDC; the conclusions of these discussions form the basis of the final
Report on the Plan, which outlines its objectives, its underlying policies, and programmes through which they are to be implemented. The final stage is presentation to parliament for approval. For implementation, States prepare detailed Annual Plans within the Five Year Plan framework.

Thus a national Plan is produced within an economic framework [Hooja 1986]. However, Baker [1976:153] points out that although the NDC is consulted several times during the process, the findings of the discussions conducted by the Planning Commission are not presented to it, so it proceeds without 'the requirements of a considered and rational choice' of policy alternatives; and nor does the NDC have meetings of sufficient length to go into these, if they were presented.

It is also not an equal centre-State partnership, for beneath the consultations lie numerous tensions. The role of the States has been eroded, since under complex financial arrangements, the centre enjoys 'superior expertise and control over formulas for central financial assistance to the states' [Frankel 1978:113; Baker 1976]. Very soon after its creation, ministers began to be appointed to positions in the Planning Commission, making it increasingly difficult to distinguish its advisory function from central government decision-making [Streeten and Lipton 1968]. The Commission became extremely powerful, with a 'tendency to reduce the ministries, states and...even the union Cabinet to the status of what might be called an "agency"' [Misra 1986:335]. The Commission's role in more recent years is a 'more strictly advisory technocratic' one [Hardgrave 1980:80], and key decisions are now made between the Finance Ministry and NDC [Hardgrave 1980]. But the tendency is still that Plans are in general more likely to be 'reasonably close to the centre's position' [Baker 1976:166] and this, it has been argued, dilutes the federal element in the Indian constitution, since 'the States appear before the Commission as suppliants, not as partners in a joint planning endeavour' [Streeten and Lipton 1968:46].

There is antagonism to this situation from the States who, to defend themselves from what they perceive to be unnecessary interference in their affairs, may resort to a passive resistance strategy, or 'tokenism' [Migdal 1988], when projects are carried out half-heartedly and without conviction. In practice, the States' position is stronger than it would appear, for in actual fact, the amount of control the centre can exert is limited. Once a State's allowance has been agreed as part of the planning exercise, the centre cannot in practice force the States to spend according to the agreed patterns. States have to exercise discretion only 'to the extent that dependence on central funds restraints (them) from abuses on a scale that might provoke cessation of supply' [Streeten and
Lipton 1968:57]. As Wood [1984] points out, the States are in the front line when it comes to coping with the tensions produced by socio-economic change. New Delhi can produce national Plans, but it is too far away from developmental realities to make them work; it is at State level that 'allocations are effectively decided and implemented' [Wood 1984:2], even if this is not what legally should be the case. As Hooja [1986:18] notes: 'all efforts at development by the government in India are constrained or facilitated by the State level planning set-up because each department's efforts...occur within the setting of State level planning'.

The supremacy of the Planning Commission during Nehru's time, and its control of funds, played its part in the tendency for the planning machinery at State level to remain weak, with a rather passive attitude [Streeten and Lipton 1968]. Politically, however, the States' hand has been strengthened since 1967, a year which saw a massive political shake-up with lasting consequences for centre-State relations, since political forces at the centre and states were no longer necessarily aligned [Hardgrave 1980]. This is a mixed blessing, since States can exert leverage on central politicians of a different persuasion, but the centre still has financial control, the importance of which as a manipulative tool can hardly be overemphasised.

Under the complicated federal funding arrangements - 'scope for enough debate, if not confusion' [Varghese and Tilak 1991:18] finances raised in the State/UT are supplemented by the centre in the form of statutory grants, non-statutory and non-Plan grants, Plan grants, taxes, and assistance in the form of loans or grants given under the Finance Commission awards to meet committed expenditure from previous Plans [Veeraraghavan and Sapra 1982]. Plan funding is divided into two parts: Plan and non-Plan. The Plan budget is used for development and innovation, while the non-Plan is intended for maintenance of Plan schemes. At the end of a (five year) Plan period, Plan expenditure passes to non-Plan expenditure and as a result, over the years, non-Plan expenditure, to be borne by the State, accumulates.

Slender State finances are boosted by funding schemes from the centre: in education for example there are central sector projects (central schools, University Grants Commission programmes etc.); the centrally assisted sector (State Plan programmes with shared financial responsibility); and centrally sponsored schemes (an innovation adopted from the Second Plan period onwards [Baker 1976]), in which States accept responsibility for implementation of a scheme initiated and funded by the centre. Operation Blackboard, with which this study is concerned, is an example of a centrally sponsored scheme. In considering whether to accept such a scheme, a State/UT should
proceed with caution as funding will become the State's own liability after the end of
the relevant Plan.

The vexations of the federal tensions in funding can be seen in elementary education
which, on adoption of the constitution in 1950, was placed on the list of State
functions. Under Article 45 of the constitution, provision of universal and free
education between the ages of 6-14 is an explicit national responsibility, which justifies
a strong central interest in elementary education. Central intervention in this State
preserve was legitimised in 1976, in an atmosphere of political unrest, when a
constitutional amendment placed elementary education on the concurrent list.

For education as a whole, this amendment 'can be understood as nothing more than a
legalization of what has been in existence since 1935' [Tilak 1989:458] although from
long tradition elementary education has been considered a State preserve. State control
over school education is undermined in practice by the inflow of central funding in the
guise of the schemes outlined above. Also, the State bears the burden of non-Plan
expenditure and the 'new investment' of the Plan allocation can hardly keep up with
additional enrolments, so there is little opportunity to improve quality: and 'if
development is essentially referring to raising of standards, there is very little provision
for this purpose' [Veeraraghavan and Sapra 1982:43]. This shifts the onus to the centre
which, because it has the funds, is in a position to initiate innovation and therefore also
to determine what that innovation should be - a very powerful way of setting the
direction of the development of education.

It is argued, in favour of central intervention in education, that the imbalances which
have developed due to differential rates of progress cannot be remedied by the
financially constrained States themselves [Tilak 1989]; that uniformity, quality and
national integration cannot otherwise be ensured [Tilak 1989]; and that a national
system of education cannot be created 'without some type of Central direction' [Naik
1965:27]. While these are no doubt significant arguments, the findings of the 1967
Administrative Reforms Commission study team indicated that as far as centrally
sponsored schemes were concerned, a State's motivation for acceptance is purely
financial: States 'tended to accept these...without proper scrutiny from the point of
view of either their suitability or economy...They were sometimes accepted even
without the states being really interested in them: it was enough for them that the money
came from the centre' [Baker 1976:125].

The overall effect is a sapping of State initiative, and with that, a tendency to accept
schemes that are imperfectly matched to the diversities of individual States because they
are defined by policymakers for whom the integrity of the nation-state is a major concern.

In its widest sense, although it is difficult to assess the extent to which economic growth can be attributed to planning or to other factors [Streeten and Lipton 1968; cf also Lipton and Toye 1991], significant advances have been made through the framework of national planning. India has become a highly industrialised nation, but national development has been very uneven, with very wide inter- and intra-regional disparities, as well as a pronounced urban/rural divide [Hardgrave 1980; Raza et al 1990]. Even in a comparatively advanced State such as Gujarat, 40% of the population lives on an income barely adequate to stay alive [Shah 1988]. Population growth is rapid (an annual increase of approximately 2% [World Development Report 1991, 1992]), which puts a continuing strain on all facilities. Although by 1991 the national literacy rate had risen to 52% [MHRD 1991], India is home to the largest illiterate population in the world [WCEFA 1990].

Planning continues to be a mainstay of national development, subject to criticisms of being a frustrating enterprise during which resources have been wasted and hopes have been disappointed [Hardgrave 1980]. However, as will later be argued, it is perhaps to measures taken to implement the Plans that attention should be devoted, rather than levelling criticism at the Plan documents themselves. The effect on the Plans of doing so might begin to reduce the vast distance between Plan document and actual practice, and to render less comfortable the position adopted by the Centre: that 'once a target, however unrealistic, has been selected, it is regarded as at least half-way towards realization' [Streeten and Lipton 1968:40].

Public administration and Panchayati Raj

The agencies charged with the responsibility of implementing public policy are government administrators functioning within a bureaucracy. Max Weber's definitional model describes bureaucracy as a rule-governed procedure requiring impersonal treatment of cases and characterised by hierarchy, continuity, impersonality, and expertise [Beetham 1987]. At its best, bureaucratic organisation is a communication system allowing the effective application of expertise to essentially technical problems [Beetham 1987]. While probably no bureaucracy in the world conforms completely to either description, Indian bureaucracy has a very particular character arising from its colonial origins and nurtured by its consonance with the hierarchical social structure.
[Kumar 1990] and its social significance as a provider of secure salaried employment in a poor country [Grindle 1980].

The present Indian bureaucracy was set up by the British as a colonial administrative mechanism by which to rule and control. The requirements from the same institution are now that it be a flexible agent of development. Over time, however, it has developed not only a stable character, but also one that is highly resistant to change. Administrative procedures have hardly been altered in the intervening years [Misra 1986] and the dominant characteristics of Indian bureaucracy are still those of 'an instrument of order', rather than of 'democratic responsiveness' [Hardgrave 1980:69]. Further characteristics of the bureaucracy are frequent transfer of officials, and corruption that is 'well institutionalised and predictable' [Wade 1985:484].

The conservative structure of bureaucracy dictates a perception of innovative behaviour as going against the entrenched rules and norms, while maintenance of the status quo is perceived to be good administration. Institutional culture effectively counters attempts to change by adapting new demands so they are compatible with existing norms and routines, protecting and preserving itself from 'overload of novelty' [Havelock and Huberman 1977:72]. Inevitably, this conservative climate is unfavourable to development policies, which require a disposition towards innovation and a willingness to evolve implementation strategies that fit the problem, rather than the implementation machinery. While stability in the tempestuous winds of change of modern Indian politics has its positive side, on the whole, the bureaucracy has failed to adapt itself to fulfil post-Independence developmental tasks [Misra 1986].

A further factor contributing to conservatism is 'careerism' [Migdal 1988]. If a policy has elements that are potentially disruptive to the maintenance of bureaucratic stability, administrators will minimise the threat in the interest of their own rise up the career ladder. Policies may be carefully scrutinised in terms of the individual interest, for:

no career-minded bureaucrat wants to be identified as a zealot for state policy, despite its popularity or unpopularity, if there is a strong chance that he or she will be left out on the limb of that policy long after its creators and the agency chiefs have turned to other endeavours [Migdal 1988:21].

Careerism has important implications also for planning. Good planning and good implementation require a constant flow of information, and early recognition of problems in order to adopt corrective measures. Yet the career administrator is unlikely to run the risk of jeopardising a promising career by furnishing to the higher authorities, who dispense promotions, evidence of failing to handle a situation. The
goal-orientation of the administrative service means that targets must be seen to be fulfilled and this can at worst result in falsification [Dhingra 1991] (enrolment statistics in elementary education being a case in point) but perhaps more often the suppression of meaningful and necessary feedback by which policies and Plans might be amended in the light of implementation experience. Dale [1989] suggests that the whole dynamic of policy execution derives from the efforts of individuals to 'control as far as possible their work situation - to preserve convenient, acceptable and tested ways of doing things' [Dale 1989:59].

Another aspect of the British bureaucratic legacy is that entrants to the Indian Administrative Service (IAS) are given a generalists' training [Hardgrave 1980]. While their training equips officers to deal with administrative procedures and to move from one office to another with ease, which they are frequently required to do, they do not bring technical expertise to the job although they may acquire it if they stay in the same branch for a longer period. The overall emphasis is however on the administrative skills rather than subject knowledge, which tends to uphold the sanctity of administrative procedures to the detriment of the subject. Shukla [1983:45] notes that in educational administration, an educational administrator is less likely than a general administrator to be appointed, since the latter 'is likely to be pushed by the bureaucracy which consists of general administrators only'.

A post in 'government service' at any level is highly sought after, since it confers both social status and the security of salaried employment. Culturally, the bureaucracy is complex and contradictory, a curious hybrid permeated by the conflicting norms of 'characteristically bureaucratic requirements of appointment by merit, impersonality and rule-governed procedure, and the relationships of a traditional society determined according to kinship, status or ethnicity' - simultaneously 'divorced from, yet penetrated by, the traditional society which it seeks to transform' [Beetham 1987:42].

A response to many of the difficulties experienced in development planning through this type of public administration was the introduction in the late 1950s of Panchayati Raj - local self-government. This was an effort to establish a grass-roots base as an instrument of decentralised democracy by which to promote change, both social and economic [Misra 1986] and reduce the role of bureaucracy.

In 1952, a series of Community Projects, aiming to increase agricultural production, and establish a 'self-reliant and self-helping' [Narain 1967:83] rural community, was set up. After five years, when progress had proved slower than expected, the Balvantray Mehta study team was appointed to investigate. Their findings, published in
1957, led to the setting up of *Panchayati Raj*, pioneered in Rajasthan and adopted in 1963 in Gujarat. While couched in terms of contributing to rural development and more participation at lower levels in administrative decisions, and thus ultimately in realising the vision of social transformation, the move also had political undertones. Promotion of *Panchayati Raj* was a politically legitimate, and even expedient suggestion, for it not only 'fitted the orthodox ideas of collectivism, democracy, and equality' [Streeten and Lipton 1968:37] but also offered the potential means for stepping up socio-economic progress which was increasingly realised to be a condition for political stability [Misra 1986].

The Community Projects had necessitated the structural innovation of dividing the country up into Community Development (CD) blocks, or *talukas*. Under *Panchayati Raj*, each *taluka* was to have its own committee (revitalised from the traditional council of elders): at the next administrative level upwards, each district was to have its own committee. The administrative pattern of Gujarat, taking Baroda district as an example, is represented in Fig. 1.1:

**Figure 1.1: Administrative structure under *Panchayati Raj***

```
Center                       Government of India
  |                             |
State                        Government of Gujarat
  |                             |
District (19)                Baroda District Committee
  |                             |
Taluka (184)                 1 2 3 4 5 6 7 8 9 10 11 12 13
```

Misra [1986] suggests that because the traditional *panchayats* had their roots in custom rather than a legal basis, the failure to initiate an educational programme which oriented them to new and very different responsibilities 'made a mockery of democracy' [Misra 1986:353]. The extent to which *Panchayati Raj* has succeeded is open to question. Narain [1967] notes the tendency for *Panchayati Raj* decisions in planning and development to be governed by 'political rather than techno-economic considerations' [Narain 1967:92, 1976], which Misra [1986] ascribes to the tendency of *Panchayati Raj* to act as little more than 'a mere funnel to facilitate the downward filtration of political interests' [Misra 1986:359]. Jacob [1967] notes the State government administration's tendency to regard *Panchayati Raj* bodies as field extensions of itself and Narain [1967] its habit of burdening them with administrative and regulative functions. Bhat [1967] notes the after-effect of a habit which grew up in British times: looking to the government for everything. Again it is Misra [1986] who levels a serious criticism: that because of the political filtration functions, 'it is the administration that
continued to dominate the rural scene and act in a routinised manner independently of what might be called the "prospective" goal of politics' [Misra 1986:359].

**Educational developments: Gandhi's 'Basic' education scheme**

Widespread education of the Indian people had by and large been ignored by the British government, justified by their policy of 'downward filtration' [Kumar 1991; Nurullah and Naik 1951]: educating a top cadre first, the effects of which were expected gradually to filter down to the masses. British education for Indians, to which few had access, had been designed largely to train entrants to government employment, and to create a group of educated subjects loyal to the British crown. As an instrument of social transformation by which to realise the aims of the constitution, and to educate people to participate actively in building the new nation, the existing network of schools at Independence was therefore both far too small and also entirely unsuitable. The new nation state needed rapidly to provide its people with an education system that served people from all social strata. There were then two major issues: ensuring widespread access by creating a network of schools; and determining the form of the education they would impart.

National Congress members had long debated the character of the future national scheme of education, and under the British education was one of the first sectors which passed to Indian control. In 1906 Congress passed a Resolution on National Education: under the 1919 Government of India Act, education became a provincial (later State) responsibility under Indian ministers - a 'transferred' subject [Tilak 1989] of minor importance. Central financial support was withdrawn but administrative control at the centre was not terminated until 1935, with another Government of India Act. Under the scheme of Provincial Autonomy, this 1935 Act allowed provincial governments the freedom to innovate but such initiatives were constrained by the inadequate funds available [Tilak 1989] and an unwillingness on the part of the centre to delegate financial powers.

Naik [1978] characterises the features of the educational debate, which clearly reflects the modernising imperative of the Congress movement: enduring traits of the design for education are still found in the latest, 1986, National Policy on Education. He notes that central to these early discussions were the efforts to establish a new design to meet the needs of the lives and aspirations of the people; a synthesis of the best from both East and West; emphasis on the constitutional values of equality, justice, freedom and dignity of the individual, inculcation of a rational, scientific temper and secular outlook;
liquidation of illiteracy and provision of universal elementary education; emphasis on the culture of work, dignity of manual labour, vocational and professional education, intensive development of science and technology; development of Indian languages; study of Indian culture, and the cultivation of moral and spiritual values [Naik 1978].

These were the objectives for what education should achieve. In succeeding years, it has become clear that, as one of its major cultural institutions, education is intimately bound up in the complex and conflicting entity of the modern state [Dale 1989]. Theories of cultural capital [Bowles and Gintis 1976], de-schooling society [Illich 1971] and the power of the hidden curriculum [Apple 1985] have been articulated with considerable force in recent years: but four decades ago it was possible to embark on the course of social transformation believing that education was a suitable instrument for bringing about social change, and instilling in people the attitudes necessary to create 'modern' individuals1.

There were two competing strategies by which education could play its part. One of these - the British type of schooling - had already taken root on Indian soil. With its Western curriculum emphasising scientific rationality, this was a window onto participation in the 'modern' world. But during the independence struggle there was a strong desire to fashion something truly Indian, and this was provided by Mahatma Gandhi. Vehemently opposed to the whole enterprise of British education, Gandhi's system of Basic education was an integral part of his vision of an alternative modernity built on reconstruction of villages - dismissed by National Congress leaders in favour of an industry-based path to modernity. Despite this inherent ideological conflict, which no doubt contributed to its later collapse, Basic Education was adopted from 1937 as the 'strategy' [Kumar 1991] for the national scheme of elementary education. Its conceptual underpinnings are given in the following passage, written following Gandhi's early experiments in the Phoenix settlements of South Africa:

My plan to impart primary education through the medium of village handicrafts like spinning, carding etc. is thus conceived as the spearhead of a silent social revolution fraught in the most far-reaching consequences. It will provide a healthy and moral basis of relationship between the city and the village and thus go a long way towards eradication some of the worst evils of the present social insecurity and poisoned relationship between the classes. It will check the

1 The modernisation debate of the late 1950s/early 1960s held the difference between a 'modern' and a 'traditional' society to lie in the greater control modern people have over their natural and social environment - a control based on the expansion of scientific and technological knowledge. Traditional society was seen to be passive and acquiescent, expecting continuity in nature and society and not believing in its own capacity to change or control either; modern society on the other hand was held to believe in both the possibility and desirability of change, and in its own ability to control change [cf Huntingdon 1970].
The essential tenets of Gandhi's outline of Basic education were that primary education should consist of the current curriculum minus English, plus a craft; and should cover the ages of 7-14 or more. The craft should be chosen from among the main occupations of the people and all instruction should be correlated to that craft. A very attractive feature in the context of a strained economy was Gandhi's belief that such education could be self-supporting. The pedagogic principles behind Basic education are: interest; motivation; imitation (as a precursor to creation); social responsibility (child as a productive unit); discipline of economy (insistence on utility of finished products and their economic value); and manual skill [Ramanathan 1962]. An essential feature of the system is the correlation, through the medium of crafts, of academic content and the life and environment outside the formal school. Basic Education therefore was designed to integrate children with their environment, in marked contrast with the formal British curriculum which, translated to the Indian context, had no empathy with the local environment, and thus alienated rather than integrated children.

A conference met in Wardha (from where Basic education's alternative name, the Wardha scheme, derives) in 1937 to discuss these ideas. It was accepted that free and compulsory education should be provided for seven years on a nation-wide scale. The medium of instruction should be the mother tongue; and the process of education throughout this period should centre around some form of manual and productive work. All other abilities to be developed, or training to be given should, as far as possible, be integrally related to the central handicraft chosen, and that choice should be made with regard to the environment of the child. The Conference expected that this system of education would gradually be able to cover the remuneration of teachers. In February 1938 this agreement was adopted by the Indian National Congress, but the notion of the financing of teachers was omitted. In 1939 the All India Basic Education Conference adopted Basic education as the strategy for restructuring elementary education and so it became the blueprint for elementary education after Independence.

The pledge of free and compulsory education, a notion initiated by Gokhale as far back as 1910 [Nurullah and Naik 1951], was later incorporated into the Constitution. The
The backbone of all planning for elementary education since 1950 has been Article 45 in the Directive Principles of the constitution of India, which declares that:

The state shall endeavour to provide, within a period of 10 years from the commencement of this constitution, for free and compulsory education for all children until they complete the age of 14 years [cit Shukla 1983:21].

The constitutional time period of ten years from 1950 had finally been agreed on after dismissal of two other dates, felt by Indian leaders to be too slow [Panchmukhi 1978]. The Post-War Plan of Educational Development or Sargent Plan, prepared by the British government, had proposed the goal of free and universal elementary education (UEE) within forty years. Indian leaders were unhappy with a proposal for India to achieve only after such a long period a system which was currently operating in Britain. The 1950 Kher Committee dismissed the Sargent Plan it had been appointed to review, and brought forward its deadline; it proposed UEE within sixteen years, by 1966. But for many reasons - political, cultural, economic - in 1992 that pledge remains unrealised [Weiner 1991].

Basic education faltered fairly rapidly. While aiming for a technological foundation for industrial growth, Indian leaders adopted an educational pattern for the elementary sector that was completely at odds with this vision. Even before the end of the second Plan, in 1957, the Assessment Committee on Basic Education submitted a report [GoI 1957], revealing that what was often found was a caricature of Basic education, with the productive element proposed by Gandhi omitted. Teachers were poorly trained in the craft they were teaching; there was poor correlation between school and environment, and in the schools themselves, poor working conditions. Basic schools were to be found in isolated clusters and the theory that they would gradually expand had been proved wrong. They found education with craft, not education through craft. The report stated that Basic education was only a minor issue in Education Departments and thus was not treated as a matter of urgency; that officials did not believe in it; and that supplies of materials were unreliable. But the Committee concluded that 'the defects are such that they can be removed without much difficulty and the possibilities are such that they can transform the character and attainments of the children of India' [GoI 1957:92]. The Third Plan aimed to remodel all training institutions along Basic lines, to establish Basic schools in urban areas and 'to link up Basic education with development activities of each local community' [3FYP 1961:582].

However, some felt that Basic education was demeaning and did not offer 'proper' education because it was not academic. Panchmukhi [1978] notes also that poor parents felt Basic education might be identified as a cheap, low status alternative, which would
 legitimise their children's employment in low-paid and low status jobs. Spinning was almost always adopted as the craft, with little regard to local circumstances; the teachers' inadequacy meant that products were of too low a quality to be sold; the lack of community involvement meant that local cooperatives were not involved in selling them. Fears that Basic education might be exploitative were expressed; the expense of setting up Basic schools was cited; the centralised state administration of education was seen as unsuitable for proper supervision; and the potential effect on artisans' earnings all counted against the scheme [3FYP 1961; Gol 1957; Panchmukhi 1978]. A further problem was structural, as it was found that Basic-educated children were disadvantaged if they wanted to proceed further in the formal system.

By the end of the Third Plan, opinions about Basic education were divided: some felt it had failed and should be scrapped; some remained convinced that Basic education was the answer; and others believed its principles were sound and that a modification of Basic education would lead to universal education. But overall, enthusiasm waned and the Fourth Plan in 1969 no longer even mentioned the idea. Elements of Basic education still survive, however: the Education Commission of 1964-66 advocated a programme of work experience and a version of this lingers on in the shape of Socially Useful and Productive Work (SUPW) or Work Experience, one or other of which is now adopted in all States [NCERT 1987].

The failure of Basic education is often attributed to bottlenecks in innovation implementation which persist still - inadequate dissemination of information; poorly-trained teachers; lack of community involvement; unreliable supply of materials; lack of real political commitment to make it work; administrative apathy; failure to close the gap between school and environment. Each one of these, no doubt, did contribute, and these are still barriers to innovation implementation several decades later. But to these disparities can be added a further factor: Basic education attempted to push through a pattern and ideal of education whose underlying conceptualisation was not legitimised by the value system of the ruling elites. Panchmukhi [1978:67] goes so far as to describe the failure of Basic education as 'the triumph of the monied class or the capitalists'. Not only did Basic education's rural, low-technology emphasis not offer the promise of a means of participating as an equal partner in the technological vision of the future: equally, to incorporate manual skills in the school curriculum would have been to make central certain activities of the lower social strata, implying a 'radical change in the school's symbolic role vis-a-vis the culture of society' [Kumar 1991:113].
State planning and Universal Elementary Education

One critique [Kurrien 1983] of the theoretical deficiencies of Basic education contends it was a model that failed not so much because of poor implementation, but because it was intrinsically incapable of fulfilling objectives of rapid expansion of elementary education. For, while there was much debate about the content of what was taught, the goal of UEE had been set, and was to be attained as soon as possible. Paucity of resources and the constitutional imperative requiring the state to provide access to all, coupled with the 'utter inadequacy of...facilities...being provided, in relation to...needs' [1FYP 1951:219], meant that this 'most urgent task' [2FYP 1956] was translated into a policy of expanding the network of schools so that all children aged between 7-14 could have access to education. Even as the experiment of Basic education was going on, national planning for UEE consisted of setting a target number of elementary institutions and enrolments per Plan - hardly an inspiring vision. Naik [1982] comments on this linear expansion of the system inherited in 1947:

This implies a certain attitude...viz, that the existing system of education is basically good, that the first responsibility of government is to expand it...and that.. reforming and transforming the system can be pursued side by side to the extent possible...The Education Commission has not been able to make any change in this policy, and all its plans to accord a higher priority to programmes of qualitative improvement have so far fallen on deaf ears [Naik 1982:155-156].

Rejection of the Sargent plan was crucial: not because it was in itself necessarily the correct plan for the time, but because it had set out a perspective plan for post-Independence development. It was not replaced with a strong alternative, providing 'direction and pace' [Naik 1965:15] towards the constitutional pledge to UEE within ten years. Constant repetitions of the importance of UEE seem somehow to have dulled the cutting edge of the stark truth that the system is not succeeding in making UEE a reality, while 'the anguish that had inspired it (has) withered away' [Kumar 1991:109]. The phased and time-bound goals that would lend a credibility and sense of urgency to their implementation are missing, as is a real long-term vision of an integrated growth of quantity and quality.

Unrealised also is the vision of social transformation. In education, reflecting the wider social context [UNICEF 1991], there have grown up wide inter- and intra-regional disparities; imbalances between rural and urban rates of growth; a severe social stratification where the children of better-off parents attend private schools while poor children attend substandard government institutions; and a drop-out rate so high that over eight years of elementary schooling on average only 31% complete the eighth grade [SAIES 1990].
One reason for this appears to be that the state, having assumed responsibility for providing elementary education, planned for education in exactly the same way as for other sectors of the national economy. In several ways this has greatly restricted the 'vision' of education. Despite Plan reiterations of the crucial contribution of education to establishing the constitutional values such as democracy, national unity, equality - social transformation, a very different agenda for education is apparent:

The system of education has a determining influence on the rate at which economic progress is achieved and the benefits which can be derived from it [2FYP 1956:500].

This stress on the close relationship between education and economic progress fits with the *modus operandi* of planning for education as a sub-sector of the overall economic strategy. It was shortly after this Plan statement that Theodore Schultz gave the famous address that publicly launched the notion of human capital, which became the dominant development concept of the early 1960s. Human capital is itself an economic concept, which 'defines people as capital assets which yield a stream of economic benefits over their working lives' [Ovens 1968:187]. The primary function of education from this point of view is that it provides human capital on which the state may draw for economic progress. There is therefore a fundamental dichotomy between understanding education in these terms, and understanding education as a means of fulfilling aims of social transformation. In practical terms, the former requires a sufficient amount of skilled humanpower to fulfil economic needs, which may not include everyone; the latter requires wide-ranging reforms and all-out efforts to involve every individual.

In terms of choices made for Indian education, the national aspiration of modernity and technical development demanded a limited pool of highly able and technically sophisticated people, trained to tertiary level. At the base of the educational pyramid, the Gandhian notion of reconstructing villages and education through handicrafts was targeted towards a goal much more akin to the social reconstruction Congress leaders envisaged. As far as nation-building went, the Gandhian vision would appear to have offered the possibility of creating cohesive village units attuned to their environments; diversity across the country would perhaps not have resulted in regional deprivation since the emphasis would have been on working with the local environment to maximise its potential, rather than seeking to achieve 'development' according to a model was not attuned to what India had, and has, in plenty - an abundant supply of labour and land.

There is a further disjuncture with educational planning in the context of national development Plans. Although a sectoral exercise, it differs from other sectors, where
'plans are formulated in terms of physical possibilities or the requirements of the economy' [Planning Commission 1963:33 cit. Baker 1976:141]. Defined as a social service, education belongs to the category 'in which the resources that can be made available rather than the measure of development that can be achieved constitute the major determining consideration' [ibid], ie. the 'social-desideratum-cum-residual-resources strategy' [Baker 1976:142].

The constitution pledged education to the masses, with an emphasis on the elementary sector. Simultaneously, the capacity for economic self-reliance through scientific and technological capability had to be built up, since at independence this was very low. To achieve the latter aim, well-trained high-level manpower was essential. Both requirements of the dual strategy of national development had to be resourced from a slim budget.

National Plans reiterate the importance of bringing about UEE, in consonance with the constitutional commitment. Funding patterns are indicative of a different set of priorities, however. It is apparent that, despite numerous statements to the contrary, on the basis of financial allocations, planners prioritised elementary education only in the first Plan. Proportions of resource allocations for all sectors indicate a pattern of decline in funding for elementary education while, in concord with leaders' ambition for the technologised 'modern' nation, resources allocated to education were rapidly biased in favour of the higher sectors, as Table 1.1 indicates:

<table>
<thead>
<tr>
<th>Plan period</th>
<th>%age of Plan outlay</th>
<th>Elementary</th>
<th>Secondary</th>
<th>University</th>
<th>Other Sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>7.86</td>
<td>56</td>
<td>13</td>
<td>9</td>
<td>22</td>
</tr>
<tr>
<td>Second</td>
<td>5.83</td>
<td>35</td>
<td>19</td>
<td>18</td>
<td>28</td>
</tr>
<tr>
<td>Third</td>
<td>6.87</td>
<td>34</td>
<td>18</td>
<td>15</td>
<td>33</td>
</tr>
<tr>
<td>Fourth</td>
<td>5.04</td>
<td>24</td>
<td>18</td>
<td>25</td>
<td>33</td>
</tr>
<tr>
<td>Fifth</td>
<td>3.27</td>
<td>35</td>
<td>17</td>
<td>22</td>
<td>27</td>
</tr>
<tr>
<td>Sixth</td>
<td>2.59</td>
<td>36</td>
<td>16</td>
<td>19</td>
<td>29</td>
</tr>
<tr>
<td>Seventh</td>
<td>3.55</td>
<td>29</td>
<td>16</td>
<td>12</td>
<td>43</td>
</tr>
</tbody>
</table>

Source: Varghese and Tilak [1991]

The rapidly declining proportion of each Plan's financial outlay on education over the years is also apparent. Although this trend has been arrested in the Seventh Plan (1986 - 90), it still falls well short of the 6% considered by 1986 to be a minimum to achieve stated targets [NPE 1986]. This casts further doubt on the real political will to spend
enough money on elementary education to make UEE a reality, in turn contributing to the long-term goal of social transformation.

This pattern of resource allocation favours the socio-economically better established strata, already in higher education. It transfers public resources in their favour and maintains inequality by effectively absorbing the share that would otherwise be used to expand facilities at lower levels of education [UNICEF 1991], serving the lower economic strata [Varghese and Tilak 1991]. As these authors point out, echoing the 1964-66 Education Commission [Kothari 1970] and Naik [1978, 1982], this pattern persists because 'policy makers are obviously biased in favour of those levels of education that benefit their own people' [Varghese and Tilak 1991:33].

With insufficient resources and such a wide geographical area to cover, building up a network of schools has been, from the very beginning, a daunting battle with numbers. But it has been a task that suits the administrative organisation which implements the Plans: quantitative target-setting which lends itself comfortably to the bureaucratic mode of operating, with its budgets and time-bound expenditure targets [Naik 1965]. Educational planning can be rendered as baldly as this example from Gujarat's Seventh Plan illustrates:

The programme of construction of classrooms would be continued and 300 classrooms and 100 tents would be constructed during the Seventh Plan. 50 primary schools...would be opened. 3500 single teacher schools are supposed to be converted into two teacher schools [7FYPGuj 1985:323].

Nationally, progress towards the national network was already substantial in aggregate terms by 1965, when after fifteen years of planning, about 71% of the rural population had a primary section within its own habitation, and 95% within one mile [2AIES 1966]. However, the Second AIE Survey which furnished these findings also revealed that a large proportion of the uncovered population lived in villages of only 500 inhabitants or fewer. To achieve a small increase in the percentage of the population benefited, a large number of villages would have to be covered. By 1966 it appeared that only about 5% of the population was not served, but of the 125435 habitations they inhabited, only 4513 had a population of 500 or more. The result was the recommendation of a new strategy to take in villages where the population was of 300 or even less [2AIES 1966]. Whether these figures are entirely accurate or not, they give some indication of the physical problems encountered in realising at least part of the universalisation pledge - physical access.
By 30.9.1986, date of reference for the Fifth AIE Survey, the target of establishing a vast nationwide network of primary schools had nearly been met. 80% of the rural population was served by a school within the habitation of residence; 94% within one km. and 99% within two km. [SAIES 1990] (and in Gujarat: 98% within habitation, 99% within one km. [SAIESGuj 1988]). Had the First Plan pattern of resources been continued with similar conviction, universal provision of an elementary school network might well have been achieved earlier [Varghese and Tilak 1991].

Although the number of schools steadily increased, the numbers of children dropping out of them was vexing. Dropout, wastage and stagnation plagued efforts to achieve UEE, and the fact that some 49% of all children who enrol still drop out before completing a five-year cycle of elementary schooling [SAIES 1990] is evidence that all is not well. A report into the 'appalling dimension of educational wastage' [NCERT 1971:2], which put the cost of dropout between 1957-60 at 27% of the total expenditure on primary schools, pinned most of the blame on the socio-economic circumstances of the children, and on the 'low grasping power' of those children; among reasons given by teachers for dropout was a large section headed 'mental retardation', which cannot possibly account for nearly half the children who stop attending school. Almost as an afterthought come three factors which hint at the lack of holding power of schools: a heavy syllabus, lack of extra-curricular activities and lack of sympathy from the teacher to the pupils [NCERT 1971].

Much of the blame for drop-out cannot be placed on the socio-economic circumstances and must be placed on the nature of the schools themselves. Within those four, bare walls is often a cheerless routine of reading and memorising a single textbook with an often unsympathetic, when indeed present, poorly trained teacher. This does little to encourage children, and is very different from their world outside (see chapter two).

That these schools would be minimal institutions with 'austere' buildings [2FYP 1956:505] was justified from early on by the paucity of resources, but this is only part of the answer. A further factor can be traced back to the dismissal of the Sargent plan, which had laid out a clear plan of what a school should be, including the rate of pay for a teacher, the pupil-teacher ratio, type of building and so on [CABE 1944]. Once Basic education had fallen from favour, schooling of the established British type was adopted by default, but the Sargent recommendations as to the form of schools, which would have ensured they reached prescribed standards, were not implemented because the plan was not officially accepted.
The drive to meet quantitative targets under the programme of expansion was not, then, accompanied by programmes to ensure a level of quality. Naik [1965] ascribes this to the weakness in the planning mechanism, which failed to consider the totality of a school. Planning for the provision of schools had been done without specifying what that school should consist of - the essentials an institution requires to be an effective place of learning. For 'the government did open new primary schools at a rapid pace, but failed to care for the material and pedagogical conditions prevailing in them' [Kumar 1991:185]. As a result it was possible, after nearly three decades of expansion, for the Fourth AIE Survey (year of reference 1978) to register the extraordinary fact that 40% of Indian elementary schools did not have that most basic of teaching aids for the model of education adopted - a blackboard [4AIES 1980].

Whatever the institutional capacity, the need for improvements in quality have not passed unnoticed [Naik 1975]. On the contrary, they had been apparent since the very beginning of educational expansion [1FYP 1951; 2FYP 1956]. The lack of even minimum essential facilities (buildings, playground, teaching aids and books) was a 'deficiency' that made teaching 'considerably ineffective' [IYB 1964:349]. Certainly, on the basis of a costing exercise carried out in 1964, the costs of providing more seemed phenomenal. The requirement, if equipment was restricted to a bare minimum, of spending Rs 50 per child would have amounted to Rs 380 million a year, an unthinkable sum when the average government provision per child on opening a new school was Rs 5, and even that could not always be found [IYB 1964].

The Education Commission of 1964-66, appointed to review the whole of Indian education, focused extensively on issues of quality. Among its many emphases was the plea for a sufficient supply of high quality recruits to the teaching profession, provision of the best possible professional preparation and creation of satisfactory conditions of work in which they can be fully effective [Kothari 1970]. Although the Commission report was followed in 1968 by a national policy resolution on education, few of its many insightful recommendations were included: Its major recommendation of consolidating Hindi as the national link language was, however, successfully implemented, in the North of the country at least.

Another important focus was the adoption of the 10+2+3 structure of education and while this has now been put in place across the country, Shukla [1987:32] is not alone in pointing out the tendency 'to regard the arithmetic of the pattern as more important than the substance of the reform which consists of vocationalisation of the higher secondary stage and improvement of educational standards'. There have been criticisms
of 'tampering, patchworking and renovating' [NIEPA 1990:86], or 'only tinkering' [Shukla 1987]: distractions - legitimised by constitutional considerations of unity and equality - from dealing with issues that would make a real contribution to educational quality. Naik [1965] dismisses this focus on structure as a 'fetish' and a 'mirage', which neglect the essentials such as 'provision of facilities in adequate quantity and quality - teachers, buildings, equipment, textbooks, teaching aids and reading materials' [Naik 1965:51]

The bareness of the 'vision' for elementary education, the paucity of resources, the nature of the teaching force, the formal structure of schooling and the heavy curriculum have all contributed their measure to the school-related factors which impede achievement of the long-standing goal of UEE. Since the demise of Basic education in the late 1960s, the essential structure and content of Indian elementary education has been a version of the former British model weakened by the lack of attention to its constituent parts. The education imparted is in form and content largely incompatible with the village environment, while the institutions, provided with little more than a teacher and textbook, are too sparsely equipped to transact the given curriculum and so rely heavily on the textbook.

In subsequent years, despite the acknowledged shortcomings [NPE 1986] and omissions of the 1968 policy, issues of quality at the elementary school level were practically addressed in two ways: professionalisation of teachers (discussed in detail in the following chapter) and upgrading of the school curriculum.

As the number of schools increased, ever-increasing numbers of teachers were required to work in them. The tradition of single-teacher schools became discredited as it was felt that one teacher could not be expected to teach four or five grades simultaneously [Naik 1953], a further pressure on numbers. The 'professional' status of Indian primary teachers is rather weak and the social make-up of the primary teaching force has become heterogeneous, with considerable penetration from the lower socio-economic strata previously excluded from education altogether [Kumar 1990]. Efforts to attract a better quality of teacher have taken the shape of improving their remuneration, and trying to ensure that all teachers are professionally qualified. However, teacher training itself is in urgent need of overhauling (see chapter two).

For schools, the NCERT has brought out two curricula, the first in 1976 and the second in 1986. Despite the explicit emphasis on creating something relevant to the life of the child, an important focus of these revisions has been the attempt through a national, common core curriculum, to draw together more closely the ever-diverging,
delicate threads of national unity. The curriculum is still ill-tuned to the needs of rural people who, nationally, constitute an average of 70% of the Indian population [Census 1991] and thus does little to solve the problems created by the fundamental alienation between the existing model of education and the majority of the people it is supposed to serve. Naik [1953] argues that it is largely the overloaded curriculum which prevents the effectiveness of a single teacher school, for even in schools with five Standards, there may only be a low total number of children.

Kumar [1991] probes the background of what he describes as the 'textbook culture', the 'sacred icon of required knowledge' which had to be mastered for examination. This invalidated other forms of knowledge, related to the everyday background of the child in which, in many cases, manual occupations play an important role. Bookish learning sets up a tension with the child's everyday life, for the values of the text and those of real life often conflict. Frequently the content of the textbook is not comprehensible to the child, for it is not drawn from the familiar setting of his/her life. But to succeed, this text must be mastered for success in the examination: the child resorts to rote learning, in which facts can be reproduced from memory but not from understanding. But if modernity demands that individuals learn to become adaptable, in order to cope with changing environments, this form of education does little to provide the means by which to encourage this. Curricular revisions may not make very much difference, even if they have brought the content of textbooks closer to the life of the child, since it is the form of learning that has been institutionalised. Furthermore, as long as the dominance of the examination system continues, sanctioned by society at large, teachers cannot be faulted for feeling that teaching constitutes a responsibility to ensure that children are able to repeat parrot fashion the content of their textbook. That this happens in a spirit very far from that of scientific inquiry is not a dominant concern of the teacher.

Whatever the character of the schools, they provide tangible proof of 'education' in the form of examination passes to those who stay the course. This has most important social consequences. In British times, schools offered access to a 'narrow training for employment under government' [Naik 1978:8], that employment usually being the low-level administrative posts. Gaining government employment came increasingly to be seen as the raison d'être of education itself - an avenue of upward social mobility. Previously dominated by Brahmins, by virtue of their high caste status, education became an avenue for a lower-caste challenge to this supremacy of birth and so ushered in a new, secular form of elitism, based on education.
In the present context, low-grade institutions are socially legitimised by the incontrovertible fact that education offers the potential route to a different future. In the long term, the education system does not contribute to social transformation: just the opposite. It is perpetuated by those who already belong to the elite classes and also by those who aspire to doing so, the underprivileged who 'strive not for the abolition of privilege as such, but for climbing into privilege' [Naik 1975:23]. Access to educational opportunity must thus be understood as an extremely potent social issue.

A further point to note is the lack of participation by local community in the life of the school, whose curriculum is not designed in consonance with village environments. As the network of schools has now spread to the smallest outlying villages, where literacy levels are often very low, the local community may have an awareness of what education can offer, but little knowledge of the form it should take. Parents of children in the schools are therefore often not in a position to monitor the activities of the school or demand a certain standard of teaching and learning progress. Teachers are often posted from outside and these two factors appear to reduce to a bare minimum the accountability a teacher feels to the children [NPE 1986]. A school may therefore be physically located within a village but largely isolated from it.

Shortage of funds, a compelling and often cited reason, has been a very real fact in austere educational planning. But so too has been the lack of an instrument for qualitative planning. The implementors of the Plans are bureaucrats, trained in an administrative tradition which is of a 'control' rather than 'service' orientation: providing administration rather than management of change. A noticeable absence in the administration of education is any evaluation of the impact of the Plan implementation or any mechanism which can furnish the information required for planning for quality. This, coupled with bureaucratic hierarchical norms, combines to hinder the proffering of any realistic feedback between schools and administration, which negatively affects all educational planning. It is certainly justified to enquire why, over the years, the lack of blackboards or other important facilities such as drinking water appears to have excited no attention or remedial action anywhere the country.

Dhingra [1991:5] notes that educational data are collected using forms which are remitted from school upwards, where new forms at national level collate these data - but 'most of the administrative personnel collate and transmit data without putting them to their use'. Since educational planning has been a question entirely of fulfilling gross enrolment targets, set down by the Planning Commission and passed to the States, data needs have been simple: buildings, students enrolled and teachers appointed [Dhingra
When more data were required, 'recourse was taken to approximations, estimations and ad hoc data collection' for 'educational planning has even grown comfortable with its excuse of lack of data for analysis of internal inefficiency, or for its sheer neglect of the whole system' [Dhingra 1991:4]. As national Director of Elementary Education at the time of writing, Dhingra was well-placed to assert that continuous over-reporting has bloated the enrolment figures to such proportions that the system is no longer brave enough to explore the truth, or face the lie [Dhingra 1991:11].

Conflicting sets of data 'are conveniently ignored, since, in any case, there is no strong objection in any quarter to the perpetuation of this absurdity. Its main effect is on educational planning, which under these conditions, has ceased to be taken seriously' [Dhingra 1991:11].

Another factor is the complete divorce between administration and the teaching profession, which means in effect that those who work in schools have to put up with the exigencies of a system maintained to suit civil servants, and those who make policies and plans have no connection with how they impact in practice. The shortcomings of planning within the administration might have been compensated for if the administration and institutions of higher learning such as universities had avenues of interaction which would allow a filtration of research findings into administrative procedures. But unfortunately, this is not so, and universities have not come up as a strong academic innovatory force [Verma 1978]. As a result, innovations are almost always products of the New Delhi-based National Council of Educational Research and Training (NCERT), established in the early 1960s, which hardly allows for problem-solving with the local relevance so necessary in such a diverse country. In this way those responsible for speaking the 'language of critique' [Hawes and Stephens 1990] remain separate from those responsible for policy implementation.

As far as elementary education is concerned, there is a critical difficulty which reflects the lack of prestige accorded to this sector. Few academic theses and dissertations deal with aspects of elementary education. Nationally, there is a single unit of one university department (Central Institute of Education, Delhi) which was set up in 1991 to work on elementary education. Nor has any commission been set up specifically to review elementary education, while both the university and secondary level have both been reviewed in this way, the former under Radhakrishnan in 1949, the latter under Mudaliar in 1953.
Many of the characteristics of the education system as it has developed appear to act as barriers to making the constitutional pledge of UEE a reality. The poor quality of many government schools and their lack of empathy with the social context in which they operate; the low morale of the teaching force (see also next chapter); the absence of community involvement; and the inertia of the administration combine to ensure that many children are denied the opportunity of an education that will give them any real advantages. While the Education Commission's assertion that 'if change on a grand scale is to be achieved without violent revolution...there is one instrument and one instrument only that can be used: EDUCATION' [Kothari 1970:8] is simplistic, in terms of social transformation it is still clear that 'no reform is more important or more urgent than to transform education, to endeavour to relate it to the life, needs and aspirations of the people' [Kothari 1970:11].

Diploma dissertations by District Education Officers attending the National Institute of Education Planning and Administration (NIEPA) [cf. UNICEF 1991] testify further to 'the dysfunctional nature of the present primary schools organisation and the general apathy of the educational administration and political leadership to the chronic ailments of the system' [UNICEF 1991:234]:

...there is a working understanding between the school administration, the local power structure and the association of teachers about the undesirability of disturbing the status quo, which each party thought to be serving its purpose [UNICEF 1991:234].

One cause for real concern is not so much the inability to achieve UEE, which is serious indeed, but the fact that the system in its present form has become so much part of a deeply divided social fabric that it will require redoubled efforts to bring about meaningful change. Decentralisation has been put forward as a solution and while there can be little disputing that there is no other meaningful option in such a vast and varied country, the distortions of political influence at local levels continues to justify to central government the semblance of control offered by the centralising tendency built into the federal, financial and administrative structures.

A further disturbing issue is that, on the evidence of the policy literature (see also chapter three), educational policy-makers and planners continue to view education primarily as a tool for human resource development. This can only be to the detriment of developing an educational system which provides individuals with a means of 'assimilating knowledge, acquiring skills and developing attitudes', enabling them to 'fit into the society and the economy in which they live and will continue to live' [Hawes and Stephens 1990:3] and adapt to change.
Social imbalances and the need for 'change on a grand scale', coupled with the 'anaemic' state of school education [Raza 1990; Verma 1978] were key issues which prompted a new attempt to confront the ailments in the education system: the National Policy on Education 1986 (NPE 1986)².

The National Policy on Education 1986

Given the foregoing history of developments in education, it was surprising to many that education was a theme uppermost in the mind of the newly-elected Congress (I) Prime Minister, Rajiv Gandhi. Opinions divide on whether this was a genuine concern, a populist move, or could be attributed to his political naivety in thinking that educational problems could be quickly solved. Whatever the motivation, it was becoming clear that for many reasons the current educational picture was intolerable. Social transformation had not come about, and while long-cherished goals of technological progress had been met in some spheres, very large numbers of Indians could not share in these developments [Hardgrave 1980]. Further, India looked set to approach the twenty-first century with about half her population illiterate [Census 1981].

Gandhi voiced his concerns in his speech to the inaugurating conference of State education ministers in August 1985:

The world is progressing tremendously rapidly. The only thing that can keep India abreast of this progress is a solid grounding in education for all our people...How are we going to prepare the nation to meet the challenges of the next century and to meet the challenges of the latest and newest technology as it comes? [cit Shukla 1987:14].

The opening paragraphs of the NPE 1986 take up Gandhi's theme:

There are moments in history when a new direction has to be given to an age-old process [NPE 1986:1]...

Education in India stands at the crossroads today. Neither normal linear expansion nor the existing pace and nature of improvement can meet the needs of the situation [NPE 1986:2].

² During the early 1980s, external aid agencies were allowed into the sphere of school education. This unprecedented move is another modality of attempting to improve educational quality. India is now being apportioned out State-wise: Swedish SIDA has projects in Rajasthan; Britain's ODA has a £26 million project in Andhra Pradesh; UNICEF its Bihar Education Project; negotiations are under way with the UNDP to take on another State, probably Uttar Pradesh. All these initiatives are in consonance with India's national policy on education; that of the UK is very similar in intent to Operation Blackboard but with a marked focus on teacher education that Operation Blackboard lacks.
Rather than appointing a Commission to produce a report which would later form the backbone of policy, as with the 1968 education policy, formulation of the NPE 1986 was preceded by a nationwide canvassing of public opinion. The whole approach to formulating this policy was one of involving the Indian people, trying to create a popular base for educational developments. A remarkably candid document of the status quo, entitled 'the Challenge of Education' [CoE 1985], was published and widely disseminated to generate nationwide debate on the 'bleak picture' of education [CoE 1985:36]. To the forefront of the literate public's consciousness was brought 'the challenge of education'. National opinion-gathering was however severely limited by its inaccessibility to the illiterate half of the population which was therefore hindered in joining the debate in which it so acutely needed to participate. Suggestions received were compiled into a series of documents by NIEPA and made available to policymakers.

It is reported that Rajiv Gandhi personally spent 7-8 hours drafting the final version of the NPE, which was put before parliament in May, 1986. Much of the policy reiterates familiar concerns (sections on a national system of education; education for equality; reorganisation of education at different stages; etc.), strands familiar from the Education Commission report and the policy of 1968. Those who looked for a radical alternative in this policy were to be disappointed: the underlying value structure is unchanged, evidenced in the gist of the constitution and perceptions of modernity so familiar since the early debates of the Indian National Congress. The word order of the third sentence of this extract is indicative of policy-makers' priorities:

In our national perception education is essentially for all. This is fundamental to our all-round development, material and spiritual...It refines sensitivities and perceptions that contribute to national cohesion, a scientific temper and independence of mind and spirit - thus furthering the goals of socialism, secularism and democracy enshrined in our Constitution. Education develops manpower for different levels of the economy...the ultimate guarantee of national self-reliance...Education is a unique investment in the present and the future [NPE 1986:3].

The malaise of the entire educational system was deep enough for the NPE 1986 to address the lack it perceives of responsibility and accountability among teachers with a quite extraordinary sentence for a policy on education, for it is obviously not considered too self-evident to mention that:

All teachers should teach and all students study [NPE 1986:20].

Crucial to the capacity to ensure either of these basic imperatives of an education system is the teacher, for the policy holds that 'no people can rise above the level of its
teachers' [NPE 1986:25]. For the first time, norms of accountability for their performance are to be laid down. In this context, elementary teacher education was considered a first priority. It was to be addressed by the establishment of District Institutes of Education and Training (DIETs), institutions for both pre- and in-service training at the district level which would be closely oriented to training teachers capable of meeting the policy imperatives.

The section on elementary education has a familiar ring, predictably placing the realisation of universal enrolment first. But it acknowledges that, along with enrolment, equal attention must be paid to universal retention. The results of the Fourth AIE Survey in 1978 having made the poverty of the elementary school instructional climate abundantly clear, the second overall emphasis is 'a substantial improvement in the quality of education' [NPE 1986:11]. It is this quality dimension that has been described as a 'marked shift in educational planning' [Dhingra 1991:1]: but nowhere does the policy attempt to define what it means by 'quality'.

In order to tackle the root problems in the system as it has expanded (alienation of the child; unsuitability of the formal structure for working children; bareness of the school facilities), the policy adopted a three-pronged strategy. A child-centred approach was to be promoted, with activity-based learning, no repetition at the primary stage, exclusion of corporal punishment and timings adjusted to the convenience of children. A comprehensive system of non-formal education was to be launched. In order to bring about a 'substantial improvement in school facilities' there was to be a scheme named Operation Blackboard which the NPE 1986 introduces as follows:

Provision will be made of essential facilities in primary schools including at least two reasonably large rooms that are usable in all weather, and the necessary toys, blackboards, maps, charts and other learning material. At least two teachers, one of whom a woman, should work in every school, the number increasing as early as possible to one teacher per class. A phased drive, symbolically called OPERATION BLACKBOARD will be undertaken with immediate effect to improve Primary schools all over the country. Government, local bodies, voluntary agencies and individuals will be fully involved. Construction of school buildings will be the first charge on NREP and RLEGP funds3 [NPE 1986:11].

The major thrust of public criticism of the NPE 1986 focused particularly on the incorporation of pace-setting schools (Navodaya Vidyalai). The appropriation for elite

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3 NREP and RLEGP: These two schemes, the National Rural Employment Programme and Rural Landless Employment Guarantee Programme have since been incorporated into the JRY (Jawaharlal Nehru Rozgar Yojna) scheme. As their names suggest, they are programmes for rural employment in which materials and labour are funded on a fixed ratio share basis by central and State governments.
schools of funds for a small number of children, albeit from disadvantaged rural settings, which could be used instead for improvements that would benefit more children was widely considered inequitable and inappropriate for a country that has accepted equality as an orienting value. Despite these objections, these schools were rapidly established.

Such inconsistencies of content do not overshadow one great strength of the NPE 1986 as a policy: the obvious determination that its content should be put into action. One whole section of the NPE 1986 itself dwells on the issues of 'making the system work' [NPE 1986:20], and implementation of the policy was not assumed to be an automatic follow-on. Indeed it is the failure of the 1968 policy to be 'translated into a detailed strategy of implementation, accompanied by the assignment of specific responsibilities and financial and organisational support' which is blamed for

problems of access, quality, quantity, utility and financial outlay, accumulated over the years, (which) have now assumed such massive proportions that they must be tackled with the utmost urgency [NPE 1986:2].

The NPE 1986 was followed in August of that year by the Programme of Action (PoA), designed to 'provide an indication of the nature of actions which will be needed in order to implement the directions of the Policy' [PoA 1986:ii], from which point the programmes themselves would be drawn up in detail. The overall implementation strategy for the policy, mentioned in the NPE 1986, and apparent in its strategy of formulation is again stressed: people's involvement. The PoA acknowledges, as have many before [Kothari 1970; Naik 1975; Kamat 1985], that the opportunity of educational reform has been missed and that to do so again would critically impact on the 'very survival' of the nation. The PoA gives further details of the policy proposals, the results of 23 working task groups' deliberations in the time between the NPE and the end of July. As far as Operation Blackboard is concerned, there appears to be some retrospective rationalisation of the scheme, and a time-scale of three years set out which, given the various components of the scheme and the warnings sounded about aspects of quality, was even at the time clearly impossible. In that sense this PoA does not seem to depart from the well-established planning practice of relying on the expression of urgency as a substitute for setting realistic targets as a positive encouragement to timely implementation.

Although it did not form a part of the original policy, implementation received an extra impetus as the result of a pointed parliamentary question as to how teachers would be kept abreast of this latest educational development. Education Minister Narasimha Rao committed himself to the financing of a programme which would orient teachers to the
content of the policy. This was attempted in the Programme for the Mass Orientation of School Teachers (PMOST: see chapter five), which ran every year for four years, from 1986 - 1990, until the expiry of the Plan - and the government - which had financed it.

Implementation of the NPE 1986 has undoubtedly suffered as a result of political turbulence in the succeeding five years. The Congress (I) government fell in 1989 and one of the first measures initiated by the succeeding V P Singh government was the appointment of a commission to review the NPE 1986, headed by the noted Gandhian Acharya Ramamurti. Political events made uncertain the status of the report as its commissioning government rapidly fell, to be replaced by what turned out to be a caretaker government led by Chandra Shekar. This government was voted out in another election in May 1991, won by the Congress (I) once more, with former Education Minister Narsimha Rao as Prime Minister after the assassination of its former leader, Rajiv Gandhi.

**Operation Blackboard - the scheme**

Operation Blackboard was included in the NPE 1986 as a measure both to redress the imbalance created by years of neglect of elementary schools and to prevent this pattern from continuing in future. It is a first attempt to lay down the minimum criteria for a primary school, marking also the beginnings of a qualitative approach to educational provision albeit through quantitative means, and was accompanied by an allocation of funds (Rs 74224.6 lakhs) earmarked specifically for this purpose.

The idea of such a scheme had emerged many years before, as part of the Education Commission's 1966 report. It was not however incorporated into the 1968 policy, and so at that time the suggestion was not taken up for implementation:

In assessing the needs of the teacher from the point of view of teaching methods, one is forced to admit that in the majority of schools, particularly at the primary stage, there is still an almost total absence of basic equipment and teaching aids - a good blackboard, a small library, essential maps and charts, simple science apparatus, and necessary display materials. This supply of such basic equipment and teaching aids to every school in the country is essential for the improvement of the quality of teaching. It would indeed bring about an educational revolution in the country...Once a certain minimum equipment is

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4 The delegation of this government that attended the 1990 World Conference on Education For All in Thailand brought with it a quasi-policy document entitled Education for All by 2000 [NIEPA 1990], which offers a comprehensive 'vision' for the ideal Indian education system. A diagrammatic summary of this document is given in Appendix 1.3

5 At 1986 prices (Rs 28 to £1), this sum was equivalent to £265 million.
considered necessary, steps should be taken to see that it is given to every school on a high priority basis...As a first step, we recommend that a good blackboard should be immediately given to all schools [Kothari 1970:411].

It was not until almost twenty years later that the Education Commission's notion was taken up for serious discussion with a view to implementation, spurred on by the distressing findings made by the Fourth AIE Survey (1978) about physical conditions in schools.

One of a series of pre-policy seminars, held in Shillong in November 1985, made recommendations on 'threshold facilities'. The Shillong seminar suggests that these facilities be divided into two categories: i) physical: a small building preferably with six rooms which can be used in all weathers; drinking water; separate toilet facilities for boys and girls; seating arrangements; adequate provision for contingent expenditure; and ii) academic: blackboards and adequate supply of chalks; play materials, maps - country, state and district - textbooks, teacher's guides, reading and reference material, radio; science kit and necessary equipment for the middle stage [Shillong 1985]. The seminar further recommended that at least two teachers for every primary school are essential; and that these threshold facilities should be provided by the central/State government, with community support for enrichment of the school programme [Shillong 1985].

These three core components - two rooms, two teachers and a set of teaching-learning equipment (TLE) - were those referred to in the outline of the scheme once it became policy in the NPE 1986. The Shillong notion of 'threshold' is the immediate precursor of OB's 'minimum essential' as the debate moves into the policy implementation arena with its inclusion in the Programme of Action. The underlying rationale of the whole scheme is:

to ensure provision of minimum essential facilities in primary schools - material facilities as well as learning equipment [PoA 1986:15].

The PoA gives, in an appendix, a detailed list of TLE items to be supplied (see Appendix 1.2). Final preparatory details were completed by September 1986, when the outline of OB was sent in a letter to State Education Secretaries and Directors, setting in motion State level implementation of the programme. The link with the policy goals of student retention and quality improvement is made, with reference to teachers in schools: but the blueprint for OB very clearly requires changes in States' existing administrative practices, which have failed to ensure a minimum level of facilities in schools. These rationales for OB are that it: i) 'lays down the minimum level of facilities to be provided in all primary schools which have been established so far'; and
ii) 'prescribes the minimum level of funding for all new primary schools to be opened in future' [MHRD 1987b:24].

The programme is therefore to be understood at more than one level: it is simultaneously a 'normative', prescriptive measure as well as a programme of task-oriented 'remedial', practical action. The 'remedial' part of OB is envisaged as a package with three interdependent components:

1) Provision of at least two reasonably large rooms that are usable in all weather with a deep verandah along with separate toilet facilities for boys and girls.

2) Provision of at least two teachers, as far as possible one of them a woman in every primary school.

3) Provision of essential teaching and learning material including blackboards, maps, charts, a small library, toys and games and some equipment for work experience [MHRD 1987b:24].

On the question of teachers, the PoA points out that a very large number of single teacher schools exists in rural areas. It is thus 'obvious that a programme of quality improvement must include provision of at least one more teacher in these schools' [PoA 1986:17]. Provision of this teacher was to be attempted during the Seventh Plan and as an indication of the pace-setting nature of OB as a benchmark of future norms, the PoA goes on to add that a detailed programme for providing one teacher per class during the Eighth Plan will also be drawn up. Further, 'every effort will be made to ensure that one of the two teachers in every school is a woman, and for this purpose, depending on circumstances obtaining in different areas, local educated women may be selected, provided special training and opportunities for improving their qualifications' [PoA 1986:17].

There is here a reflection of the familiar tendency to diagnose the problem of quality as a problem of quantity, with the solution to qualitative problems sought in quantitative provision. It is a significant omission that OB makes no mention of the quality of the teacher, and is prepared to take on those who are not qualified at all. In a scheme aiming at qualitative improvements in elementary education, in the history of which teacher education has been seen as a major task (see also chapter two), this is unexpected.

OB is targeted at educational institutions 'which have remained deprived of facilities and resources in the past' [MHRD 1987b:26]: municipal area and village primary schools (up to Std. 4 or 5 according to State/UT structure) run by government, local bodies, Panchayati Raj institutions or recognised aided institutions. For the first two
years, a quick survey was to be conducted, allowing data to be compiled about the facilities of each school in each block or municipal area. Project reports were to be submitted by 30.11.86 and approval accorded by 31.12.86. The remaining information was to be canvassed along with the Fifth AIE Survey (date of reference 30.9.86).

In keeping with the military terminology, the pace of implementation was to be brisk. The term 'Operation' implies that there is an urgency in this programme, that goals are clear and well defined, and that Government and the people are determined to achieve those goals within a predetermined time frame' [PoA 1986:15]. Within three years, national coverage should be completed, in a phasing gradually increasing in intensity: 1986-87: 10% of talukas; 1987-88: 20%; 1988-89: 30%; 1989-90: 40%. But this schedule pits the political imperative for rapid action against administrative possibilities, for it is framed against conditions which were familiar to central administration: that States, unaccustomed to the need for accurate and very local specific feedback, did not have the mechanism for collecting through the districts the detailed information required within a month from receipt of the letter by the State Government.

At central level, procurement of the TLE was rightly seen to be an area of considerable difficulty and to this end, the NCERT was called on to 'specify the various items so as to ensure quality...keeping in view the special needs of primary schools and also ensuring that the costs are kept low' [PoA 1986:16]. States were to remedy their usual tendering procedures 'because the general system of purchase by tenders tends to lead to the purchase of sub-standard materials' [PoA 1986:16]. Certainly there was no time to follow up the PoA suggestion that polytechnics, technical colleges, secondary and higher secondary schools be geared to produce the materials required.

The PoA points out that since 'unimaginative and rigid provisions of audit and supervision have deterred teachers in many places from using teaching aids at all, amendment of accounting procedures will also need to be worked out' [PoA 1986:16]. This refers to the practice of noting all school equipment in a school's Dead Stock register, the contents of which are the personal liability of the teacher, who is to replace them from his or her own pocket if they are broken. Amendment of the Dead Stock register practice is no doubt a prerequisite if teachers are to feel able to use aids.

A further important issue in the context of using TLE is that the teaching profession had for years been steeped in the 'textbook culture' for which aids were unnecessary. It was noted that teachers would 'have to be oriented and encouraged to use this material in day-to-day teaching' [PoA 1986:16]. There is however little indication of what is
involved in turning a textbook culture into one where teachers make free use of teaching-learning aids, which implies the very different teaching approach which the NPE 1986 seeks to promote. It cannot be assumed that teachers have been using nothing much more than a textbook simply because they have not had a supply of TLE. To do so is to over-simplify vastly the complex relationship between teachers, teaching and materials, and to repeat the same type of erroneous causal thinking that assumed provision of a network of schools would lead to UEE. Yet the whole complex issue is covered by a single oblique reference: 'the mass training of teachers in the summer of 1987 and 1988 will include this aspect' [PoA 1986:17].

As far as efforts to involve the local community were concerned, a major implementation strategy of the NPE 1986, the only way in which this was suggested for OB was that Village Education Committees (themselves to be established under the NPE 1986) give an undertaking for maintenance and upkeep of buildings and other structures. With State education departments rested the responsibility for preparing 'school-wise inventories of available structures for systematic planning'; obtaining land for playgrounds; and the preparation of inexpensive building designs 'keeping in view the agro-climatic conditions and utilising locally available materials' [PoA 1986:16]. OB thus does not employ the implementation strategy emphasised in the NPE 1986 and PoA; rather it continues the policy of government funding without local involvement.

Since OB was conceived as a centrally-funded scheme, the funds were to be provided by the GoI, released to the State governments on an advance/reimbursement basis. But this assistance was contingent on State governments, and/or local bodies and/or local communities taking up responsibilities which were identified by the centre [MHRD 1987b:32] as:

1) Detailed information regarding the manner in which buildings as envisaged in OB will be constructed within a well-defined time-frame.
2) Provision of contingency at the rate of Rs 500 per annum for every primary school.
3) Provision of land and fencing.
4) An undertaking regarding repair and maintenance of school buildings.
5) An assurance that in future all sanction of primary schools teachers and equipment would be provided at least at the level envisaged under OB.
6) An assurance that all teachers appointed under this scheme will be put through inservice training in a time-bound programme.
7) Provision of funds for replenishment of equipment.

If the State did not give such 'categorical assurances' [MHRD 1987b] on any of these issues, the scheme, envisaged as a package of interdependent components, was not to
go ahead. This measure reflects the tensions of a centrally-sponsored scheme: it is an attempt by the centre to ensure that OB is fully implemented by States/UTs in the form the centre envisages; and also that States/UTs are prepared for taking on the financial responsibility for the maintenance of the scheme once it passes to their budgets.

Although described as a centrally-sponsored scheme, OB was not in fact totally centrally funded. The GoI expected States/UTs to make use of the NREP and RLEGPS schemes to provide school buildings, and this was not included in the overall scheme budget. Moreover any excess expenditure that could not be found under these schemes was to be found within the State/UT itself [MHRD 1987b]. The centre thus took on itself the financial responsibility of providing a once-off set of TLE, valued at Rs 7215 per school, and the salary of a teacher, which would pass to the State/UT government to maintain from its non-Plan budget at the end of the Seventh Plan period. Long-term funding (teacher salary, schools' annual contingency funds, all building costs) was to be borne by State/UT governments long after central funds had ceased, since OB intended that thenceforth, every new school would have two teachers and two rooms, rather than one of each, and a set of TLE previously not supplied.

As this chapter has illustrated, development of the elementary sector in India has been characterised by a severe shortage of funds, and a minimal 'vision' once the Gandhian model of Basic education was superseded by one more in sympathy with political leaders' aim of industrial progress. While many children drop out of, or never attend, schools, planners and administrators have grown comfortable with a modus operandi that allows the government sector of elementary education to continue operating in a very inefficient manner. In laying down the minimum essential structure of a school, Operation Blackboard was looking for a fundamental change, not only to procedures, but to the attitude of those working in this sector. For teachers, in turn, to absorb its underlying concept of a child-centred approach to teaching, was also to require enormous change. That these changes were due, if UEE is to become a reality, cannot be doubted.

The following chapter outlines the particular context of one State, Gujarat, which adopted and implemented OB.
Chapter Two

GUJARAT STATE
Introduction

This chapter discusses characteristics of Gujarat State, in order to contextualise the case-study location in which the implementation of Operation Blackboard was studied. It begins with a brief overview of the relatively 'advanced' development status of Gujarat and moves to a discussion of the social fabric of the State. The second section discusses the administration of education in Gujarat; the third, the pattern of development of the educational sector, with particular reference to the components of OB: school buildings, teaching-learning equipment and teachers. Since it is widely held that the quality of an education system cannot rise above that of its teaching force [Ahmed et al. 1991; Avalos and Haddad 1981; Avalos 1991; Kothari 1970; et al], the fourth section examines in some detail the social and educational status of Gujarat's elementary teaching force. As this study was sited in Baroda district, specific statistics and other references for that district are given where appropriate.

Gujarat State: a socio-economic profile

Strategically located on the West coast of India (Fig. 2.1), Gujarat has for hundreds of years had maritime trading contacts with the rest of the world. The first British landing place in India was Surat: during the 1800s the British, French, Dutch and Portugese all had factories on the Gujarati coast. From these early beginnings developed the commercial tradition for which Gujarat is known today.

Figure 2.1: Gujarat

The State, with a land area of 195984 km. [GoG 1986], comprises two distinct regions: a mainland strip; and peninsular Gujarat. The mainland consists of the eastern hilly region, the coastal belt and the plains of the central and northern region. Much of this area formed part of the British Bombay presidency and became part of Bombay State between 1947-1960. Peninsular Gujarat, known to the British as Kathiawad, is subdivided into Saurashtra, which used to be home to no fewer than 449 politico-administrative units [Shah 1990]; and the semi-arid desert region of Kutch, formerly a princely State. Kutch and Saurashtra were integrated into the Indian Union in 1948. In 1956, State boundaries nationwide were reorganised and mainland Gujarat, Saurashtra and Kutch became part of a large, bilingual Bombay State.
On 1 May 1960 Bombay State was bifurcated to create the present Gujarat State: the city of Bombay went to Marathi-speaking Maharashtra and Gujarati-speaking areas became a single entity (Fig. 2.2):

Figure 2.2: Districts of Gujarat
Its seat of government shifted from Ahmedabad, the textiles centre (the 'Manchester of India') to the new capital, Gandhinagar, in 1970. The State adopted the national model of planning, for which a first priority would be to attempt to equalise the very different levels of development among the areas of the new State. Under Panchayati Raj, operating in Gujarat since 1963, State Plans are implemented through the districts, of which there are now 19, further subdivided into 184 talukas, or blocks, the smallest administrative units.

By 1986, Gujarat had become the third most industrial State of the country, after Maharashtra and Tamil Nadu, which the State government attributes to 'the initiative shown by its enterprising people, the excellent industrial management of the State, the rapid development of infrastructure...and a satisfactory supply of power' [GoG 1986:2]. Equally significant no doubt is the early industrial start of the former Bombay State, which had a flourishing cotton textiles industry and expanded from consumer goods to capital goods during the World Wars, registering a growth of new industries after the Second World War as well as new investments in existing industries [2FYPBom 1956].

The Gujarat Electricity Board, established in 1960, has electrified 16135 villages of the State's 18114 [GoG 1986], although the supply is not always well maintained in rural areas. Industrial consumption accounts for 65% of the electricity generated. A good transport and communications network, the 'arteries of the economy of any region' [GoG 1986:20] is viewed by the State as essential. Gujarat is below the national average in terms of road length per km², to the detriment of the development of rural areas and for which an increased proportion of the funding allocations of the State budget is sought [GoG 1986]. The State Transport Corporation claims a national record in having established bus connections with 95% of all Gujarat's villages but because many rural roads are unsealed, monsoon rains render some villages inaccessible to wheeled transport for some three months of the year.

In the agricultural sector, on which 70% of the State's population depends for its livelihood [GoG 1986], regular provision of water is still a 'sore spot' [5FYPGuj 1973:1]. By 1986, only 21% of cultivable land was irrigated, leaving most areas dependent on the vagaries of the monsoon: 'good monsoon augurs prosperity for Gujarat and a bad one a near disaster' [GoG 1986:11]. Ground water levels have been depleted in the north of the State, and in coastal Saurashtra ingress of salinity into ground water is rendering previously fertile land infertile [GoG 1986]. Changes in rainfall patterns decreasing the already inadequate recharges of ground water have been
observed in recent years [GoG 1986]. Installation of water facilities for drinking and irrigation therefore remains one of the State's highest priorities, a situation that the highly controversial World Bank funded Narmada dam project is intended to alleviate. For all these problems, Gujarat is a high producer of cash crops: 39% of India's tobacco, 31% of her groundnuts and 25% of her cotton is grown there [GoG 1986].

The State's 1981 literacy rate was 44%, 7.5% above the national average and by 1991 the State's average rate had risen to 61% [Census 1991]. In terms of the overall planning priorities of providing facilities for UEE in the village or within one km., Gujarat had by 1986 achieved 97% coverage. Within one km. of 95% of villages with 300 or more inhabitants was a primary school (1-4 Stds.) and for 73% of even the 723 smallest villages - below 100 population - a primary school was within one km. By these criteria, the State average of population served within the stipulated distance was 99.5%: Baroda was the second lowest of the 19 districts at 98% [5AIESGuj 1988].

Traditionally Gujarat has a high level of non-governmental activity in the social services and the educational sector is no exception, being 'nurtured as much by private and community efforts as by the Government' [6FYPGuj 1978:3]. In 1986, 93% of elementary schools were in the public sector, while at secondary and higher secondary levels, public sector schools accounted for a mere 8% and 91% of schools were private aided schools [5AIESGuj 1988]. The unfortunate effect of this division is a hierarchical ranking of schools, from the very best to the indifferent in the private sector, access to the better schools being determined by 'donations' and connections.

Overall Gujarat appears as one of the more advanced States and its people have a reputation at home and abroad for their entrepreneurial business abilities. Although, aggregated at State level, achievements are impressive, development has been uneven and 'progress has brought with it some problems too' [5FYPGuj 1973:2]. Development has been most significant in and around urban centres, where a high proportion of 31% of the State's population resides [Census 1991], while over half of the rural population live in villages that have fewer than 2000 inhabitants. State-wide, 32% of the population is regularly employed in an economically productive activity, and a further 5% are marginal workers who are irregularly employed in such work. More than half of those are engaged as cultivators or agricultural labourers, while 40% work in 'household industry, manufacturing, construction, transport, trading and other activities' [Shah 1988:22]. The State per capita income in 1980 (at current prices quoted by Shah [1990]) was Rs 1623, significantly higher than the national average of Rs 1267. Yet despite industrial progress, and the burgeoning middle classes in the urban
centres, 44% of the population lives on an income less than that required 'to secure an adequate diet' [5FYP Guj 1973:2].

In Gujarat, 14% of the population belongs to the Scheduled Tribes¹ [Census 1991], and lives in concentrations in South Gujarat, the Panchmahals in central Gujarat and in the tribal belt to the east of the State, on the border with Madhya Pradesh. The proportion of Scheduled Caste population is lower, at 7% [Census 1991] and they are scattered throughout the State. The largest caste cluster in Gujarat is the Kolis, known as the 'other backward caste' who form about 24% of the population: further backward communities constitute another 7%. These groups together form almost half of the State's total population, while the upper castes form about a quarter [Shah 1988, 1990].

The social and spatial stratification of the State's population has important implications for education. Those who are not empowered by either money or social status must send their children to government schools, in which academic standards are recognised to be almost uniformly low. Inevitably into the latter group fall the lower-social strata, such as the ST, SC and economically backward caste (EBC) communities, for whom there is a troubled relationship between the type of education provided by the Indian state and their social contexts.

Prior to independence groups identified as socially backward were listed in the Presidential Schedule, and 'declared eligible for special protection and benefits' [ITDP 1988:1] under the Indian constitution². They were given the express protection of the state under the constitution, of which Article 46 reads:

The state shall promote with special care the educational and economic interest of the weaker sections of the people, and in particular, of the Scheduled Castes and Scheduled Tribes, and shall protect them from social injustice and all forms of exploitation [cit ITDP 1988:1].

¹ The terms Scheduled Castes (SC) and Scheduled Tribes (ST), used to describe the 'weaker' social sections, originated before Independence: SC was incorporated in the 1935 GoI Act to cover classes previously known as 'depressed', 'excluded' or 'exterior'; 'depressed' also covered tribals until 1919, when names such as 'aboriginal', 'adivasi' or 'hill tribes' were used [GoG 1976].

² Other social groups were later identified by the Kaka Kalelkar commission (1953-56), which listed 2399 castes as socially and economically backward [Maheshwari 1990]. These groups are variously known as the ST; SC; and OBC (Other Backward Classes) or EBC (Economically Backward Classes), or in Gujarat the 'Bakshi Panch' after the 1976 State commission report. Access to state benefits is given to identified groups, according to their proportion of the population in the State, notably reserved posts in government service, for which entry qualifications are somewhat relaxed, and educational institutions. The infamous 1980 Mandal Commission's report into social and educational backwardness sparked off a series of 'reservation' riots, killing 225 people in Gujarat in 1985 [Maheshwari 1990].
The 'social transformation' objective for the newly independent nation state (see chapter one) was framed largely with reference to improving the conditions of socially and economically disadvantaged groups. Although the British had not attempted to abolish casteism, they did not practise it and employed untouchables in occupations such as military or railway services, along with caste Hindus, thus providing the beginnings of an avenue of occupational mobility [Chitnis 1978].

Chitnis [1978] notes that the 'weakness' of the SC and ST prior to Independence was evident not only in the fact of their being poorer, more illiterate and more powerless than other poor, illiterate and powerless people; but also in the greater restrictions on their opportunities for mobility and advance. The caste system meant that SC populations were confined to low status occupations and oppressed by being denied access to temples and to educational institutions. Many of them lived in rural areas, removed from opportunities available to those in urban centres.

ST populations, inhabiting geographically remote jungle and hilly areas, had been physically isolated from mainstream Hindu society. There was little contact between the self-contained tribal communities and non-tribals, and what contact there was was generally exploitative, tribals who had a simple lifestyle ill-equipped to protect themselves against those more worldly-wise [Chitnis 1978; Desai 1978]. Systematic efforts at tribal development by the state began in 1955 when Tribal Development blocks were created [ITDP 1988]. The programme was expanded during the 1960s and during the Fifth Plan, areas with a tribal population of more than 50% were declared scheduled areas, and development was planned with an area focus [ITDP 1988].

State promotion of SC and ST education, coupled with the outlawing of untouchability, was intended as a means by which to equip these communities with opportunities for 'occupational mobility, economic advance, and social and cultural equality with caste Hindus' [Chitnis 1978:224]. Literacy rates among SCs tend to be some 8% lower than the State literacy level, with considerable differences from one community to another [Desai 1978]. Aggregated figures for ST communities point to their overall literacy as being considerably lower than the State average, again with variations from one community to another and highly differentiated male and female literacy rates.

The geographical locations of these groups, concentrated in rural areas and, for STs, very isolated, as well as their occupational patterns present a particular set of educational problems. Although the network of schools has expanded, theoretically ensuring access is available to all children, the educational infrastructure in remote areas is not yet adequate. Village settlement patterns in tribal areas are spread out, isolated.
houses typically surrounded by land owned by the family. As these villages tend to be those with the lowest population concentrations and the most remote, they have been among the last to be covered by the network of government schools. For the smallest children, even the 'school within village' of the planners can be taxing to reach, if he or she lives at the other end of that hilly village. In areas with the least developed educational infrastructure, education terminates at the end of Std. 4 as there is no higher level school near enough to proceed to. For children who can be completely spared from domestic duties, there are boarding 'ashram' schools, where children from villages can complete upper primary and secondary levels of education.

Physical access aside, there are numerous other reasons why ST and SC communities are educationally backward. Chitnis [1978] identifies: poor enrolment; inability to gain access to professional and technical courses; clustering in inferior and less prestigious institutions; poor performance; high drop-out rates. Despite reservation quotas, the under-representation of STs and SCs in educational institutions increases at higher educational levels. Children of both communities experience a range of difficulties in attending and completing school, factors which contribute to the high rate of dropout among SC and even higher rates among ST children. Gujarat's Fifth Plan noted that 80% of non-attenders at primary level were girls, children of landless labourers and children from ST and SC communities, and that drop-out rates among ST children were higher than for any other community [SFYPGuJ 1973], a trend that continues. Government statistics put the SC rate of drop-out for Stds. 1-5 at 45%, and ST at 62%; the State average drop-out of all children was reported to be 44% [MHRD 1991].

Since the economic situation of many ST and SC families is very frail, children from these backgrounds often suffer from a lack of nutritious food, affecting health and stamina, and concentration at school [Chitnis 1978; Lockheed and Verspoor 1990, 1991; Shah 1988]. They are also likely to have to make their contribution to the family livelihood. To attend school full-time is a demand that conflicts with contributing wages to a meagre family income. But the structure of single point entry, full-time school is hostile to SC, ST and other educationally disadvantaged groups, since it allows for neither differential learning speeds of older late starters nor children who attend irregularly because of other duties [Chitnis 1978; Kumar 1991; Naik 1975].

Low levels of literacy and their own inexperience in educational matters ill equips parents to be sensitive to the needs of their first-generation learner children, either practically in assisting with school work or in comprehending the struggles of progressing through school [Kulkarni 1984]. Illiterate parents cannot give their children
the type of inputs they require to manage at school and children's verbal abilities in particular are not developed in ways that allow them to participate in the classroom either actively or passively [Kulkarni 1978, 1984; Kumar 1990].

First generation learners experience further problems since the world about which they learn at school has made so little impact on their own world [Chitnis 1978; Kulkarni 1978]. These students 'live in a world significantly different from the world of the school with little help to correlate events, norms and behaviour patterns from the two worlds' [Kulkarni 1984:154]. This help is unlikely to come from teachers, who are not trained to help these learners and tend to expect little of them, a pre-judgement that negatively influences their treatment of them [Avalos 1991; Kulkarni 1984], reinforcing the inferiority and uncertainties the children already experience in the whole school situation [Chitnis 1978; Kumar 1990; Raza et al 1990]. Chitnis [1978] points out also that due to years of segregation from upper castes, SC dialects have developed with significant differences which hinder understanding of the upper caste, standard regional language used for education.

The type of work that STs and SCs engage in - primarily agricultural, forestry and craft work - is ill-addressed by the school curriculum, so education cannot enhance knowledge of more efficient production, and so stimulate improvements in STs and SCs economic situation.

At present, those who do complete levels beyond elementary find it difficult to deploy their skills locally, and this results in a drift towards urban centres in search of paid, non-agricultural employment. In this way the level of education in villages stays low, those who remain more likely to be those whose school education terminated after four, or fewer, years. Among those who do manage to survive a system which makes few concessions to their special needs, research suggests that their occupational aspirations are likely to be relatively low. A Tata Institute study [cit Chitnis 1978] for instance found that more than 80% of SC and ST students would opt for government service, such as teaching, in which there are reserved seats, rather than seeking mobility through open competition.

These communities, who have been physically and/or socially beyond the 'mainstream' of Indian society, have specific educational needs which, as the following section illustrates, are not well addressed by the urban-biased, homogenous model of education available to them.
Administration of elementary education

The legal foundations of elementary education in Gujarat, specifying the responsibilities and functions of various official bodies, are laid down in: i) the Bombay Primary Education Act (1947); ii) the Bombay Primary Education Rules (1949) [GoM 1961]; iii) the Gujarat Panchayat Act (1961); and iv) the Gujarat Education Cess Act (1962).

The first two provide for a District School Board (DSB) for each district of the State and for each area of an authorised municipality a Municipal School Board (MSB). They should: determine the exact location of primary schools; provide adequate accommodation and equipment for them; maintain an adequate staff as the State government prescribes necessary; determine the hours of instruction and number and duration of vacations; recommend to the Director modifications in the curriculum that may seem necessary to suit local requirements. Subject to the provisions of the Act and Rules these authorities have control over all approved schools within their domain. Local bodies receive a grant from the State government for running the schools.

The Gujarat Panchayat Act was passed to reorganise local government administration 'in furtherance of the object of democratic decentralisation of powers in favour of different classes of panchayats' [NIEPA 1980:11]: village; taluka; district; and in municipal areas, town. Each panchayat is to form an education committee whose duties are specified in the Act. The Education Cess Act provides for a surcharge on all taxes on lands except lands not assessed to land revenue and land in urban areas. The amount is credited to the State and transferred to the State Education Cess Fund.

Responsibility for policy and its implementation is shared by the Secretariat and the Directorate. The Secretariat (policy wing) is answerable to the Minister and headed by a Secretary or equivalent IAS rank - a civil servant with a generalist's training, who is liable to be transferred after three years. The Secretariat is responsible for drawing up, with the Education Minister, policy at the State level, and ratifying or reformulating central initiatives, which are to be implemented by administrative wing, the Directorate, which answers to the Secretariat. As the Secretariat is responsible overall, MHRD communicates with the State/UT via the Secretariat except for administrative briefings to the Directorate.

It has been noted however [PC 1; PC 18; PC 19; PC 22; PC 27] that there is an increasing trend for the Secretariat to have to ratify all decisions that are made at lower

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3 'PC' refers to the reference number of a personal communication during interview. A list of respondents with the corresponding PC number is given in Appendix 4.3.
levels of the system, *eg.* release of a district officer for training, and to pass on all communications from the centre to the Directorate. This is highly time-consuming and the result is that the Secretariat is increasingly concerned with administrative work, which is not its designated function, and has little time over to attend to policy-making [PC 1; PC 3; PC 25]. For a centrally sponsored scheme, the administrative position ought to be that the Secretariat makes the decision to adopt and/or amend, following which full responsibility is passed to the Directorate, but current operating norms have blurred the distinction between the two wings. While the Secretary is always an IAS officer, all other education officers are members of the Gujarat Education Service: the Director often is, but does not have to be, an IAS officer. It is worth noting that IAS officers perceive the education portfolio and sector to be of low status.

Until 1978 a single Directorate was in charge of school education. By that year, educational growth necessitated a division of the Directorate, creating one for secondary and higher education and the other for elementary and adult education. In 1987 the elementary and adult Directorates were separated, creating an independent Directorate of Primary Education 4.

Under the 1961 *Panchayat* Act, however, the administrative authority through which all development activities of the State are implemented is the district *panchayat*. The elected president and District Development Officer are key officials of the District Board. Policy decisions relating to the development of the district are made by the District's Planning Board, shaped overall by the State Plan priorities. They closely adhere to fulfilment of the Minimum Needs Programme, given a sharper edge in 1987 when the new national 20-point Programme was launched, 'largely directed towards programmes for eradicating poverty to ensure that development benefits flow directly towards the weaker sections of society' [TPP 1988:6]. In rural development, the priorities have long been, and remain, construction of access roads, provision of water, health facilities and a primary school. UEE is an important commitment and overall in rural areas this has translated into the provision of a single room school.

District budgets are a fragile compound of income generated in the district *eg.* through taxes and Small Savings Scheme, a government scheme through which money invested at *taluka* level receives a matching government contribution which directly benefits the district; and schemes financed by the State and administered by the district. These

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4 It would have been useful to present this information in a diagram. However, despite NIEPA’s repeated requests over two years to the GoG to complete its questionnaire for a revised edition of the national series of *Educational Administration in ...*, the GoG did not respond with the necessary information. By the end of 1991, NIEPA had decided to proceed without Gujarat [PC18]. The 1980 edition [NIEPA 1980] with a diagram has been overtaken by changes and is now inaccurate, but it was not possible to gain a sufficiently reliable picture from interviews to construct an updated substitute.
slender budgets are subject to many conflicting pressures which makes the District Planning Board highly politicised.

Funding for educational programmes at the district level, for which the district panchayat is responsible, is done through EDN (education) schemes. These are drawn up by GoG in accordance with the targets set under the State's Five Year Plans. These schemes are all 'conditional schemes' ie. that funds will be given to districts only if the schemes' conditions are adhered to. Conditional scheme budgets devised at GoG level tend not to be flexible enough to take account of local requirements but these earmarked funds cannot be transferred for other educational uses. In 1989-90 for instance, Baroda district achieved only 44% of its financial outlay target for the eight EDN schemes it was running, and the largest shortfalls were in schemes providing for backward communities. This dropped to 26% in 1990-91 [Panchayat report 1990, 1991].

Elementary education in each of the State's 19 districts is administered by the District's Education Committee but its executive head, the District Primary Education Officer, is responsible to the education department of the State. The DPEO advises the Committee on maintaining educational standards and on general administration work entrusted to this committee under government rules. He/she is authorised to select, appoint, promote, transfer and punish staff members under him/her (inspectors, teachers and office staff) [Buch and Sudame 1990]. Although part of the district panchayat, his/her position is an anomaly, in that he/she is an official rather than an elected member of the panchayat, who is directly responsible to the GoG's DoE but has to work through the statutory District Education Committee. As far as the education establishment is concerned, the DPEO is extremely powerful, but as a government representative he/she is 'more or less a foreign agent' [PC 27]. The result is that 'the DPEO ends up as nothing more than a personnel officer' [PC 27] while local party politics shape many an agenda at education committee meetings [PC 27; PC 48]. Baroda's DPEO described his position then as being 'like a respondent in a box' [PC 48].

The lowest-level functioning administrative authority under Panchayati Raj is the taluka panchayat. Here the officer in charge is the Taluka Development Officer (TDO), who is responsible for all taluka development works and overseeing collection of local taxes, and reports to the District Development Officer. The taluka budget, although partly generated from the collection of taluka taxes, comes through the district. Educational works at taluka level are limited to finding money to maintain schools, when this cannot be done directly by villages, and provision of facilities such as water supply and mains electricity.
The eyes and ears of the DPEO in the district are the educational inspectors (ADEIs), of which there are three types: two academic and one administrative. There is for every *taluka* (or two if the area is small) one inspector specially briefed as UEE inspector, attending to enrolment and retention and focusing on communication with villagers. The administrative inspector handles the administration of education at the *taluka* level, where he/she is permanently posted - generally salaries and the forwarding of mail from the DPEO office. Briefed to act as 'friend, philosopher and guide' to teachers, inspectors report to the DPEO on the regular running of schools [PC 47]. While officially allocated 50 schools each, in practice in Baroda district expansion has meant each general inspector has closer to 90 [PC 51]. But since they have no official transport and a meagre travelling allowance, their visits to rural schools are less frequent that the every month intended.

In Baroda district, the DPEO had instituted regular monthly meetings with his inspectorate, during which they discussed how they could work on raising the level of primary education in the district since 'the general impression is that there is no education in primary schools' [PC 47]. This DPEO had formed a 3-point plan for implementation which focused on studying ST and SC attendance; evolving a minimum learning continuum for Stds. 1-4; and instituting regular group discussions to increase teachers' knowledge - in general trying to 'encourage teachers to have a professional identity' [PC 47]. These meetings are an important opportunity for DPEOs to gather information about teachers and schools since, when on tour themselves, they usually deal with administrative matters or preside over official functions. There is little opportunity for direct discussions with teachers; a DPEO is more likely to meet teachers face to face to discuss transfer than academic issues.

Communications between DPEO and GoG take the form of meetings between DPEOs and Directorate officials for a monthly round-up of administrative matters, and to 'monitor the progress of government Plan schemes and (whether) programmes running on sanctioned grants achieved their targets' [PC 48]: reporting on OB was done within this framework. State-level decisions about such things as new primary schools or sanctions for posts are normally communicated by official circular to DPEOs with instructions as to actions to be taken, and these meetings are also used to address administrative issues arising from such decisions.

The administration of urban education in large cities is through municipal corporations, which have a municipal school board (MSB) for elementary education. The link between the MSB and the corporation is the administrative officer (AO), who is the
nominal 'head' of all elementary municipal schools and reports to the Directorate. In Baroda the AO is therefore responsible for 152 schools: the school principal, who has only administrative duties, is his school level delegate. Baroda MSB has four educational inspectors.

Although OB focused initially on rural areas, it acknowledges that conditions in urban schools also required amelioration. A UNICEF-sponsored study of urban education in Gujarat [Buch and Sudame 1990:9] found that 'not many effective steps are being taken to tackle the problems of education, especially primary education, in urban areas'. Rapid urbanisation required 'more intensive efforts to solve...educational problems' [Buch and Sudame 1990:31]. The study indicates the extreme poverty of government sector schools in Gujarat, which are in many respects worse than those in rural areas.

The authors found the particular problems of urban schools to be: their shortage, leading to severe overcrowding in classrooms; the inadequacy of their physical facilities; and that they are frequently located in congested areas.

The study found that about 21% of urban children are not enrolled in schools: of those who are enrolled, in Baroda, for instance, continuous absenteeism was running from between 12-15%, and 27% of children 'did not attend school consistently or mostly' [Buch and Sudame 1990:46]. These children are identified as potential drop-outs. Non-attendance in Baroda was found to have been increasing over the last five years and is described as a 'chronic problem' which the MSB 'has not been able to deal with' [Buch and Sudame 1990:63]. Investigating dropout in Baroda, Sharma [1985] found that teachers think children drop out because of illiterate parents, and poor socio-economic background: while children gave school, teacher and teaching-related factors including 'there is no teaching in the classroom; I am afraid of teachers; school is a dingy place' [Sharma 1985:43]. Buch and Sudame [1990:111] characterise Gujarat's urban primary schools as 'gloomy and dismal', with overcrowding, classes sharing rooms, few teaching aids and those existing in an unusable condition, and neither laboratory nor library facilities. Municipal corporation school boards are charged with making arrangements for in-service teacher training: Buch and Sudame [1990:30] found these to be 'inadequate and ineffective'.

In rural and urban areas, both private and public schools use the State-prescribed curriculum which is based on the NCERT framework. It is drawn up by a curriculum committee and approved by government [Buch and Sudame 1990]. Teachers working in Std. 1-4 schools teach the subject areas of mathematics, language and science. The latter is taught through environmental studies and broadened in Std. 3-4 to use the
environment as an introduction to social studies, including geography [NCERT 1988c]. Art and sport are also built into the school day. Work experience, the lingering remnant of Gandhi's Basic education, forms a further component of the syllabus [NCERT 1987]: it is sometimes incorporated by teachers, mostly in the form of gardening in the rural areas or spinning in urban schools, but is widely considered unsatisfactory.

In contrast with the national pattern of eight Standards divided into 4+4, elementary schools in Gujarat, following the Gandhian pattern, are structured on a seven-year basis and the State retains its distinctive 1-7 or 4+3 pattern.

Textbooks for all classes are prepared by the Gujarat State Board of School Textbooks. This amounts to a single textbook per subject per Standard: thus children in schools in India's sixth largest city, Ahmedabad, and the smallest schools in tribal areas use the same material. Formerly teacher guides and student workbooks were also published but this was terminated due to 'nonsignificant demand and subsequent piling up of stock' [Buch and Sudame 1990:111]: 60% of teachers in the UNICEF sample were reported not even to have been aware that such guides existed.

Universal Elementary Education: the State strategy

At the turn of the century, Baroda district was the location of a pioneering experiment with compulsory elementary education, initiated by Gaekwad Sayajirao III of Baroda (1863-1939). He selected the most backward taluka of his Princely State, Amreli, and introduced compulsion for elementary school-aged children from January 1893. A review ten years later pronounced the scheme a success, and after finalising the ages to be covered at 7-12, it was extended across the whole State in 1906, when the Baroda Compulsory Education Act was passed. The literacy rate of the State rose to 35% by 1941, compared with the 20% rate of Bombay province, which had no such scheme. However, in almost 40 years, illiteracy was not liquidated, the reasons for which were diagnosed as the lack of schools and the inefficiency of legal compulsion as a tool for enforcement [IYB 1964]. The lessons of this experiment were therefore held to be that an expanded network of schools is a prerequisite for universalisation, and that compulsion is no substitute for promoting an awareness of the significance of education and parental responsibility for educating children [IYB 1964]. No study of the long-term educational or social effects of this programme could be located.

Bombay State, later Gujarat, has attempted to bring about UEE through the gradual introduction of primary education, since 1947-48. Children were identified according to
the 1941 census and in 1947 a scheme to cover children aged 7-8 was initiated, and increased to cover children aged 7-11 by the end of 1952. From August 1, 1954, the scheme of compulsion was extended to all places with a population of over 1000, and the following Plan was to extend this to cover all children in this age range [2FYPBom1956].

In 1975, the Central Advisory Board of Education recommended that, nationwide, midday meals, uniforms and textbooks be provided free as an incentive to children of lower social strata [Nanjundappa and Sinha 1982]. Gujarat provides those, and had introduced a centrally-sponsored midday meal scheme in the 1960s for children aged 6-11. This was extended across the State in December 1984 [Shah 1988] but replaced in 1990 by a grain scheme, which provides lower social strata children with a 70% school attendance rate 10 kg. of grain per month.

Education, free to all in government sector elementary schools, remains free for girls in the government sector at secondary and tertiary levels. The State also has policy of automatic promotion of children in order to try and combat stagnation. However, since as yet a minimum learning outcome for each Standard has not become operational, and examinations have been abolished until Std. 4., it is possible for children to be promoted for year after year without their progress being assessed.

Despite these initiatives, the State has a drop-out rate of 44% over the four years of primary schooling [5AIES 1990], and Gujarat shares the problems identified earlier concerning the expansion of facilities and relative neglect of quality. The attainment of serving almost 100% of the population with a primary school within one km. [5AIESGuj 1988] indicates the State's commitment to provision of access and facilities, but coverage was thin. Almost a third of the 12709 elementary schools were single-teacher establishments, and 97% of those were in rural areas: 7739 of the total were single-room schools.

It is interesting briefly to trace the history of school buildings, since it sheds light not only on the position of buildings but also on shifting stance of government to an increasingly expensive problem, and the status of education in the community.

At the turn of the century in Bombay province, school buildings were constructed using funds raised through local donations or government grants. The rate of building began to fall behind as education gained popularity after the 1919 GoI Act: it was first formally organised in Bombay province in 1937 by the Congress ministry, which appointed a school building committee [Rajgor 1966]. Government gave 50% of the
cost of the building and the remainder was to be raised by the district local board. The minimum people's contribution was 28%, which could be contributed in labour in poor areas. The minimum contribution was raised to 40% in 1955 and in 1966 raised again to 60% [Rajgor 1966]. The school building was prescribed: the 'B' plan was to be selected, 22' x 18' with a 12' verandah.

Rising prices forced a search for local alternatives, again on a matching funding pattern: the 'uniform' scheme used local material and labour and the buildings were to be constructed according to a government plan, and certified by the DB or *panchayat* engineer. A block grant of Rs 1000 was given once half the work had been completed. Under the 'Ratnagiri' scheme, a grant of Rs 500 was given and local materials such as bamboo were used, and a certificate would be given that less than Rs 1000 had been spent; maintenance was up to the local community. Another scheme was the 'nucleus first', under which a 25' x 25' *pukkha* structure would form the centre of what would eventually be a cross-shaped building. The 'nucleus' would be used as a hall or for equipment storage; it would have *kaccha* roofing forming 'rooms' opening off each side, to be constructed with *pukkha* materials when the funds became available. There were various incentives: if an individual donated Rs 1000 his/her name would be inscribed on a plaque, and if 75% of the costs were provided the person's name would be associated with the school. If villagers built schools from their own money, according to the approved plan, they would be reimbursed 40% [Rajgor 1966]. The State nows runs an EDN scheme through which it provides 40% of building funds expenditure in non-tribal areas and 70% in tribal areas, an arrangement that has become less effective as inflation makes it increasingly difficult for the non-State sector to find the ever larger amounts required [PC 26].

The alternative schemes have not proved popular, and with rising costs and the expansion of the school network into areas where there is no tradition of education it is increasingly difficult to raise local contributions. Also, local *kaccha* structures are not durable and, as maintenance is the task of the local community, it is less labour intensive for that community to have a *pukkha* structure provided by the government - which adds also the prestige of having a government building in the village. Furthermore, maintenance of *pukkha* buildings can generate local employment under RLEGP/NREP/JRY schemes.

At present, where villages do not come forward with their own contributions, but a school has to be built under programme of providing universal facilities, the Public
Works Department (PWD) constructs according to government specifications. There is however an all-India problem:

...it has become necessary to provide a very large number of schools quickly and this coupled with the ever-present financial stringency has resulted in the policy of posting schools in any kind of buildings, good, bad, indifferent or incredible. Apart from accepted standards of space, lighting and ventilation, a school building should satisfy the triple conditions of functional efficiency, beauty of design and detail, and economy. There are many small and comparatively inexpensive things that can be done to make the building efficient from the point of view of day-to-day work - location of blackboards, built-in shelves, arrangement for storage, proper placement of lavatories etc. Buildings are often constructed by PWD according to a certain set of unimaginative patterns which do not take even these small but important things into account [GoI 1956:i].

The single whitewashed boxes that now dot the countryside defy the hope that 'those administering Five Year Plans will give a lead in transforming the outmoded, nondescript school building into something warm, alive and dynamically our own' [GoI 1956:iii].

Bland from the outside, many small schools are little better, in terms of teaching-learning equipment and furniture, on the inside. In all district or municipal schools, provision of teaching and learning equipment is the responsibility of the local body. In practice this is regulated by the amount of money available in the local education budget, which is likely to be very little, coupled with district-level perceptions of priorities for expenditure. No norm for school equipment has been set down and teaching aids have been provided sporadically, as and when some funds have become available. There was a concerted effort at State level, between 1970-77, when 4380 UNICEF science kit boxes were supplied to primary schools and the State government provided a further 14498 prototype kit boxes under its own EDN scheme. UNICEF kits also went to 64 elementary teachers' training colleges [6FYPGuj 1978], but no mention is made of any plan for specific training of teachers in the use of these kits. From 1980-85, science kit boxes were provided to Std. 5-7 schools and a sum allocated for training 15000 teachers in their use [6FYPGuj 1978].

Elementary teachers

The Education Commission (1964-66) held 'the quality, competence and character of teachers' [Kothari 1970:84] to be the most significant factor influencing the quality of education and its contribution to national development. The shortage of good teachers 'both with respect to supply and adequate training' is considered a major handicap in

The challenge for teacher education in the context of mass expansion of elementary education in India has been to provide sufficient numbers of teachers to work in the rapidly expanding network of schools, and to ensure that these teachers are competent to teach [GoG 1968; NCERT 1991]. Dave [1985], viewing this competence in the wider context of the social transformation agenda, broadens the role of a teacher beyond teaching competence to include the ability to discharge the multiple duties of a teacher in a developing country which has not yet achieved UEE. Coupled with the academic duties of a teacher is the state expectation that the teacher should act as a primary agent of social change, a role which carries a particular set of responsibilities beyond the classroom.

Teacher salaries in India are the single largest item of expenditure in educational budgets, accounting for nearly 95% of State allocations to the sector [Varghese and Tilak 1991]. This proportion, in the strained economic circumstances, has almost completely edged out expenditure on other items of educational importance. In Gujarat also, the very high elementary student:teacher ratio and the State's policy of providing one teacher per Standard in all schools allow no possibility of the proportion of teacher salary decreasing in the foreseeable future, in the current economic circumstances.

With the large numbers of teachers required and the acknowledged importance of teachers to educational quality, cost-effectiveness and the return to this investment is a crucial issue for policymakers [Ahmed et al 1991; Avalos 1991]. Without overestimating the role of education in social transformation, if it is to play its limited part towards improving social mobility and widening choices, the quality of teachers has far-reaching social implications.

In Gujarat, there were between 1902-1944 a mere four training institutions [NCERT 1970]. Thirty more were added during the 1940s and during the First Plan period (1951-56) came a further 30. The Second Plan added five and the Third, nine, bringing the total by 1966 to 78. These were equally divided, 39 government and 39 private aided [NCERT 1970]. By 1986, the number of institutions had dropped to 67, of which 22 were government and 45 non-government institutions, 35 male and 32 female [SAIESGuj 1988; GoG 1990a]. The first-year intake capacity was 4500 and the number of trainees was almost equally divided gender-wise: 4612 males and 4320 female [GoG 1990a]. In that year also, working in the State's Std. 1-4 schools were
27035 teachers, of whom all but 670 (438 of them women) were qualified [GoG 1990a].

With the intention of eliminating single-teacher schools, the State adopted a two-teacher per school policy from the beginning of its Sixth Plan, since 'single teacher schools weaken the elementary education system. Such schools remain closed when the teacher is absent' [6FYPGuj 1978:64]. By 1986, a third of the State's 12709 primary schools had only one teacher, and 97% of those were in rural areas [SAIESGuj 1988]. At 61:1, compared with the national average of 44:1, Gujarat had India's highest elementary pupil:teacher ratio [SAIES 1990].

However, the pattern of quantity taking precedence over quality, familiar from primary school expansion, is reflected in teacher education also. Qualitative improvements did not receive planners' attention [NCERT 1970]. The areas where pre-service training are criticised are, broadly, two: the calibre of entrants to the service; and the nature of the training those entrants receive and its relationship with practice.

The former is a particular worry in Gujarat since the State has always had elementary teachers with a low level of general education [GoG 1968]. The State acknowledges its own 'weak' position [4FYPGuj 1969] in respect of elementary teacher quality. In 1966 57% of Gujarat's elementary teachers were non-matriculates [NCERT 1970], who had entered the profession with the low entry requirement for the PSC (Primary School Certificate) of completion of Std. 7. Teachers could complete PSC junior within one year, or continue for a second year to gain the PSC senior qualification. This has now been changed to a two-year PTC (Primary Teacher Certificate), for which students enrol on conclusion of their SSC (secondary school certificate), aged approximately 16. Entrants to training college in Gujarat are two years younger than in most other States where the requirement is completion of higher secondary certificate, taken at about age 18. International research findings indicate a positive correlation between length of training and quality of teachers [Lockheed and Verspoor 1990, 1991] and in Gujarat it is recognised that raising the age of entry to PTC is desirable. The internationally recommended minimum of 12 years [Avalos 1991] is, in terms of the educational infrastructure (+2 stage upper secondary) feasible in Gujarat.

Although entrants now come with a minimum of SSC, their general knowledge base is perceived by teacher trainers as low [PC 56; PC 57]. As a result, much time during teacher training is taken up with going over the contents of the syllabus and this leaves little over for introducing pedagogical practices, a situation found in other developing country contexts [Lockheed and Verspoor 1990]. Apart from its effect on the balance of
input during training, a low general knowledge base of elementary teachers is acknowledged to impact negatively in various ways on their performance [Avalos 1991; Lockheed and Verspoor 1990]: they are less likely to invite questions since they are not sure they will know the answers [Lockheed and Verspoor 1990] and not to know is not compatible with the image of the teacher [Kumar 1990]; questions are a threat to completing the syllabus on time [Kumar 1990]. A combination of these factors and the absence of any other teaching material makes teachers more likely to stick closely to the textbook, in which knowledge is enshrined, rather than encouraging independent enquiry.

In the context of teacher training it is important to understand the sociological factors which shape the present character of the elementary teaching force. This has changed considerably since the introduction of a fixed salary and government service status which accompanied mass expansion of primary schools. The teaching profession as a whole, and elementary teaching in particular, is no longer dominated by upper-caste Brahmins, but has become widely accessible to lower social strata. The current composition of Gujarat's elementary teaching force includes 12.9% from SC and 15.3% from ST communities [5AIESGuj 1988]; so nearly 30% of elementary teachers are drawn from what have been considered the 'weak' social sections [5AIESGuj 1988; GoG 1990a], a reflection of a small measure of success in education acting as a catalyst in social change.

Rapid expansion of the elementary sector has meant that a teaching post is virtually guaranteed on completion of training. The low entry requirements for a lifetime of secure government service in a developing economy are powerful attractions amid high levels of unemployment and 'diploma disease' [Dore 1976]. In such circumstances, the PTC qualification may be regarded less as a professional training to qualify as a teacher than as certification for a job.

This issue cannot be distentangled from the question of teacher status. Attempts have been made to improve this by increasing salary levels for elementary teachers. The starting salary in Gujarat is now Rs 1200 per month, with an annual increment of Rs 30, rising to Rs 2040 with an extra Rs 40 per year for the principal. This salary status is improved but for many years low salaries have contributed to making elementary teaching an unattractive proposition, and to the low status of the profession [Kothari 1970; Kumar 1990].

This was compounded by the changed social role of teachers. In indigenous village schools, they had been closely associated with the village, receiving payment in kind.
With the introduction of teaching as a paid profession, local links with the community were greatly reduced, as teachers were posted to a village to work in return for a fixed salary. Gone was the freedom to pace learning according to students' needs: in its place came the imperative of a curriculum fixed by external authorities. Kumar [1990] attributes to the loss of autonomy a totally new teacher identity, one in which success was measured in terms of examination passes rather than mastering basic skills. Instead of being a highly respected member of the village community, the teacher's status changed to being a powerless subordinate in a bureaucratic hierarchy [Kumar 1990].

Within that hierarchy is very little opportunity to grow professionally. Avenues for career advancement within elementary teaching are very limited. Teachers may work in larger (1-7 Std.) schools, or move to the inspectorate or teacher training, where there are few places. For those who do opt for teacher training, there is no obviously suitable qualification since the B.Ed., the next level of upgrading for an elementary teacher, is primarily a qualification for secondary teaching.

Few teachers wish to serve in rural areas, where there is a shortage of facilities, and they may have to work with communities of an unfamiliar social complexion. Gujarat operates a combination of 'carrot and stick', defined by Dove [1982] as the 'rural deficit model': a strategy of compulsion, i.e. posting and transfers and incentives - 'compensation for enduring rural postings' [Dove 1982:13], which fails to build up a committed and fairly stable teaching staff 5. Although teachers receive a salary incentive of Rs 40 per month for a tribal area, there is reported to be in operation a bond system for new entrants to the service, by which the State 'solves' its problem of recruitment to the unpopular rural areas. Teachers entering their first post must complete three years' service there or forfeit Rs 10000, the equivalent of some 5 years' service. From an administrative point of view, this is intended to curtail the political machinations associated with teacher transfers which bedevil the DPEO's life. It does however mean that inexperienced 18 year-olds can be posted far away from home and family to a community with which they may hardly even have a language in common. In such difficult personal circumstances may begin their teaching career.

Teacher educators and teachers interviewed in Gujarat were dissatisfied with the level of elementary teacher training, especially in government colleges: the problems outlined

5 Dove [1982:14] contrasts the 'rural deficit model' with the 'rural challenge model', which stresses the special qualities of rural schools and the professional challenge for a mature and self-reliant teacher, who is adequately trained and supported.
above, common to countries where educational systems have expanded rapidly [cf Lockheed and Verspoor 1990, 1991] are reflected in this State. PTC training was frequently not felt to be suitable for the situations in which they worked. Trainers were reported not to be in touch with the realities of small schools with single rooms and no facilities, and hence did not offer teachers strategies for working in such conditions. It was also felt that colleges had a strong urban bias although five sixths of teaching posts are in rural areas [GoG 1990a]. Trainers were aware of curricular problems but were also dissatisfied with the quality of the trainees.

While neither the problems of the calibre nor the motivations of entrants to the service can be solved by teacher training, the training itself can be improved, as the NPE 1986 acknowledges, when referring to the unsatisfactory nature of teacher training nationwide: 'As the first step, the system of teacher education will be overhauled' [NPE 1986:26]. Two important initiatives following on from the policy were upgrading the training college syllabus and creating District Institutes of Education and Training (DIETs).

Until 1978 the teacher training syllabus for each State was prescribed by State departments of education [NCERT 1970]. Like the elementary school syllabus, it has been adopted with minor alterations in Gujarat. As it is a condition of recognition of the PTC qualification that colleges must use the prescribed syllabus, this is the basis for private colleges also, although it may be dovetailed into the individual philosophy of the college where that exists (for example Gandhian colleges prefer resident trainees and emphasise community living and skills, but use the State syllabus).

Older serving teachers have been trained in institutions which transmitted the syllabus with lecturing as the sole mode of instruction [NCERT 1970]. The NCERT study reported that colleges in the State used none of the 'demonstration method, assignment and activity method, supervised reading and model reading techniques' [NCERT 1970] nor audio-visual aids used elsewhere to varying degrees. Maps and charts, models, globes, flannel boards, flash cards, pictures and science apparatus were reportedly all in use in teacher training institutions in every State other than Gujarat [NCERT 1970].

The first national teacher education curriculum was framed by the NCERT in 1978. As a response to NPE 1986, a new curriculum was drafted in 1989 and published in March 1991. Taking the sine qua non of educational improvements to be teacher education, the rationale given for this exercise is that:

The status and quality of teacher education of our country especially at the elementary level is far from satisfactory. Maybe the existing system failed to
provide meaningful experiences to prospective teachers, especially at the elementary level [NCERT 1991:1].

There is a set of core subjects, including educational history of India, child pedagogy and subject areas. Multiple class teaching is treated as an 'additional specialisation', defined as an 'area of interest'. By this time it was known that nationwide 28% of primary schools were single teacher establishments and 32%, two teacher schools [SAIES 1990], in total two thirds of all Indian elementary schools. In such schools, multi-Standard teaching is inevitable; so knowledge of how to deal with a minimum of two classes at one time is essential for successful class management, hardly a matter of choice.

Use of teaching aids is interwoven through the new curriculum with specific reference to OB. The suggestion is that if training is conducted as suggested, graduating teachers would have a fair knowledge of how, where and why to use aids. The OB programme makes provision for a set of teaching aids to be provided to training colleges on application: in Gujarat by the end of 1991 not a single PTC college had made such an application.

The second policy initiative with regard to upgrading the quality of teacher training is to take action on the network on colleges themselves and to this end DIETs were to be established across the country. These were conceived as both pre- and in-service centres which would have residential accommodation and train in accordance with local needs within the district. By the end of 1991, although 13 DIETs had been sanctioned in Gujarat, none was yet running. This has been a very sensitive political issue, since establishment of DIETs would upset the status quo, as it is designed to replace substandard existing institutions.

Improving the quality of pre-service training is all the more crucial as at present, until DIETs do take off, there are only very limited facilities in the State for in-service training. These are provided by the State Institute of Education, now renamed Gujarat Council for Educational Research and Training (GCERT), set up in 1969. It is described as:

an institution of academic nature [that] caters to the needs of qualitative improvements of education in general and primary education in particular. It organises workshops, seminars, refresher courses and conferences for staff members of all primary schools, primary teachers' training institutions and inspecting officers [NIEPA 1980:19].

The GCERT is however widely perceived to be an extremely weak institution [PC 1; PC 2; PC 25; PC 33; PC 42; et al]. It has apparently been difficult to find a head for the
GCERT with a suitable blend of qualifications as well as the correct bureaucratic status: various staff members functioned for over 18 months in 1989-91 in caretaker roles. At the end of 1991 the long-vacant position was filled. The academic staff of the GCERT comprises Readers who are exclusively ex-District Education Officers. Although qualified to B.Ed. level, their recent practical experience is of secondary level administrative affairs rather than elementary teaching. In 1991, none of the relevant staff members was certain whether there was an OB kit in the GCERT building, despite the fact that three of them had been State resource people, and the GCERT the nodal institution, for the mass orientation camps for teachers (PMOST: see chapters one and five). There was not in fact a current set of materials although there were several prototypes. The GCERT’s facilities were visibly underused (dusty and deserted on seven visits in term and vacation time over a year).

For most serving teachers, in the absence of institution-based in-service training or school cluster arrangement, visits by inspectors constitute the only form of academic support. Half the entrants to the inspectorate are direct recruits, the remainder come through teaching: there is no opportunity for any professional training for them. Current arrangements are not considered satisfactory by either inspectors or teachers.

This focus on the government sector of the educational system in Gujarat illustrates that, despite the State’s high literacy rate and relative prosperity, there are critical problems affecting enrolment, retention and quality. There is a tendency to adopt national level formats without developing programmes specifically and differentially designed for areas with diverse needs; and a reliance on target fulfilment as an indicator of success. Financial and federal tensions outlined in the preceding chapter underlie government activity in education; and the State clearly emphasises the urban industrial sector rather than rural areas. A further stratification is the dichotomy of the public and private sector schools, the former serving those who have little power to exert sufficient pressure to insist on their improvement. Evident too is the lack of trained and qualified people to undertake educational research with State specificity.

The next chapter reviews the research literatures on policy implementation and educational innovation, in order to draw out their theoretical insights into factors involved both in the implementation of educational policies and Plans, and in the adoption of an innovation.
Chapter Three

POLICY IMPLEMENTATION

AND

EDUCATIONAL INNOVATIONS RESEARCH:

REVIEW AND CRITIQUE
Introduction

This chapter presents and analyses contributions from research into the implementation of planned change, in order to locate theoretical explanations of the relationship between policy and the practices described in chapters one and two. To contextualise these contributions, it opens with a discussion of the notion of policy and the formulation of policy goals in Indian elementary education. This first section goes on to identify the salient theoretical features of the planning model India adopts, and its implications for implementation. Two succeeding sections discuss implementation research, with its 'top-down' and 'bottom-up' perspectives, and the models and concepts each offers. Section four reviews educational innovations research, with its focus on 'grassroot' responses to purposive change. The final section, finding these literatures cannot fully explain the discrepancy between 'appearance', or policy rhetoric, and the 'reality' of contexts beyond the policy-making environment, responds with a 're-reading' of Plan documents. From those, it draws out a different way of looking at policy, which adds a new dimension to theoretical understandings of implementation.

Analysts of Indian public policy and its outcomes make four common criticisms: 'i) a weak nexus between policy and instruments; ii) the large degree to which administrative discretion has been retained and used to dilute or defeat policy objectives; iii) the use of a single or small set of instruments to promote a large number of objectives, not all of which may be capable of consistent pursuit; iv) and internal intra-policy inconsistencies and inter-face inconsistencies in allied policies' [Guhan 1985:259].

Chapter one argued that the development of the elementary sector of education has been characterised by an approach that has attempted to ensure physical access to a school for all children but neglected qualitative aspects of the education provided in those schools. Explanations for this were seen to include the lack of capacity to plan for quality, as well as the estrangement between planners and local environments; and the discrepancy between the importance Plan documents attribute to elementary education, and the low proportion of financial allocation that actually goes to that sector. A further factor is that Plans and policies are implemented through government bureaucracy, which is hierarchical in nature and oriented towards systems maintenance: its norms discourage innovation and are ill-suited to the role of development administration. Information tends not to flow upwards from 'grassroots' to higher levels of bureaucracy where key decisions are made, contributing to the gap between policy and practice.
While remaining generally unattended by Indian researchers [Jain 1990], implementation as a policy area has attracted considerable attention in the North in the last two decades. Northern policy scientists however confine their scope to Northern contexts and rarely treat education specifically. This literature has a strong policy and organisational focus but is weak in acknowledging the significance for implementation of the reactions of those required by policy to change their established practices. The latter is however a strength of a second research literature - that on educational innovations, which draws on the experience of external agencies and governments implementing innovations in both Northern and developing country contexts. A major concern of innovations research is the acceptability of innovations to teachers or others required to change their established practice.

Although implementation and innovations research are conducted largely in ignorance of each other, since the former is concerned with public policy and the latter with education and change, they share some common ground. Neither alone can furnish the structure for a comprehensive exploration and analysis of the implementation of indigenous Indian public policy, from origin through bureaucratic agents to school: but taken together they can provide a framework for investigating both policy implementation and adoption behaviour at the point at which policy as implemented impacts on the target population.

Caveats about the suitability of implementation research immediately need to be made, since in many ways this literature is ill-suited to the task of exploring policy implementation in the Indian context. It does not seem unreasonable to imagine that, proceeding with caution, from the experience gained in the North, some findings, methodologies or insights may be useful in illuminating the process in India. However, despite over twenty years of Northern research into the subject, understandings of implementation are very far from perfect, and implementation literature itself is not in a tidy state, with deep-seated differences in the interpretation of its remit.

Further, much of what applies in the North does not translate well into a different cultural context, and much of what is written - usually focusing on multi-actor, multi-organisation implementation [O'Toole 1986] of public policy - rests on preconditions that cannot be assumed in the context of a developing country. For example, theoretical and empirical work in a Northern social context is typically conducted against a backdrop of a reasonable degree of political stability; strong democratic traditions; an accessible database of information to guide policy formulation; and a relatively introspective and incorrupt set of civil servants. Smith [1985] suggests
also an incremental policy formulation process; policies which are themselves incremental in scope and impact; strong professional evaluative traditions; and a strong political opposition party. Many of these preconditions are not found in India.

Educational innovations research suffers from fewer of these drawbacks and, although mostly conducted by Northern writers, is often sited in developing country contexts which makes it rather less culture-bound. This literature is limited in an understanding of the whole process of policy implementation but helpful in that its concern with the acceptability of an innovation tends to ensure a focus on the end product of implementation - whether the innovation is accepted by teachers and meaningfully applied in schools, if that is what was targeted, for instance. Its interest in how people relate to change at this level can, equally, be applied at all levels of the implementation process.

Educational policy and planning in India

Indian policy and planning literature for education draws its value base from the 'synthetic ideology' [Guhan 1985:256] of the constitution. In the sector of elementary education, 'policy' derives from three types of policy instrument: the education sector of national development Plans; national policy; and the constitution [Guhan 1985]. Each of these fits into a broad definition of social policy as 'assuming responsibility for people's needs and creating the means by which resources and services are allocated to meet those needs (for) the amelioration of individual and social problems' [Outram 1989:13].

With the rejection of the 1944 Sargent Plan, Article 45 of the constitution has remained the driving force behind elementary education, providing the initial policy that all children between the ages 7-14 should receive free and compulsory education. For the first twenty years of independence, the goal of UEE remained constant and there was no policy revision. In the secondary and higher education sectors meanwhile, 'policy' was provided by the report of a Commission invited by the Government of India to review that sector, the 'piecemeal' approach Naik [1965] deplores. Naik [1982] identifies three stages in the implementation of recommendations of such bodies in the federal polity: the GoI circulates the report to the State/UT governments and other concerned agencies, 'generally without expressing a view of its own' [Naik 1982:29]; it 'tries to pursue the implementation of the report through the normal channels such as the Central Advisory Board of Education' [ibid]; and 'it addresses itself simultaneously to the implementation of those recommendations of the report which are addressed
directly to it' [*ibid*], and if possible identifies and prioritises some 'key' recommendations. Financing of the policy programmes or schemes fashioned from these recommendations is dovetailed with State Plan allocations, or through centrally assisted or sponsored schemes.

The elementary sector as a whole came under scrutiny for the first time when the Education Commission of 1964-66 was appointed to review the whole education system. Naik's [1982] insightful 'insider' account - as member-secretary of the Commission and then educational advisor to the GoI - of attempting to reform existing 'policy' in elementary education and translating the Commission's report into policy, shows how deeply entrenched the sanctity of the constitutional notion had already become. He describes the political and organisational factors by which the Commission's report became a policy statement (that of 1968) whose 'basic approach was to make it non-specific, non-committal and as innocuous as possible with a view to avoiding controversies or shirking responsibilities' [Naik 1982:41]. Rather than analysing the causes for failing with the programme of UEE, determining the way to improve progress in future and fixing a revised target date for the objective 'the government desired not to face these issues squarely, but to sweep most of them under the carpet' [Naik 1982:41]. This, he concludes, was because the statement 'was finalized by a weak central government which was more anxious to avoid controversies than to bring about radical educational changes' [Naik 1982:43].

Timing, in the light of this experience, is found to be crucial, as the fate of a commission's recommendations 'is largely determined not so much by their intrinsic merits as by the historical accident of what happens or does not happen in the first year or two when its proposals come under active examination' [Naik 1982:30]. A further important factor identified is that the centre's education minister requires a strong political base to carry State governments with him. Naik draws three general conclusions: i) that no political party in the country is committed to radical reconstruction of education; ii) while some individuals in political parties are committed they do not represent the parties and are dropped if the populist gains are outweighed by their excessive pressures on the party for action; and iii) that creating a national system of education and a radical reconstruction of education is still a populist slogan and 'not yet a political reality in the sense that the country has yet to understand the price to be paid for the purpose and be prepared to pay for it' [Naik 1982:44].

The Janata party's policy, formulated for the years 1978-87, was never put into practice because the government fell. The NPE 1986 experienced a similar fate: scarcely had
efforts begun to implement it when the Congress party that initiated the whole educational debate was ousted from power. Political insecurities have thus been a hallmark of all education policy statements in independent India. But implementation experience in education has been amassed through the national Plans, with their educational component. These have continued to operate, with some brief interruptions, since 1950.

The model of Indian planning described in chapter one is 'step' or 'procedural' planning; it derives from a systems approach which 'stresses the idea of planning as a rational problem-solving method' [Hambleton 1983:401] and requires classification of goals, systematic analysis, logical generation of policy alternatives and monitoring of performance. Winn [1971] describes the discrete steps of educational planning: i) data collection; ii) analysis of data; iii) interpretation of the educational situation and a statement of the problem; iv) selection of methods and priorities; v) formulation of programmes and projects; vi) implementation; and vii) evaluation. For an overview of the process, these steps can be represented diagrammatically (Fig. 3.1).

**Figure 3.1: Model of procedural planning**

![Model of procedural planning diagram](image)

*Source: Planning literature reviewed above*
Indian theoretical work on Plan or policy implementation is, as noted, scarce: that available tends to adopt a viewpoint rather different from that outlined above. Typically this is along the lines of Noordin [1985]. He describes implementation, the last of five stages of policy-making (pre-theory or identification of empirical regularities; deliberation; pronouncement; operationalisation; implementation), as the 'transmission of a blueprint to the operating units' which is 'a straightforward activity because the structure, constraints, (and) priorities...have already been delineated' [Noordin 1985:472].

This account omits stages considered in the model shown in Fig 3. 1 to be important in order to achieve a fit between the policy and the context in which it is to operate: scrutiny of alternative options and evaluation of implementation. Some reasons for this are evident in the structure of the whole educational system as it has developed. It was suggested in chapter one that the instrument for qualitative planning is weak [Dhingra 1991; Naik 1965] and there is a chasm between policy-makers and academic research [Dhingra 1991; Guhan 1985]. Input from academia and evaluation of outcomes remain weak links because neither is considered an intrinsic part of formulation and implementation of policy: their very weakness further legitimises the tendency to disregard them.

Various explanations may account for the lack of scrutiny of alternatives by which to reach the policy goal: for example, the normalised assumption that the problem was one of quantity, not quality, and provision of facilities would be the answer. There is too the task orientation of the implementing agency, the bureaucracy; and the tendency not to see as part of planning a qualitative assessment of its outcomes. A further factor is the adherence to an economic framework, which allocates funds to reach a certain target rather than deciding on a goal that can be achieved within the means available.

These characteristics of planning are reflected in specific policy also, and their implications for implementation become clear in the following review of theoretical work on policy implementation.

Implementation research: 'top-down' and 'bottom-up' perspectives

Implementation research was born in the USA, in an atmosphere of disillusion as the great social reform movements of the 1960s appeared to fail. The benchmark study was Pressman and Wildavsky's 1973 *Implementation*, which amply illustrated the hitherto underestimated complexity of implementing a policy programme. In the present context
their focus on implementation as a policy issue is an important element of understanding why policy and implementation have been critically analysed as failures so frequently in India. They suggest it is crucial to attempt to bridge the gap which had hitherto divided politics (policy) and public administration (implementation) in order to bring policy design and implementation into 'closer correspondence with each other' [Pressman and Wildavsky 1973:xvii].

Since then, research into implementation has included case studies of implementation in various policy sectors; theoretical inputs; a combination of empirical analysis with theoretical development; evolution of methodological tools; exploration of policy variables and implementation differences. But even to define implementation is no easy task. To try is immediately to step into the arena of a fierce debate surrounding the whole issue. Are policy and implementation two distinct and separate entities? Or is implementation part of policy formulation? Controversy surrounds identification of the variables and interrelationships crucial to implementation success - and indeed the very notion of success itself. Does failure exist, and if so, can it be attributed to ambiguous policy, inefficient bureaucracies, political distortions, unshared aspirations, lack of communication, or economic disparities between aims and requirements? Studies to date offer a wide - and conflicting - variety of ways of conceptualising implementation. The multi-disciplinary nature and relevance of implementation research may mean this struggle is never resolved: and if 'implementation is the struggle over the realisation of ideas' [Majone and Wildavsky 1978:116], it may always be that 'implementation is in the eye of the beholder' [Dunsire 1978:227].

For all these reasons, implementation research still struggles to place itself on a firm theoretical footing. So far only tentative beginnings have been made in identifying models of implementation, while the relative absence of cumulative work means that the various studies are not contributing to a systematically evolving understanding of the nature of implementation. Researchers agree that implementation research suffers from a lack of theoretical attention [O'Toole 1986; Mazmanian and Sabatier 1981; Sabatier 1986] and a lack of proper empirical testing of the models developed to date [Barrett and Hill 1984; O'Toole 1986; Sabatier 1986]. Implementation research still upholds the remark that it is 'long on description and short on prescription...Advice...is desultory and strategically vague' [Elmore 1980:601]. Study after study confirms the suspicion that more knowledge of the subject serves only to make it ever more complex. Perhaps, whichever perspective one favours, there is no truer real definition of implementation than 'the art of the possible' [Barrett and Fudge 1981:21] - with a radical rethinking of the possible.
There are two predominant perspectives of research into policy implementation. Most early studies [e.g. Dunsire 1978; Pressman and Wildavsky 1973] adopted what is generally described as a 'top-down' approach. Sabatier [1986] characterises this as starting from the policy decision (at the 'top' of the process) and analysing clarity and consistency of objectives; the extent to which objectives were attained over time; principal factors affecting policy outputs and impacts; the consistency of implementing officials' actions and the policy decision; and extent of policy reformulation over time on the basis of experience. Implementation is dynamic; interdependent with policy formulation, but still sufficiently distinct to allow assessment of achievement. It is seen as an ordered, logical sequence which if correctly put together, will translate policy into practice with minimal deviation from the policy directives:

a process of interaction between the setting of goals and actions geared to achieving them, the ability to forge subsequent links in the causal chain so as to obtain the desired results [Pressman and Wildavsky 1973:xv].

If implementation is done through a stratified, hierarchical organisation, such as a bureaucracy, it is the 'linking together [of] a chain, train, combination or converging network of offices or work stations to assemble a sufficient number of appropriate work stations in a requisite sequence for the cumulated or final output desired' [Dunsire 1978:228].

The conceptual underpinning of this perspective is technocratic rationality1 and concern is centred on the efficiency or effectiveness of implementation [Stone 1985]. The automatic placing of policy at the top is indicative not only of a hierarchical relationship but also of its assumed rightness, and allows policy implementation to be measured for success.

These definitions of implementation illustrate that a top-down perspective rests on the notion of forging links by which policy implementation can proceed smoothly through various organisational levels. This can be seen to uphold the 'noble lie' of conventional public administration and policy analysis: an 'implicit and unquestioned assumption that policymakers control the organisational, political and technological processes that affect implementation' [Elmore 1980:603]. This assumption was challenged by Lipsky [1980], whose work focused on the behaviour of lower- or 'street' level bureaucrats

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1 Technocratic rationality is founded on a positivistic view of scientific and cultural discourse, which concerns itself with the immediate, the world of 'facts'. Giroux [1982:14] argues that 'questions concerning the genesis, nature and normative nature of the conceptual systems that select, organise and define the facts' appear to be outside the concern of technocratic rationality, and thus 'it suppresses ethics and allows facts to become separated from values'. The argument is central to the work of critical theorists of the Frankfurt school, discussed in greater detail in the final section of this chapter.
and exposed the significance of the coping and discretionary mechanisms operating at lower levels. This recognition of the significance of discretion at lower levels was a watershed in implementation research: for some researchers it implied further efforts to understand goings-on at this level, in order to frame policies which better controlled those behaviours. For others, a new perspective was needed, through which to try and understand how discretionary actions influence and shape policy outcomes; the 'strategies pursued by various actors in pursuit of their objectives' [Sabatier 1986:22].

The 'bottom-up' perspective [Hjern 1982], otherwise known as 'backwards mapping' [Elmore 1980] switches focus to those customarily considered last. The concern is still to devise more effective policies, but this begins not with a 'statement of intent', but rather 'with a statement of the specific behaviour at the lowest level of the implementation process that generates the need for a policy' [Elmore 1980:604]. The multiple organisational focus of most implementation studies is clear in Sabatier's [1986] description of identifying actors at the local level and asking them about 'their goals, strategies, activities and contacts' [Sabatier 1986:32], in order to develop a network from those contacts. Elmore's [1980] variation applies better where the focus is a single organisation, as it assumes internal coherence when it works backwards to state a set of organisational operations and the resulting outcomes, asking 'what ability each unit has to affect the behaviour that is the target of the policy; and what resources it would require do so': policy comes as the final stage, and directs resources 'at the organisational units likely to have the most effect' [Elmore 1980:604]. Rather than the top-down emphasis on hierarchical control, backwards mapping tries to identify points where use of discretion can maximise problem-solving in complex systems. By treating discretion as a strength rather than as an impediment, the 'reliance on abstract, standardized solutions' is reduced, making way for 'local knowledge and skill at delivery level' [Elmore 1980:610].

The top-down perspective does not allow one to get behind the outcomes to focus on what is actually making things go the way they do [Barrett and Fudge 1981; Elmore 1980; Hjern 1982] - precisely those elements which top-downers would like to bound and control but surely can not. Its overall focus is on how to achieve the intended policy results [Sabatier 1986]. A bottom-up approach allows a study of the extent to which individual or group actions and behaviour relate to policy [Barrett and Fudge 1981], with what is actually done as the central focus: the 'strategic interaction among multiple actors in a policy network' [Sabatier 1986:33]. This inevitably means a very different definition of implementation, which has an interest in exploring actors' interactions with policy, rather than control from the top. For example:
if policymaking requires an effort to affect teacher behaviour, the implementation of that policy consists of the aggregated responses of individual teachers in adjusting to new demands [Weatherley 1979:xi-xii].

This also clearly implies that policy takes on meaning only when it is practised, a contrasting perspective that negates the top-down researchers' favoured focus on isolating ever-increasing numbers of variables in order to 'frame smarter statutes' [Ingram and Schneider 1990]. It allows also for unintended consequences and side effects of a policy to be considered as implementation. From this perspective, 'where policy stops and implementation starts depends on where you are standing and which way you are looking' [Barrett and Fudge 1981:11].

Theoretical contributions: models and concepts

Within these two perspectives the various approaches to, or models of, implementation can be loosely categorised. Top-down offers a 'control' model, which 'prescribes clearly stated goals, detailed plans, tight controls and...incentives and indoctrination' [Majone and Wildavsky 1978:106]. This takes the plan or policy and its realisation on the same logical level: the problem of implementation is to transform plan into realisation, in an extension of organisational design. Elmore [1978] identifies this approach as the systems management model which 'treats organisations as value-maximising units' and 'implementation as an ordered, goal-directed activity' [Elmore 1978:185. This model is based on the premise of rational action ('matching means to ends effectively and efficiently' [Rizvi 1986:3]) which is attractive to planners but as Majone and Wildavsky [1978] point out, it does not recognise that constraints hidden in the planning process only emerge during implementation. The resultant need for trial and error solutions as implementation progresses does not concord with the planning model's 'deliberate procedures' [Majone and Wildavsky 1978:106].

Adopting a similar perspective to the control model is the bureaucratic process model [Barrett and Hill 1984; Dunsire 1978; Elmore 1978]. This emphasises relative autonomies and power relations, turning on the interaction between routine day-to-day operation of existing functions, and the exercise of discretion [Elmore 1978; Weatherley 1979; Weatherley and Lipsky 1977]. While acknowledging the existence and sources of power it does not go on to describe its use [Barrett and Hill 1984; Paulston 1977] and neither does it stress reactions of individuals in the process of operating routine services.
The bottom-up perspective offers a rather different model: the interaction or bargaining and conflict model [Barrett and Fudge 1981; Barrett and Hill 1984; Elmore 1978; Grindle 1980]. This holds that, just as the policy formulation process was characterised by negotiation and bargaining, so this process continues in implementation, where people interact and try to exert influence and gain power through the same means. Implementation then depends on the ability of one group of actors to 'control, coerce or influence' others [Barrett and Hill 1984:226]: participants 'converge on temporary solutions but no stable result is ever reached' [Elmore 1978:186]. In this view, a policy pre- and post implementation is not logically equal: there is a dichotomy between words and deeds. Rather than evaluate whether policy goals are satisfactorily implemented, this model focuses on whether 'the implementation process results in a consensus on goals, individual autonomy, and commitment to policy on the part of those who must carry it out', a 'continuation of politics by other means' [Majone and Wildavsky 1978:107, 112].

Grindle [1980:19] suggests that in developing countries, because bureaucrats are the most accessible contact points for making effective demands on the political system, the implementation process 'may be the major arena in which individuals and groups are able to pursue conflicting interests and compete for access to scarce resources', with a resultant 'concentration of political activity' in this arena.

An intriguing conceptualisation of the bargaining and conflict model is of a core and outer shells [Knoepfel and Weidner 1982]. There may be, for example, high consensus at the core but conflicts as one moves outwards. This core and shell notion provides an interesting starting point in locating complexity and inconsistencies and the reasons behind them [Barrett and Hill 1984]. A possible application of the same concept in the Indian context might be to take the outer shells to represent cultural and environmental complexity, rather than the typical conflict model interpretation. This perspective would place the school or teacher at the core and to work outwards from there.

An 'alternative viewpoint', evolutionary implementation, is proposed by Majone and Wildavsky [1978:108], who are unwilling to accept models which they claim inadequate for assessing the 'intrinsic worth of policy ideas and their significance for policy evolution'. Taking the policy or plan to exist only as a potentiality, 'its realization depends on both intrinsic qualities and external circumstances, on multiple dispositions to act or treat certain situations in certain ways' [Majone and Wildavsky 1978:108]. This insight into the importance of individual dispositions and context is very rare in top-down approaches to policy implementation and begins to open up an
important dialogue, in that it implicitly questions the - normally assumed - 'goodness' of the policy that is to be implemented.

If policy implementation is viewed as a continuous cycle, as Majone and Wildavsky [1978] suggest, implementation continually shapes policy formulation: and implementation in effect is policy. Sabatier [1986] refutes this with two arguments. First, that it would be impossible to analyse democratic accountability and bureaucratic discretion if one does not attempt to distinguish the 'relative influence' of elected officials and civil servants' [Sabatier 1986:31]. His second claim is that if the policy process is a 'seamless web of flows' there is nothing against which to evaluate either the - ever-changing - policy, or policy change. This is important, not perhaps as Sabatier intends - to be able to announce success or failure - but in order to analyse the extent of learning generated from implementing one programme, which can be applied to future implementation, of the same programme or a different one. This theme is addressed again later in this section.

American scholars, working in the tightly structured policy and statutory environment of the USA, tend to focus closely on control through strong legal statutes. Ingram and Schneider [1990] ingeniously even comment in passing on the 'allocation' of discretion which, while it has obvious implications for policy programmes, seems to negate the autonomy, inevitable to some degree, of street-level bureaucrats and suggests that discretion itself can be 'doled out' as a means of top-down control.

Since the notion of control is central to the top-down perspective, sustained research interest has been given to isolating the variables which may explain implementation outcomes. Pressman and Wildavsky [1973] contributed two important notions: veto points and causal theory. Veto points refers to the 'path of decisions and clearance points' [Pressman and Wildavsky 1973:102; Bowen 1982], with a high correspondence between the number of actors and opportunities for delay or failure in ultimate goal achievement. Causal theory - the link between means and end - should be checked for obvious incompatibilities, such as previous commitments, dependence on others with differing priorities, leadership and role disputes, legal and procedural difficulties [Pressman and Wildavsky 1973:99-101]. But the only real attempt to date to synthesise numerous research findings to develop a model is Mazmanian and Sabatier's [1981] 'reasonably parsimonious framework' of a finite number of categorised variables (tractability, legal structuring, and politicality) by which to measure effectiveness of implementation.
Although this is an important contribution to implementation research from a particular perspective, it is of limited applicability in the Indian context. Mazmanian and Sabatier are very much proponents of the top-down school of thought but, as Hjern [1982] points out, trying to help federal and state politicians better to control implementation does not ensure effective implementation. Further, the emphasis on legal variables presupposes an effective statutory control over the implementation process. This, despite the legal division of responsibility for education in India between centre and States, does not in fact obtain in the conflicting nexus of educational tradition and statute in the Indian context. The contention that 'policy decisions in a democracy ought to be made by elected officials rather than civil servants' [Mazmanian and Sabatier 1981:25] is not entirely supported by current Indian practice [Jain 1990].

Sabatier later [1986:23] refines the model to categorise the six 'sufficient and generally necessary conditions for the effective implementation of legal objectives'. These he divides into two parts; the first three are part of the policy statute (clear and consistent legal objectives; adequate causal theory; legal structuring of the implementation process to enhance compliance by implementing officials and target groups). The last three arise during the implementation process (committed and skilful implementing officials; support of interest groups and sovereigns; changes in socio-economic conditions which do not substantially undermine political support or causal theory) [Sabatier 1986:24-25]. If these six conditions were met, Sabatier [1986:25] argues, 'behaviour of street level bureaucrats and target groups could be kept within acceptable bounds over time'.

Empirical testing of the framework led Sabatier to confirm the importance of legal structuring; selection of supportive implementation groups; and veto points and causal theory. However, the emphasis on the need for 'clear and consistent' policy objectives was not confirmed; nor did the framework 'provide a good conceptual vehicle for looking at policy change over periods of a decade or more' [Sabatier 1986:29]. This study argues that to try and control is too static and inflexible a strategy to cope adequately with the multiple variety of contextual factors - economic, political and social - affecting implementation of a policy at different levels.

It may be useful, since implementation research is rather diffuse, to illustrate the complexity of the process by which a policy programme moves, from inception towards its proposed point of impact, by gathering together contributions of top-down and bottom-up research into a single diagram (Fig 3.2). The central box represents the contextual reality into which the programme moves once it has been formulated, a reality that needs to be taken into consideration in formulating the implementation
strategy. This conceptualisation is suggestive rather than exhaustive, but serves to show that the network of factors operating during implementation, which needs to be considered in deriving an implementation strategy, is highly complex:

**Figure 3.2: The implementation nexus**

'Adoption behaviour' is a consideration that a 'bottom-up' perspective would take into account, shown here by the arrow looping back into the policy arena. Top-down' implementation would end at the 'bottom' box. Veto points may operate at any of the intersections in addition to those intrinsic to regular forward transmission of the programme.

This review of implementation research points up its focus on themes of control, conflict, political bargaining, and the underlying notion of efficiency. While the 'control' model is curiously apolitical [Fulcher 1985], the 'bargaining and conflict' model shares with it an unwillingness to address the social, rather than the organisational context, of policy implementation. This overview of the literature has
served to highlight the difficulties confronting implementation research informed by the disciplines of organisational theory (itself in a state of 'conceptual anarchy' [Elmore 1978]), public administration and policy science.

Indian policy-makers clearly adopt a 'top-down' approach to policy implementation: but it can be seen that historically, this has proved itself deficient as a strategy of implementation, as it has resulted in neither achievement of set objectives nor, in the context of UEE, tighter causal thinking between policy, implementation and outcomes in the existing context. Elements of policy implementation identified through the bargaining and conflict model can also be demonstrated in India, particularly with reference to the tensions of the unequal centre-State partnership, but these constraints are not acknowledged in the current mode of policy-making or implementation.

A few pointers about the relevance of Northern implementation research may be made here. Implementation research and the procedural planning model assume that formulation of policy is accompanied by choice among carefully considered policy alternatives, which requires a tradition of policy analysis. It has been observed that in the Indian education sector this capacity is weak, as academics and administrators have little interchange and academic research tends to have a weak policy focus [Dhingra 1991]. Because of the domination of hierarchical bureaucratic norms which impede evaluative feedback, and the comparatively lower status of implementation compared with policy-making, implementation of policy tends not to inform the policy-making process. It therefore increases understanding neither of policy formulation, nor of policy in the form it takes when transformed by implementing actions. For, although there is concern with the lack of efficiency of the elementary education system, there is also a lack of impetus about identifying its real causes which may be traced back to the ideology of the state (see chapter one); to the dominance of bureaucratic norms; and to the weak political processes Naik [1982] describes.

This approach has not resulted in a satisfactory position with regard a strategy which works to bring about the constitutional goal of UEE. There has been a tendency to regard this failure as a problem of numbers or of poverty. It is suggested that this is not entirely so: what is currently required is the beginning of a more open dialogue between centre and States/UTs, and a readiness to understand policy implementation as a process over an extended time period with adjustments made as a result of learning.

It can be argued therefore, with Guhan [1985], that in the Indian context an alternative perspective on the whole remit of implementation research is required. This may be provided by 'social learning' [Stone 1985; White 1990]. Taking the implementation
challenge not to be that of 'faithfully and efficiently executing enacted policies', but of 'increasing our understanding of the depth and complexity of policy issues' [Stone 1985:489], it is imperative to find an alternative which no longer treats policy implementation as a 'technical process concerned with efficiency and productivity' aiming for 'greater productivity in program administration' [Stone 1985:494]. Implementation research may need to change its focus, away from the 'world of objectified appearances' towards a thorough understanding of 'the underlying social relationships' [Giroux 1982:8] which it largely ignores.

It is therefore not the remit of implementation research to 'give advice' in the shape of neat packages of policy pointers: rather, 'in India today much of policy analysis has to be in the nature of exposure and exposition rather than evaluation leading to blueprints' [Guhan 1985:262]. Implementation research is more constructive, more flexible and has potentially wider applications if it adopts a 'policy inquiry' approach, acknowledging a variety of legitimate views on policy strategies (and that) policy dialogues provide an occasion for exploring and discussing options' [White 1990:50]. But if understanding is achieved through discourse [Giroux 1982], which necessitates participation, activities of both policy-making and implementation need to be open and honest, rather than 'hampered by posturing and deception' [Stone 1985:493]:

The surface of policy has to be pierced to lay bare the underlying structure of conflict and to evaluate to what extent policies are a facade [Guhan 1985:262].

The implications of this theme, which cannot be adequately explored within frameworks provided by either implementation or innovations research, are addressed again in the final section of this chapter. The following section discusses the contributions of innovations research into an understanding of policy implementation.

**Educational innovations**

The history of educational innovation has also tended to testify to the spectacular failure of most innovations to achieve the desired end: 'the road to educational development is strewn with the mass of shattered innovations' [Adams and Chen 1981:274] and there exist 'innumerable possible barriers, potentially sound strategies, and countless steps from origin to ending' [Havelock and Huberman 1977:19]. Lewin and Stuart [1990] suggest this has resulted in a loss of confidence and ambiguity towards further attempts at change. But, as this last remark suggests, unlike policy science-based implementation analysis, innovations research readily acknowledges that it is dealing with the difficult question of the process of change [Fullan 1982, 1991; Paulston
1977]. Hurst [1983] identifies change as one of two paradigms, along with control, guiding innovations research.

Innovations research is clear about its subject. An innovation itself may be 'a significant new effort' [Havelock and Huberman 1977:33], but this does not presuppose it is new or original per se: rather, it is either or both in a different setting, where it is also 'deliberately rather than incidentally introduced' [Havelock and Huberman 1977:124]. It is a 'departure from customary practice, entail(ing) new activities on the part of some people' [Adams and Chen 1981:223].

Innovations researchers tend also towards a simpler conceptualisation of implementation. The umbrella term 'innovation' refers to a whole process, of which implementation is a discrete element, a phase in the process of origination; specification; operation; implementation; consolidation [Adams and Chen 1981]. Preceded by adoption of the innovation and succeeded by continuation, implementation is 'the process of putting into practice an idea, program, or set of activities and structures new to the people attempting or expected to change' [Fullan 1991:65]. However, the policy dimension needs to be made explicit since innovations research does not tend to reach far enough into the past - policy formulation - to illuminate the influences of that aspect on the whole process of implementation, which this study holds to be a crucial stage for understanding the nature of an innovation.

It is useful briefly to review conclusions among innovations researchers about implementation strategies, confirming some of the notions put forward by implementation research, as it is apparent that the 'top-down' and 'bottom-up' perspectives recur.

The underlying paradigm of control [Hurst 1983] can readily be seen in the 'top-down' technological or managerial perspective [cf. Berman 1981; Craig 1990; House 1981; Rondinelli et al 1990; World Bank 1974, 1990] which holds efficiency as its primary value [House 1981]. Innovation failure is regarded as an 'essentially technical and temporary phenomenon' [Morris 1985:4], in part due to inadequate communication or lack of feedback [Hurst 1983]. A major work illustrating this approach is that of Havelock and Huberman [1977], reviewing UN-assisted education reform projects in the 1970s. They identified as crucial the interplay between the scale of the project, the existing infrastructure and type of implementation. The resulting model was labelled the IAC model (infrastructure (I); authority (A); consensus (C); and resources (R), the latter excluded on the ground that resources are always insufficient) [Havelock and Huberman 1977:75-76]. Successful implementation is most likely in I+ A+ C+
configuration - good infrastructure for problem-solving, high authority and high consensus.

This early model can be used to explain the prevailing Indian type but is less useful in locating an alternative; to use the systems metaphor, its focus on 'input' and 'output' does not draw in the 'throughput' which is in fact the process of implementation. The systems approach is a strategy of implementation which accommodates neither the important dynamic of individual response, nor the crucial concept of the interplay between innovation and prevailing social context. Havelock and Huberman [1977] do however identify a strategy which was found to be a characteristic problematic type of innovation pattern (Fig. 3.3) - large scale change within a short period of time [Havelock and Huberman 1977; Rondinelli et al 1990].

Figure 3.3: A 'problematic' pattern of implementation

<table>
<thead>
<tr>
<th>Antecedents</th>
<th>Implementation</th>
<th>Immediate Outcomes</th>
<th>Short-term Outcomes</th>
<th>Longer-term Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressures for massive change</td>
<td>Rapid planning and execution</td>
<td>Overload of infrastructure</td>
<td>Delays Unexpected events</td>
<td>Project reduced in scale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demand for rapid behavioural changes</td>
<td>Passive resistance or exhaustion</td>
<td>Traditional structures swallow up changes</td>
</tr>
</tbody>
</table>

Source: Havelock and Huberman 1977

Nearly twenty years after the findings of the 1977 study had been published in widely available form, the emergence of Operation Blackboard is an indication of the fact that still 'innovation is not practised up to the level of existing knowledge' [Havelock and Huberman 1977:19]. OB neatly fits the failure pattern:

there is generally very rapid movement through the problem-solving cycle, from the initial assessment of the need for change, to the design of a solution, and the implementation of that solution. Implementation is rapid and widespread, and is effected through existing administrative machinery rather than through informal or indirect channels. There is typically no trial or experimental phase [Havelock and Huberman 1977:15].

There are echoes of both the technological and political perspectives in the six 'strategies of innovation' Havelock and Huberman [1977] identify: research, development and diffusion; social action/diffusion; participative problem-solving; planned linkage; power coercive; open input [see Appendix 3.1]. But the more
participatory varieties might not be as common as superficially appears if indeed there is the observed tendency to 'cloak power strategies in the rhetoric of problem-solving and participation' because 'implicit belief in its [power's] efficacy remains very strong' [Havelock and Huberman 1977:257].

Innovations researchers have also analysed the characteristics of innovations, reflecting the implementation researchers' interest in policy variables, to try and make innovations work better. The result of such work can be to produce 'policy options' [cf Lockheed and Verspoor 1990, 1991] which usefully amalgamate and present variables, but with the danger that, since they are aggregated outcomes which have lost their country or context specificity, they may be applied according to policy-makers' perceptions of realities and not preceded by a careful identification of conditions in the field.

The control paradigm, evident in the technological and the political approaches to innovation, is flawed in part because the degree of control it requires is not a practical proposition - especially in the federal complexity of India. Nor is human response to change considered, except in terms of a barrier to be overcome. Yet the acceptability of the proposed change to 'recipients' is surely a fundamental problem of implementation if 'educational systems are people systems...their effective operation and change in practice are the result of the motivations, enthusiasms and commitment of their members' [Lewin and Stuart 1990:15]. There is therefore a strong tendency for this perspective to overlook 'the characteristics, impacts and dynamics of innovations in social systems' [Dalin 1978:25].

The pattern of Indian planning is within a rational, technological frame, assuming compliance at all stages of the delivery system to acceptance by a passive consumer [Morris 1985]. This pattern is coupled with the political need for consensus in order for policymakers to maintain the status quo [Guhan 1985] and appears to account for Indian planners' evident preference to address structural problems rather than attempt the radical changes called for by some critics [eg. Naik 1975, 1982; Kumar 1991; Kurrien 1983; Raza 1990; Shukla 1987]. There has developed an institutionalised technological mismatch between the solution and the problem and, as Adams and Chen [1981:279] reflect: 'we find considerable difficulty in seeing how changes in the structure of the system, even its allocation of personnel to tasks, will make much difference'.

A focus on the problems associated with change [Huntingdon 1970; Paulston 1977] brings a different approach to innovation. A strength of the innovations research dealing with change is its central concern with outcomes at 'grassroots' level,
recognising a difference between implementation *per se*, and adoption of an innovation [Lewin and Stuart 1990], indicating that durable change has been effected. This concern has evolved as innovations research has moved on from its earlier focus on initiation, resistance to change and overcoming barriers to innovation (power, value, practical or psychological [Dalin 1978; Gross *et al* 1971; Havelock and Huberman 1977]) to examine factors that appear to account for the acceptance or rejection of an innovation [Lewin and Stuart 1990], with a view to designing appropriate implementation strategies [Berman 1981].

The essential problematic of innovations research with this focus is to account for various forms of acceptance behaviour, catalogued by Hurst [1983:21] - why: i) 'an individual, group, organisation or society may adopt one innovation and reject another; ii) an innovation may be adopted by one individual, group, organisation or society and rejected by another; iii) the level of adoption or use may range anywhere between total rejection and the maximum possible level of use; iv) the level of adoption may vary over time, from a higher level to a lower level and *vice versa*; v) the original innovation may be modified in various ways by its adopters'.

Theoretically advanced is the thoroughgoing work of Adams and Chen [1981], who put forward from the seven international innovations they studied five hypotheses which, they argue, have far-reaching implications for successful adoption of the innovation: the degree of precision with which the original problem is identified; the availability of alternative solutions and appropriateness of the selection made among them; the degree of precision with which the innovation is specified; adequate trialling and evaluation; provision of conditions adequate for implementation. The final point acknowledges a complex and powerful contextual reality existing at local levels although the suggestion that this can be controlled by planners in the course of a single innovation is curious.

Having provisionally identified five phases of innovation (origination; specification; operation; implementation; consolidation) Adams and Chen [1981] tested eleven innovation components at each phase (their emphasis):

1. nature of the rationale developed at that stage;
2. character of the task and content;
3. working procedure or methodology;
4. personnel;
5. plant (buildings or environment required);
6. equipment needed;
7. links established with relevant social contexts;
8. evaluation of resulting consequences or effects;
9. coordination and management;
costing; scheduling and time budgeting [Adams and Chen 1981:275].

The theoretical conclusions of this work are three groups of hypotheses about strategies for bringing about adoption of innovations: the initial acceptability of the innovation; persistence; and duration of the innovation process (see Appendix 3.2). Overall, this analysis provides frameworks of categories which are helpful not only in defining the characteristics of a particular innovation, but also the settings in which it is to function. This model differs from Havelock and Huberman [1977] in that it does allow the beginnings of a means by which to abstract features which characterise process [Berman 1981]. If change is a process, 'only a "process analysis" that takes the characteristics of an innovation and the setting into account can grasp the full meaning of the process' [Dalin 1978:23]: White [1990:39] reports that a process approach is gaining currency 'among those involved in policy changes' in developing countries.

The Adams and Chen framework can be strengthened by conceiving implementation as a cultural process, in which different participants are seen as belonging to different cultures: members of the same sub-culture are 'bound to one another through shared meanings, resting on shared values' [House 1981:19]. This might be a teacher culture, an inspector culture, and so on, among whom differing meanings inevitably arise. It is argued here that these unshared meanings of an innovation may be as likely to contribute to problematic implementation patterns as, for example, different political complexions or organisational rivalry. They could certainly be considered as among the crucial 'barriers to change' [Morris 1981] affecting implementation at multiple levels.

A focus on the problems associated with change centres on the actors in the process and so recommends an implementation strategy that, for example, 'aims at bringing about a state of affairs in which participants perceive that a change of practice will probably be an improvement and that the risks entailed are acceptable' [Hurst 1973:60]. The conclusion to be drawn from this is that if the intended beneficiaries of the innovation participate in its formulation, adoption of the innovation is more likely [Gross et al 1971; Lewin 1985], with positive correlation to the innovation's 'initial acceptability' [Adams and Chen 1981].

Factors that have been identified as positively influencing individuals' adoption of an innovation - Hurst's [1983] 'acceptance behaviour' - are: clarity about the innovation; willingness to adopt; ability to adopt; availability of resources; compatibility of existing organisational arrangements with the innovation [Berman 1981; Gross et al 1971]. Hawes and Stephens [1990] provide a convergent taxonomy: adequate information and
communication; shared goals of relevance and desirability; participation at all levels; realism in expectation and operation; flexibility in relation to both content and mode of implementation as well as its timing.

An amalgamation of factors identified by Gross et al. [1971], and Hawes and Stephens [1990] that are relevant for Indian conditions (some are precluded by the rigidity of the existing arrangements, i.e. there is no arrangement at present for participation at all levels nor of flexibility in content, mode or timing) allows the derivation of a tentative model of factors positively associated with adoption behaviour (Fig. 3.4):

**Figure 3.4: Model of adoption behaviour**

![Diagram showing the model of adoption behaviour]

*Source: From Gross et al. [1971]; Hawes and Stephens [1991]*

This model shows that the fifth of the Adams and Chen [1981] hypotheses about adoption behaviour: 'conditions adequate for implementation' is a complex web of interrelated factors which affect the extent to which adoption can take place.

In India, change is rarely initiated from below, unless a district has an unusual constellation of administration and teacher initiative. Purposive change is most commonly initiated from the centre, through national policy or development Plans and underpinned by a politically and ideologically driven understanding of the direction of change: the implementation strategy is one of control. This perspective on policy implementation and innovations tends to assume that the change to be implemented is
necessarily for the better and rational, because it is in accordance with planning imperatives and the planners' notion of progress. But what is rational to one group of people may seem completely irrational to another: it may be meaningful to one way of thinking, and meaningless to another.

Fullan [1982] offers the notions of objective and subjective 'realities of change' as a way of exploring the 'ongoing problem of meaning' [Fullan 1982:38]. For example, Adams and Chen's [1981] illustrative list of identifiable components of an innovation outlined above could be described as the 'objective reality' of change [Fullan 1982]. The concern, however, is the extent to which people develop meaning relating to this objective reality and allow this understanding to impinge on their own world of meanings, or 'subjective reality'. Devising policy centrally and implementing it through official bureaucratic channels ignores the subjective reality of actors in the implementation process:

Many attempts at policy and program change have concentrated on product development, legislation and other on-paper changes in a way that ignored the fact that what people did and did not do was the crucial variable. This neglect is understandable, for people are much more unpredictable and difficult to deal with than things. They are also essential for success [Fullan 1991:65].

The conclusion seems simple: yet its implications are highly complex. Fullan's conceptualisation of subjective realities is essentially practical, involving an exploration of how individual actors understand an innovation and how that is reflected in their actions. If this insight is to become more than useful, and contribute to theoretical developments, it must be taken further. It then becomes necessary to penetrate to the factors shaping that understanding, stemming from the 'particular frame of reference, tradition or culture' [Giddens 1976:56], in which policy science-based implementation research shows no interest, and innovations literature only a superficial recognition. A critical analysis of varying 'frames of reference' and the levels of understanding they permit can illuminate not only the process of policy implementation but also shed some light on what has traditionally been seen as a 'gap' between policy rhetoric and conditions existing in practice, with obvious implications for policy formulation.

It may be argued that neither body of literature reviewed here goes far enough in explaining the social and cultural perspectives underlying the process of policy or innovation implementation. They do not begin to strike at the social and political root of why policies which, for example, proclaim the crucial importance of universalising elementary education, are unrealised. Indeed, the apolitical character of the 'top-down' school of implementation thought, which avoids the many issues raised by the
connections between politics and policy is, as Fulcher [1987] notes, remarkable. Questioning the rightness of the policy or innovation in the first place is not a strength of either literature, although the strand of innovations literature which is closely concerned with classroom activities perhaps comes closest to exposing deep-seated contradictions between policies and the social conditions on which they - in some form - impact.

In order to give a sociological account of policy implementation, one needs to find a way through which implementation and innovations literatures as well as the practices as documented field study can be critically interpreted and more deeply questioned. Such a process may culminate in more successful policy implementation because, it is suggested, it would change the very nature of policy making. That this is no easy task is very clear: but in the context of India's continuing inability to realise UEE it is time to examine critically policy implementation, and not merely to rest on trying to write clearer policies, exploring administrative bottlenecks, or bemoaning the lack of available funds. All are significant, but they are not in themselves the underlying causes of the poor quality, irrelevant primary schooling that is labelled education for the large majority of lower economic strata Indian children.

Rationales for education: a re-reading of Five Year Plans

The content, or rhetoric, of Indian educational policies and plans is consistent with what may be termed a liberal, humanitarian approach: education as a force for the good, contributing towards the realisation of equal access, reduction of gender inequality and thus a move towards greater equality and national integration. However, despite the constant reiteration over forty years of these guiding principles - upon which the 'ideal society' is predicated - the picture of the India of the 1990s is one of a society beset, albeit to different degrees in different places, by inequality, factionalism and other tensions which appear to be worsening rather than stabilising and diminishing. While the policies are indicating steps leading towards a society characterised by liberal humanitarian values and actions, the achievement of such a state is in reality threatening to become more distant rather than closer.

It is appropriate at this juncture, in order to try and understand this problem, to return to policy documents and to subject their content to a re-reading. As discussed in chapter one, overall the Five Year Plans have aimed to bring about the twin goals of social reconstruction and economic development. Their 'rhetoric', which often appears so far from the realities of the world, is referred to here as the world of policy 'appearance'.

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These documents, at a superficial reading, provide one type of evidence of planners' intentions, which might be seen as the 'explicit' agenda for education. A different reading of these documents can however draw out a meaning which exposes planner's underlying values, and makes clear the extent to which - despite the explicit ideal of social transformation - that broad social agenda has been channelled into what is in fact an economic development strategy. This might be termed the 'implicit' agenda for education.

The education component of each Plan, for example, is underpinned by numerous rationales, or justifications, for education. If these justifications are contextualised they may be used as a device to enable exploration of the meanings actors give to education policies and, so far as this is possible, act as heuristic devices [Habermas 1984; Outhwaite 1987]. By asking 'what role is the planner ascribing to education?', numerous rationales emerge, which can be classified into categories. Details of this exercise are given in Appendix 3.3. The categories that emerge are: economic; political; developmental; educational; and individual. If each rationale for education occurring in the Plan documents from 1951-1985 is given one point, and these are plotted in their categories onto a graph, the instrumental function of education becomes clear (Fig. 3.5).

**Figure 3.5: Rationales for education in national Plans**
Although such a categorisation is indicative rather than definitive, this heuristic device shows that documents pointing the way forward for education in actual fact have few strictly 'educational' rationales, while the economic and political objectives in which education serves as a tool emerge very clearly.

Viewed in this way, education appears as a mere instrument in a technicist-oriented development 'vision'. Such a perspective on education takes the state's requirements as the base-line of needs which education should fulfil: it fails to consider the very different myriad of community-level cultures and needs, or the importance of education in an individual's life. The utilitarian view of education espoused by national planners does not admit of discussion of the potential worth of education as a means of empowering individuals to change aspects of their own lives, even within constricting socio-economic circumstances. To narrow education to the primary role of turning out 'human capital' is to deflect from the values reiterated in those same Plans and policies: and, as later years have proved, investment in human capital is not a simple economic equation.

There appears then a separation between 'appearance' - the harmonious and integrated society policies envisage, reflected in the 'explicit' policy agenda, and the 'reality' of India as a nation making rapid technological advances while failing to fulfil its constitutional obligation of free universal elementary education. This is reflected in the 'implicit' agenda drawn out in the above analysis. These underlying contradictions characterise policy and practice; and to expose policy outcomes, if they do not fit the policy-makers' intentions, 'becomes not only a challenge to the policy but also to the legitimacy of the decision-makers' [Lane 1981:9].

However, as Giroux [1982:9] points out, it is 'in the contradictions of society that one could begin to develop forms of social inquiry that analysed the distinction between what is and what should be'. In this way it may be possible 'to penetrate the world of objectified appearances and to expose the underlying social relationships they often conceal' [Giroux 1982:8] which neither implementation nor innovations literature does.

In discussing planning, it was noted that the conceptual frame of planning is one of technocratic rationality. The Frankfurt school\(^2\) argues that technocratic rationality does

\(^2\) Members of the Frankfurt School, notably Horkheimer, Adorno, Marcuse and latterly Habermas have contributed to 'critical theory'. This is an evolving theoretical perspective that demands of itself a constant questioning, a need to develop a discourse of social transformation and and emancipation in the form of a self-conscious critique [Giroux 1982], the whole endeavour directed towards a 'just and more rational society' [Gibson 1986:2]. The developing and refinement of positions adopted, combined with the fact that it is embedded in the German philosophical tradition and often conveyed in complicated
not allow for a questioning of its own normative structure so 'facts become separated from values, objectivity undermines critique, and the notion that essence and appearance may not coincide is lost in the positivist view of the world' [Giroux 1982:13].

This may help to explain why, in the case of education, the type of policy which remains at a remove from practice continues to be written - it accords with world view of a particular stratum of society functioning within this type of rationality. The goal of UEE has been held constant for many years and never questioned: the search has been to find means of implementing this goal and in this search, as Held [1980:265] points out, 'the technical values of efficiency and economy tend to dominate the selection of means'. This suggests a set of priorities that inherently run counter to many of the conceptual underpinnings and assumptions of both implementation and innovations researchers. It is a powerful suggestion in the context of policy implementation, and further strengthens the evidence that there are both 'explicit' and 'implicit' agendas in Indian policy literature.

If this is so, Indian education policies serve simultaneously two purposes: one, at the 'explicit' level, as the blueprint or guideline for action with which implementing agents are concerned. The second can be deduced from the nature of the 'implicit' concerns which place economic development and the more 'political' rationales for education so high in the graph: a concern that India should achieve the position, in social and economic terms, of an equal partner in the international comity of nations - an aim held dear since the birth of the new nation in 1947. In this, education is an instrument.

Just as the Plans and policies have a rationality which is not the same as their overt intention, a policy which purports to be about education may have a different primary focus. It is suggested that if this is so, there is a fundamental contradiction: for a policy with the latter end in view may not be much concerned for the feasibility of implementation. Implementation, which takes place within the domain of 'reality', may be subject to the conflicting demands of 'implicit' and 'explicit' agendas of 'appearance'. Implementors operate in the domain of this unresolved conflict, and


3There arises here a further a question that implementation research does not address: who is in fact the audience for policy? India's position as a developing economy needs to remain in focus: there may perhaps be a need, for the sake of international legitimacy, to write policies that accord with the thinking prevalent among those who control aid. This is another strand of the policy agenda which requires consideration in further research.
policy programmes themselves are subject to the tensions between 'appearance' and 'reality'. In this - unobserved by most implementation and innovations researchers - may derive a major problem of implementation, which deals only with the 'explicit' agenda of policy.

From these observations it is suggested that a new dimension to the understanding of implementation would be an exploration of the levels of understanding of actors at various stages in the implementation process. This can be constructed by examining closely the way in which the policy message is communicated from one level to the next, and the reactions and wordings of communications that carry it further; and by recording the perceptions of actors who implemented the innovation. The methodology evolved to do so is discussed in the following chapter.
Chapter Four

METHODOLOGY:
BACKWARDS MAPPING
Introduction

This chapter describes how research was conducted in the field, during one year in India. It is divided into three sections: the first discusses the choice of methodology; the second, application of that methodology in the field; the third contains reflections on the success of the methodology in researching the problem at hand.

While very little research has been done on the implementation of educational policy in India, it is clearly important to study this process if implementation is not taken to be a natural follow-on from policy as has traditionally been assumed, and in the context of the continuing difficulty in achieving universal elementary education (UEE). Also, if there are, as suggested, differing levels of understandings of policy operating at the various levels of implementation, they have not attracted much attention from implementation researchers, who tend to draw on control and conflict models.

Although insightful ethnographic studies by Newman [1989] and Rao [1985] describe elementary schooling in India, there is also a need to add to the limited existing research literature on small Indian schools some 'thick description' [Stenhouse 1985]. Further impetus is provided by the new focus on basic education and quality improvements, both internationally (eg. the 1990 World Conference on Education For All [WCEFA]) and nationally (eg. the NPE 1986).

Drawing together these strands, the research problem at the outset of this study was to investigate the process of implementing education policy, penetrating as far as possible into actors' 'subjective worlds' [Fullan 1982] to uncover the multiple realities of different people at various stages in this process.

Choice of method

The importance for this research of process, actors and their meanings, indicated the need for a research strategy that would capture subtle differences in interpretations while fitting together explanations of how things had been done. Since the major part of this research concerned the mapping of a process hitherto undocumented, it was inevitably highly exploratory: much information would have to be gathered from explanations by actors, in the form of interviews. Two themes that would run through such interviews would be: descriptions of actions taken; and perceptions of the policy message. Neither theme is particularly 'quantifiable': the final account would be one of process, drawing on perspectives of reality from many different actors and documentary sources, and conveyed almost entirely in words rather than numbers. The
very essence of this research problem is in the domain of what has come to be termed the 'interpretive' paradigm of social sciences rather than the 'positivist' approach.

As the term itself suggests, the interpretive paradigm is concerned with understanding how other people view the world. This perspective 'essentially sees human actions as constructed by the actors, rather than the product of external forces which mould the individual' [Finch 1986:7]. In human affairs 'all facts are socially constructed, humanly determined and interpreted' [Gibson 1986:3], it follows that all understanding is 'from within a particular frame of reference, tradition or culture' [Giddens 1976:56]. In order to explore actors' understandings and consequent actions, it is necessary to interact with the subject(s) of the research [Vulliamy et al 1990]. In so doing, the role the researcher herself plays is brought into the picture as the medium through which interpretations are made.

This perspective differs from the well-established 'positivist' approach to social-scientific research, which would tend to start out with one or more hypotheses which are tested 'in order to uncover social facts and law-like generalisations about the social world' [Vulliamy et al 1990:8], those facts arranged in a 'chain of causality' [Finch 1986]. The researcher remains a detached outsider and it is assumed to be possible to study the 'objects' of research in a value-free way [Vulliamy et al 1990]. Academic research in India the field of education, both in journals and in dissertations and theses, is generally written from a positivist perspective1. Education and sociology remain largely separate in India although there is a growing recognition of the contribution to education that interpretive perspectives from sociology can make.

There is an observable tendency for those arguing the relative merits of qualitative and quantitative methods to posit them as polar opposites. By keeping central the research problem, however, which with its own theoretical underpinnings is itself likely to indicate the sort of research strategy it requires, it is possible to minimise the false polarity of the quantitative-qualitative divide. As Hamilton et al [1977:13] point out, 'the problem defines the methods used, not vice versa': rigid adherence to either paradigm does not further the conduct of research itself [Preissle-Goetz and LeCompte

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1 An extensive review of major Indian academic journals in education such as the Indian Education Review, Journal of Indian Education, Perspectives, and the policy-oriented Indian Journal of Public Administration revealed that a wide range of research topics was investigated almost entirely from a positivist perspective. Theses and dissertations reviewed at NIEPA and M.S. University Centre for Advanced Study in Education in Baroda adopted in the main a rigid pattern of constructing one or several hypotheses and testing them, often by survey or questionnaire.
1984; Hamilton et al. 1977; Miles and Huberman 1984; Reichardt and Cook 1979; Vulliamy et al. 1990).

Major databases for national policy and planning purposes, such as the All-India Educational (AIE) Surveys and decennial census are necessarily compiled by quantitative methods. Despite difficulties with data collection that may make it inaccurate, such surveys furnish a database for planning [Raza 1990]. The Fourth (1978) and Fifth AIE Surveys (1986) have broadened their scope and are gradually furnishing quantitative information from which it is possible to formulate policy programmes which aim at qualitative improvements, such as Operation Blackboard. However, as Dhingra [1991] comments, there are limitations to the insights such research offers to the policymaker considering how to bring about qualitative improvements. Adams and Chen [1981] are also critical of the positivist approach and directly link this tradition of approaching educational problems with the gaps between research, policymaking and practice. The World Bank, with its very large research capacity, clearly works from a positivist orientation but has recently observed [World Bank 1990] a need for the types of insights into classroom practices and quality of the school experience which may be gathered more readily by qualitative research methods.

The major relative advantage of interpretive, qualitative research with a policy focus is that it becomes easier to explore the relationship between policy statement and actual practice, rather than 'official reality'. The changes the innovation undergoes from its 'on paper' form to its practical character during implementation [Atkinson and Delamont 1985] can be uncovered and probed, together with unpredicted policy and implementation outcomes [Shipman 1985]. Furthermore, as Fullan [1982] makes so clear, reactions to change are an essential factor bearing on innovation implementation. Understanding more about reactions to change and the differences between policy and practice clearly has broad implications for policymaking.

As this approach to the research problem was interpretive, a qualitative research strategy was suitable [Burgess 1985]. To treat OB as a set of objectives or variables to be measured would not have been appropriate for a study which intended to document 'process' rather than product or outcomes [Atkinson and Delamont 1985]. In common with all qualitative research, there was a clearly defined interest in the social construction of reality; the meanings and interpretations of various people; working in a natural setting; and, rather than setting out with preconceived hypotheses, a preference for generating hypotheses from 'grounded' data [Glaser and Strauss 1967; Guba and Lincoln 1982; Vulliamy et al. 1990]. The exploratory nature of the study could best be
satisfied by a strategy of 'illuminative evaluation' [Hamilton et al 1977] or case-study. As Hamilton et al [1977:10] suggest, an illuminative evaluation is concerned with the wider context in which the programme functions, and with 'description and interpretation rather than measurement and prediction'. A case study method would allow intensive research into one or more smaller units, gathering qualitative insights which could be interpreted at the micro level and give insights into the macro level of policy implementation.

Two facets of the nature of the study determined the selection of interviews as the main field tool. For, if the 'search for meaning is a search for multiple realities, truths, and perceptions...The focus on multiple perspectives and multiple realities precludes heavy reliance on survey interviewing as a means of grounding an enquiry' [Guba and Lincoln 1982:157]. Also, a pre-formulated questionnaire, developed on the basis of the policy would be inappropriate, as it might make assumptions that implementation had occurred as the policy intended [Vulliamy et al 1990], rendering it less able to expose discrepancies, let alone the interesting 'whys' accounting for them. Interviews with teachers and administrators would be semi-structured, using an interview schedule developed after arrival in the field, although some themes were already provided by documents relevant to the programme and policy.

To allow some latitude for comparison, I hoped to choose some three sites and to spend a period of about two weeks spent living in each, observing daily activities in schools and in the local environment. These short, intensive periods of observation would provide a backdrop against which teachers' interview responses could be understood.

The 'top-down' and 'bottom-up' debate was familiar before entering the field, and the 'bottom-up' approach was both theoretically and methodologically more appropriate as an overall strategy. As an outsider who had been able to glean information about OB only from official written sources, and who had visited Indian primary schools only in passing, there was considerable benefit in beginning the study by spending a short period observing the process of schooling. To see the innovation as it was operating at the grassroots and to have discussed it with teachers as they perceived it, before moving to the administrative procedures by which OB was implemented would, I hoped, give the insights needed to ask of administrators questions informed by practice rather than policy. This would offset the obvious disadvantage of asking questions about a subject in a context to which I had had little previous exposure, but some knowledge from previous reading.
The themes which emerged from the grassroots would then be increasingly refined at each level of implementation, insights from previous stages used to drive the research towards policymaking levels - Hamilton et al's [1977] 'progressive focussing'. Respondents would bound the scope of the study by providing the names of important officers by whom they had themselves been contacted. These officers would be a starting point and other respondents could be sought as necessary at that level. It would be possible in this way also to validate internally research insights by gathering ideas and returning them to respondents to substantiate or amend, and elaborate.

Overall, the potential scope of the study was very large and it was essential to bound it, not least geographically. This I did broadly by siting the case study in a single State, Gujarat. Within India as a whole, in each State and even each district are enormous differences that rule out any attempt to select a 'typical' State. A case-study of a single State should however provide some findings which might be generalisable on a wider scale, while others might be characteristically Gujarati in nature. Siting the study in a single State excluded the attractions of a comparative study of how different States implemented the same programme but I felt that, in the time available (one year), to attempt an in-depth study of more sites would be too ambitious.

Gujarat was chosen in part from personal preference and in part for its interesting educational traditions. In the course of two previous visits, a superficial familiarity with the hospitable people of the State had fostered my desire to return and learn more over an extended time period. Gujarat has a reputation for being safe and stable which, for a single female researcher, is a relative advantage over others such as Uttar Pradesh or Bihar. Educationally Gujarat is a middle-range State: it has the distinction of being neither a designated EB (educationally backward) State, nor an educationally 'advanced' one unlike its neighbour Maharashtra, or Kerala for instance. States which are not outstandingly good or bad seem to be rather less often the focus of educational studies.

As a unit for in-depth study, the State is still too large, and for this reason a single district, Baroda (Vadodara), was selected. I made this choice from a mixture of pragmatic and research-related reasons. The district, with its average literacy rate of 48% [5AIESGuj 1988] has a wide range of educational needs, and part of it was covered by Maharajah Sayajirao's experiments with compulsory elementary education. The tertiary sector is served by a large university and several colleges; numerous private schools dominate the secondary sector; and both government and private schools serve young children of communities as disparate as the tribal areas of the south east of the
district and the white collar workers of the urban areas. It seems to incorporate in one small area many of the characteristics of the whole sub-continent. Baroda city is a good 'home-base', with both the English medium Maharajah Sayajirao (M.S.) University with a large and well-stocked library, and a Centre of Advanced Study in Education (CASE), a point of contact with the current climate of research in a university.

Within this district, research sites in different locations could be selected, to provide comparative data on adoption of OB and to study the effects of time on the implementation of the policy programme. Location and overall research strategy decided, the five orienting research themes I took to the field were:

i) to assess changes resulting from OB at its intended points of impact with both schools and the administrative structure.

ii) to map out the agencies, institutions and actors involved in the implementation of OB and their interrelationships.

iii) to elicit descriptions, comments and reactions to the programme itself and the actions taken.

iv) to record understandings of the programme and the policy message as it moves through the system.

v) to assess the extent to which policy rationales are shared or replaced by a more local agenda: which concerns are on the local agenda and why.

Backwards mapping

To give some sense of the scale of this backwards mapping procedure, Appendix 4.2 gives a chronological overview of the research process, with timings, locations, and respondents by level, of the more than 100 interviews I conducted during the year with teachers, and administrators at every level. The names of those respondents and their official designations are given in Appendix 4.3.

On the information in hand alone it would have been difficult to map backwards directly from the school level. On arrival in New Delhi in mid January 1991 I spent some days identifying key officials for later interviews and on brief introductory discussions with a representative from the elementary education bureau of the Ministry of Human Resource Development (MHRD) and from the National Council of Educational Research and Training (NCERT). These discussions produced two key documents: the official outline of the scheme of OB [MHRD 1987b] and the booklet of TLE specifications [NCERT 1988b]. MHRD was enthusiastic about the study, interested in
the potential of a substantive piece of qualitative research to supplement and illuminate the regular, institutional, quantitative evaluation.

On arrival in Baroda, I paid a visit to the District Primary Education Office to identify the talukas where OB had been implemented; by this time it was becoming clear that implementation was running behind schedule. Using the information from the District Office, case-study locations were narrowed down to a manageable three potential areas. This was done conveniently by the structure of the programme itself: its three phases (I 20%; II 30%; III 50%). In Baroda district, phase I had been subdivided into Ia (three rural blocks) and phase Ib (three tribal blocks), implemented in 1987-88 and 1988-89 respectively; Phase II (1989-90) had embraced municipal schools. This presented the opportunity to collect data from two very distinct socio-economic and geographic locations and work in some schools where OB had been running for a year longer than in others, so any amendments to administrative procedures in the light of implementing experience could be recorded.

It remained to choose from each of these sub-phases an illustrative taluka: from Ia, Karjan, completely unknown; and from Ib, Chhota Udepur (CU), slightly familiar from two very short and informal previous visits. In order to gain some insights into urban schools, one of the municipal schools covered in phase II was chosen: Subhanpura (Plate 4.1).

Although a Gujarati language course the previous year had furnished a grasp of the language adequate for basic communication and a fair level of comprehension, the language is very different from any European one and my fluency was not sufficient for the type of interviewing envisaged. Three interpreters helped: the first was a first year MA sociology student; the second, an MEd principal from Karjan; the third, an ethnoarchaeologist.

After ascertaining from the taluka panchayat office that almost every Std. 1-4 school in CU had been covered by OB, all 29 groups of schools2 were potential research sites. Selecting the tribal site location was extremely difficult: two of the four sub-divisions of CU taluka are very remote (a minimum of two and a half hours' walk from a road) and the prospect of finding any sort of accommodation for a couple of weeks was slim.

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2 In Gujarat, schools are grouped for administrative convenience; in CU groups varied from 6-20 schools each. The group is not intended to provide a forum for mutual academic support among teachers. The group school is supposed to be a large (1-7 Std.) school located centrally among the schools in the group.
Plate 4.1: The three 'observation' schools

Above: Harsunda
Middle: Lalpur
Below: Subhanpura
Staying with a teacher would have been possible but they often do not live in these villages and use their own transport to move to and fro.

In order to try and resolve this difficulty an exploratory trip was made, moving on foot, bicycle or any available wheeled transport around three tribal groups of schools which were located within 5 km. of an unmetalled road. These days of informal discussions with teachers were informative, but the possibilities for a longer stay were not promising. Exploring the option of staying in a remote ashram led to another group of schools, Rangpur, with one female teacher, a rare occurrence. Since the aim of OB was to provide a balance of one male and one female teacher this was a potential opportunity to study the programme in policy 'ideal' circumstances. The teacher's kind offer of accommodation made it possible later to spend a week living in the tribal village of Lalpur observing daily life out of school also and adding texture to the observation. The ready-made 'group' was adopted as the wider study unit. Accommodation at the ashram facilitated a further week of observations in schools in this group and was a base for follow-up trips also.

The initial foray furnished enough insights, along with the official document of the scheme (MHRD 1987b), to formulate an 'interview guide' set of questions (Appendix 4.1) which would direct conversations with teachers towards the themes of interest, and allow plenty of opportunity for teachers to expand on issues they felt to be important. The schedule was divided into five sections: biographical details; perceptions of the NPE 1986 and the adequacy and relevance of either or both sets of policy and programme-related training (PMOST and PMOST-OB); teaching aids prior to OB and the OB kit itself; use of OB items in daily teaching practice; understandings of the new policy thrust of child-centred learning and activity methods.

Lalpur was then a single room school with four Standards, and prior to OB had a blackboard but no other teaching aids of any sort [GoGOB1 1987]. All OB TLE materials had been supplied by the end of the previous October: books had only come the month before the observation, in February. Under OB, a second room was being constructed next door and was a source of great interest and diversion to the children. The 'principal', apparently as usual, was not present on any occasion during the week.

Since confiding in the teacher exactly why observation was being done would, it was felt, prejudice 'natural' practices, perhaps encouraging an excessive use of aids, I gave the truthful if rather global explanation of 'wanting to look and see what happens in an Indian primary school' as part of my introduction, along with assurances that I was not in any way related to government. In this school, my presence proved a great
distraction to the teacher, who was glad of an outlet to express her multiple dissatisfactions with her circumstances. The tensions between a researcher wanting to be ignored and a teacher socialised to look after guests and to respect elders were difficult to deal with, as an observation note indicates:

3.06 T beckons me to come and talk to her. I point to the children and say 'what about them'. She indicates it doesn't matter. I remain firmly seated.

The school children were also very curious about this stranger and the teacher did not offer any introduction or explanation. After three days they seemed to decide I was another teacher and brought slates to be checked.

The aim of this observation, the first of the study, was to acquire general impressions, with particular reference to the use of teaching aids. Observation was not carried out according to a strict schedule, but interview notes always included the number, Standard and gender of children, activities in the classroom and time taken, teaching aids used, and general observations. These were recorded in a notebook at the time and typed up at the end of the week with comments on things that were particularly striking - which often revealed as much about my assumptions as they did about what I saw - and notes on emerging themes, which were themselves later summarised and explored further in interviews. For example, part of day two in Lalpur was recorded as follows:

| 12.25 | 17 sts. present, doing nothing, talking. T is writing in her book. |
| 12.27 | T raps table to keep down noise. |
| 12.29 | Std. 4 girl reads aloud from textbook. Inaudible above others talking: she stops. A boy starts. T hits and pulls ear of Std. 2 boy until he cries. As boy reads she talks intermittently to others. |
| 12.33 | Woman comes in and talks to T. Boy looks up then continues with hesitant reading. T conversation with woman gets more animated. Boy stops. Others start to talk again. |
| 12.33 | Woman goes. Std. 4 girl asks to be excused. T refuses. T writes in her book while boy reads aloud. |
| 12.46 | Another Std. 4 boy starts to read. Other boy looks puzzled, remains standing by her desk. Others are not listening. T raps table. Talks to them (general not school-related conversation) as boy reads. Some Std. 1-2s writing on slates (no T instruction). |
| 12.48 | Boy finishes; no praise from T. Sits. Girl starts. Std. 1 boy brings numbers on slate for correction, receives gentle hit on ear. |
| 12.50 | T goes out with small girl. Reading student realises and stops reading. Then starts again. |
| 12.52 | All sts crowd to door. T outside talking to site worker. Smallest (underage at 4) boy has been given nos. 1-4 to trace on slate and has been doing this for two days. |
| 1.01 | T comes in again. 6 Std 1-2 are in the room. Nothing happens. T sits, Sts. fidget, no work. |
| 1.14 | Girl present y.day comes with ration book: not at school today. |
| 1.42 | 8 sts. present (4b, 4g) quietly working slates - ostensibly - in fact they aren't doing much. T sits. |
1.47 Windows shut for lunch recess.

Comments:....Not a happy school. T not interested, discipline problems. No effort even made to try and sustain two different levels of teaching, let alone four. T has no use of aids at all, does not even use bbd. Time on task in this school would be worth working out. Enormously tedious way of learning numbers: many times today there were clear opportunities for OB items.

After a difficult week in this school in which my presence continued to be a severe distraction to the teacher, which was uncomfortable, it seemed it might be more profitable to spend a second week moving around the various schools in the group, and observing their activities. The aim of this was to try and get a feeling of how classroom life in Lalpur compared with other schools. Qualms about this intrusion wore off rapidly after a few days of observing the comings and goings in schools themselves and the absence of any discernible timetable in all except one. Characteristics of Lalpur school were shared by most other schools I visited. Interviews in this area were completed four weeks later, and teachers independently confirmed that they had not met others to discuss the questions they were asked meanwhile, although this had been left open.

For the second taluka, for OB phase Ia, I had sought information about the numbers of OB schools in Karjan from the officer in charge in Baroda, who provided only four names. This could not be verified at taluka level owing to the marriage ceremony of the relevant officer's daughter and his extended absence, and the pressure to complete interviews and observation before the end of term. The information was in fact wrong, the correct total being 40, but was an interesting indication of the lack of orientation of office staff in the District Office.

Accordingly, I interviewed teachers in all four schools mentioned (Abrapura, Harsunda, Sherpura, and Somej), initially omitting Harsunda which was chosen as the second observation site. This was the only school I could reach independently by bicycle from available accommodation, all the others difficult to reach on a daily basis by independent means and entailing the use of public transport and inevitable lengthy periods stranded in between bus changes. Once the error in the information about the number of OB schools in the taluka had been uncovered (as a result of discussions with the teacher/interpreter who was sure more schools must have been included and knew how to locate the errant officer) extra schools in the Anastu group, in which Harsunda was, were included. Accordingly, data in this unit of case study is drawn from a widely dispersed geographical area. This provides an untidy grouping but allowed crucial discoveries related to levels of socio-economic development to be made.
An acquaintance, the principal of a 1-7 Std. school with an M.Ed., interpreted: he was known to be a very keen teacher and this might have prejudiced others less interested than himself, but he had a good mix of insider knowledge and authority to draw out others' opinions and provoke discussions. Since good elementary teachers are rarely given any career encouragement he welcomed this as a different form of in-service training and, although initially baffled by the lack of survey questions and my desire for long conversations, he quickly learned to appreciate this very different way of gathering information. As we cycled one hot and arduous 60 km round tour of interviews along railway tracks and sandy paths he even managed to furnish a good deal of background information about the general educational climate of the taluka.

Observation in Harsunda school, in the Anastu group of Karjan, was spread over two weeks. After observing conditions in the tribal area and having already heard some of the very variable responses from teachers in Karjan taluka, it was interesting to spend time in a school where both teachers were present and active, and involved with the children. Since the teaching aids were being regularly used here, I could observe the type of activities they were used for, which were used more often, whether children handled the objects, and so on. Again, I avoided mention of the specific interest in OB, but there was on one day an obvious element of showing off all the things that had been provided, once or two aids had been used naturally in the course of a lesson. From this it was clear that teachers did know the applications of such items, although at that time this was not dovetailed with the intended lesson.

The third site was the municipal school in Baroda. Access was a little more difficult, in that it was formalised and a certificate made out by the Administrative Officer, which the principal needed to see. Otherwise teachers in this school were pleased to welcome an outsider. On a personal level this site was by far the most difficult: it was hard to remain a detached observer while watching teachers pull five-year old children forward by a yank on the ear and slap them three times across the face. Implementation of the municipal phase was extremely slow: officials were very wary and the teaching aids when they finally arrived were of appallingly low quality. The delays in fact meant that it was possible to conduct a before-and-after type of observation in this school, although ironically the very frequent unofficial closures of the school necessitated far more effort to see something in action than the long journeys to tribal schools.

In mid-April, the whole research process was made very much easier by the discovery of an excellent interpreter. Professionally, her combination of research interests in ethnography, experience of field interviewing and a real interest in rural people was
very helpful. As an 'outsider' to the education establishment but herself a Gujarati who had had all her early education in village schools, she was rapidly able to strike a rapport with interviewees. It was possible to complete all outstanding first round teacher interviews before the beginning of the long May vacation (Plate 4.2).

Once I had written up field notes from these observations and interviews and made the beginnings of a theme analysis, I moved to the next level, four months into the fieldwork year. There were now four major themes to pursue: teacher training; and the three policy provisions of extra teacher, room and teaching-learning aids (TLE). This necessitated two distinct strands of backwards mapping: academic and administrative, dealing with the individual components of the OB package. Fig. 4.1 shows the mapping routes from school level to the point of departure of policy implementation:

**Figure 4.1: Mapping routes**

![Mapping routes diagram]

A start was made at district level by interviewing the District Primary Education Officer (DPEO), whose name was familiar from teacher interviews. He was generous with his time and informative but had not been present in Baroda throughout the last three years - although he had been posted there before and had 'initiated the files'. Initially this seemed to be why he was unable to divulge much information about the purchasing procedures for the TLE: it later transpired in conversation with a clerk that the previous incumbent had been cleared of a court case alleging misuse of OB funds and that as a result the present DPEO was being especially protective of files.

I spent quite some time becoming 'part of the furniture' in the District Office. Talking to clerks was an important part of the research process: they did not move on so often and could explain what notes in files meant. They were usually available and were
Plate 4.2: Teacher interviews

Above: Discussions at Subhanpura school

Middle: Children in Sodvadh school - anxious to see what was in the unopened boxes, and intrigued by the camera

Below: A final visit to Lalpur school - showing teachers how to use kit items
cooperative, perhaps even flattered that their work, usually taken for granted, was part of a research project, and that I visited them more often than the officer in charge.

Transfer of senior personnel afflicted research at State government level also, where for almost the duration of the research period there was no Director of Primary Education. The previous incumbent, met on a previous visit, was now in Secondary Education but was kind enough to make time for several interviews as well as giving access to the administrative files, in Gujarati. Notes taken from these files gave a clear picture of actions taken and the sequence of events, the time-scale and the upwards and downwards administrative linkages (Appendix 5.1). Again a most informative person was the senior clerk who had been with OB throughout. I also had no difficulty in meeting the officers in the Secretariat for discussions, although neither side acknowledged to me the presence of the other.

After building up a picture of actions and perceptions at these levels, I sought interviews with key officials in New Delhi at the MHRD. These officers were also generous with their time, and the official in charge of OB was especially helpful in providing information about OB and names of other key informants. Access to MHRD files (in English) was also kindly given.

Prior to the visit, I prepared a brief resume of preliminary findings, with some reflections on the implementation of the programme, and photos. A trade-off for the MHRD was the de-briefing about field experiences which revealed some findings (such as the absence of a budget for transport of OB kit items from storage to school) which were immediately noted for action. The MHRD’s concern about teacher training and procurement of TLE was voiced and I made it a special area of attention for later feedback after another few months in the field.

For the academic strand, I also mapped the PMOST teacher training programme backwards, starting with the teacher training college in CU and the secondary school used in Karjan. These ‘resource’ people gave the names of ‘key’ people at both the Vallabh Vidyanagar BEd college and the SIE, officially the Gujarat Council of Educational Research and Training, who had been trained in New Delhi; this dovetailed back into the provision of teaching aids in which GCERT also played a part.

Despite interviewing some thirty teachers, an official and three teacher trainers, it was unclear to me whether an OB kit had actually been used in any of the ten day training sessions and it was not possible to clear up this ambiguity until reaching New Delhi. Only after this long journey was it possible to return to the SIE to ask some penetrating
questions, directly relating to their responses to New Delhi directives, which provided the means of pulling together the vague responses received previously.

I had to map forwards with aspects of the teacher, TLE and room components too, since it was often very unclear what had in fact been done although relatively easy to gather perceptions of the programme. At such times it became very clear how little orientation clerks and to a lesser extent officials at various levels had to the totality of the programme, and how dependent they were on orders being issued at a higher level.

Once I had mapped the whole process, a follow-up visit was made to all accessible schools to see what changes had been made since the beginning of the new school year, to collect some more personal data about the teachers' backgrounds, which had emerged as an important theme; to note anything of interest that had happened in the intervening six months; and to report back to interested teachers on the progress of the research and reactions from administrators.

Methodological reflections

Although backwards mapping was very successful in exploring the impact and form of the innovation in schools, it was not sufficient alone to draw out all the threads of the implementation of the programme. In some places I had enormous difficulties in piecing together the story at all (notably the PMOST teacher orientation camps and any areas where the GCERT was involved) and it was impossible to make headway without starting at the top to find out what was supposed to have happened. In other places, comments at one level needed to be checked forwards and/or backwards, to see if a view expressed was widely shared, or how it differed at a different level. But moving both backwards and forwards made it possible to compare conformities and discrepancies between the expectations of implementation and the actual actions taken, exposing policy assumptions more sharply.

The main advantage of mapping backwards was the fast generation of 'insider knowledge' which could be taken to the next interview, and the ready identification of people who had really been involved in implementation rather than interviewing only the most senior officer, as official protocol would demand. Also, much of what happens in government offices is very confusing to an outsider and it was always helpful to have a name to search out as a starting point.

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3 A short reflection on the relationship between backwards mapping, networking and policy dialogue was carried in *Norrag News* 1992 no. 13 pp. 72-73 and is reproduced here in Appendix 4.4.
Certainly the most difficult and time-consuming part of this particular investigation was following the implementation of the building component. In fact this was so hard because it was rather inconvenient to admit to what later became obvious: for at least the first two years, nothing at all had been done. It is difficult to follow the story of a non-event backwards. This part of the programme was later passed to an agency outside the education department which necessitated getting to grips with administrative procedures of a different department, an entirely different set of personnel as well as the financing procedures of the whole district budget, all of which took some time.

Overall the qualitative methodology did produce the hoped-for comments and insights which illuminated the process being investigated. A positive advantage of this research method is that refining and analysing data is an integral part of collecting them, so I had a degree of clarity about the implications of each set of interviews for the overall study and the direction of the research.

A couple of fact-finding strategies evolved which were suited to a social context that is not openly critical of authority and by extension therefore programmes which emanate from it. Individual interviews with teachers provided factual information but some respondents felt freer to express their feelings if others were present. It was often easier for teachers to give their opinions if they were speaking for 'we' rather than 'I', but this had to be carefully disentangled later in analysis. A most frank and informative session for example was when a large group of teachers had gathered for pay day and a discussion was initiated in which all participated. All these teachers had been interviewed previously and it was clear that none was using the kit, for a range of explicit reasons and, reading between the lines, many at a deeper level. From this discussion emerged such a feeling of alienation from their jobs, of people despising and simultaneously fearing the authorities, that it was impossible to imagine anything coming from that authority would not excite antagonistic feelings. As a group, teachers cloaked the seriousness of their situation in a mask of humour.

Another strategy, if a teacher was hesitant about expressing his or her own opinion, was to appear to remove responsibility for being the first to praise or criticise by circling the issue - 'lots of teachers we've talked to seem to feel abc, but we've met quite a few who feel xyz...what do you feel?'. Occasionally, it was difficult to stimulate very much response from cautious teachers, and we had to take great care to put them in a position where they did not feel that offering information would make them vulnerable. Allowing conflicting ideas to seem to have come from somewhere else and encouraging teachers to choose and validate what was appropriate for them was an
effective way of giving confidence. The following responses from one teacher, asked what he liked and didn't like in the kit, shows that the question was too direct:

Answer 1: What is sent is good.
Answer 2: It's not necessary that we like everything.
Answer 3: If the authority asks me I'll give my suggestions.
Answer 4: I don't think there is really anything very helpful.

The following is a diary excerpt from what was, in terms of getting the teacher to volunteer any information, one of the most difficult interviews:

(Background: two weeks of observation in tribal schools during which time the kit had never been opened in my presence. Other interviews have revealed the tool kit is not useful for various reasons, including its very poor quality. This teacher had been observed ignoring children all afternoon and attending to administrative work instead. He is apprehensive. The OB boxes are stacked against the wall and covered in dust).

CD: ...are there any things in the kit which you don't really find very suitable?
T: No, no, it's all really good.
CD: (pause)
T: Very good.
CD: How do you use the things?
T: I use them with the children. It's very good.
CD: (points to tool kit) That tool kit. What do you think of that?
T: I use it with the children.
CD: What sort of things do you do?
T: I...um...well, I use it to show them, say, what a saw is.
CD: I see...for showing...have you ever made anything with it?
T: No...but it is useful.
CD: When you used it to show the children, how did you do that?
T: (Appears to see that his bluff has been drawn). Well...actually...it's all pretty useless. (Goes on to say that he had too much administrative work, he never uses any of the things at all, that he didn't get any training and the other teacher had never helped him).

As I preferred to conduct teacher interviews in schools, where the OB kit was at hand, if both teachers were present they could be interviewed one after the other. Their versions, especially whether the PMOST-trained teacher had passed on any information to the other, could be corroborated and any discrepancies gently probed.

Teachers usually freely expressed opinions regarding things that affected them personally - all would comment on the inspector or local politics, for instance. Rarely did they seem to have given much thought to issues relevant to their professional status as a teacher. For example, very few of the teachers interviewed showed signs of having considered whether the contents of the OB kit were suitable for their classroom needs, the reasons for this apparent acceptance or indifference becoming an important research theme.
Giving time was for most teachers never a problem, in fact I felt I was far more conscious about the disruption of learning time than the teachers. But disruptions seem to be part of the pattern of school life - curious villagers, passing friends and, under OB, the continuous distraction in some schools of building work going on next door. Teachers frequently gave invitations for tea after the 'work' of the interview was over and during these conversations other things would often come up, which added significantly to my general understanding of teachers' situations and perceptions.

Being 'foreign' had advantages and disadvantages. One disadvantage that wore off after some time in the field was the lack of insider knowledge. When it was apparent to teachers that I had become familiar with some issues about which teachers were reticent, such as 'mismanagement', they did not feel they were 'letting the side down' and were more willing to volunteer their own views. It was possible to work the combination of a foreign and a 'local' visitor well, since teachers would make points based on common Indian experience - 'you know what it's like with bureaucrats' - and could then be asked for clarification with prompts such as 'I know what you mean but x affects me a little differently - how does it affect you exactly?'. At the same time, many of them were pleased to explain aspects of their life and work which they might have assumed was self-explanatory to an Indian. It may in fact have been an advantage to be obviously foreign rather than Indian of a different class and so subject to strong behavioural expectations and norms.

The major disadvantage was that of language: I learned a pukkha Gujarati in Ahmedabad that bore what felt like only passing resemblance to the many regional variations I encountered. It was sufficient for observation but for personal interactions with teachers I was somewhat tongue-tied and could not readily assimilate information by chatting: fortunately my third interpreter fully understood my dilemma and really engaged in the research; and with the passage of time the situation eased.

For teacher interviews it was necessary because of the language difficulty to use a mini tape recorder. This was placed in full view: it was unusually small and excited attention more for its technical wizardry than any sinister recordings of evidence. Some teachers wanted to try it out and did so, to their great amusement: this never resulted in any request not to use it and the instrument was accepted as a necessary aid to cross-cultural understandings and apparently quickly forgotten. Translating later offered the chance to confer with interpreters and tighten up what was for the first two an unfamiliar strategy of questioning: inevitably there were frustrations but probing these offered further insights into cross-cultural differences and expectations.
The most delicate interviews were with teachers who were not using the TLE but were conscious that this was expected of them. It was an art to penetrate the defensiveness and extract reasons for non-use. In one case, when the expected reproach did not come and his reasons were seen to be taken seriously, a teacher suddenly said he didn't use aids partly because he was lazy but he felt really guilty because 60 children's futures were in his hands, and he hadn't had any training because the other teacher was lazy too. At his request, we conducted a mini-training session on the spot and his indifference was transformed as his interest was stimulated. This was a cheering insight into what could be done with even the most 'turned off' teacher: but as it was within the last two weeks of the field work it was not possible to see if the impromptu session had any lasting effect.

Teachers - normally only asked school-related questions by inspecting officials - had in general very little concept of the research process but after the initial surprise that someone was interested, were happy to be asked about their work. Teachers who expressed more interest in why they were being asked questions were usually those who had a clearer concept of policy, and any questions they asked about the research were answered frankly and as fully as they required.

Interviews among administrators were all conducted in English, in which IAS officers and Baroda's (then) DPEO are comfortable. Some administrators tended to assume they knew what the questions were about: as soon the programme's name was given they would launch into elementary and time-consuming explanations. As the research progressed and with it my knowledge of the whole programme, a more balanced relationship could be struck as the insights could go both ways, and I was no longer necessarily cast merely as the learner. It was occasionally difficult to shift the focus to a discussion of what were perceived to be self-explanatory administrative procedures. Although this seems more likely to be a reflection of the previously noted prestige afforded to policy rather than any desire to be secretive, it is also a civil service rule that officials are not supposed to criticise policy while in station. As with teachers, it was sometimes necessary to use the ploy of 'someone mentioned that...' and solicit an opinion in a way that was insightful but did not put the official in a difficult position. It was difficult to gauge the balance between officials being reticent for this reason or whether it was due to their the civil service norm of carrying out the assigned a task without question.

On some occasions it seemed that it would have been beneficial to return a few days later to reap the benefit of provoking a critical discussion. It was in fact possible to do
so with some officials, and return interviews were more relaxed, with both parties familiar with the probable pattern of the interview session.

It seems likely that in order to welcome a foreigner, access was given to information which might have been denied to an Indian of similar status, particularly the extensive official file documentation which enriches this study. This is an ethical dilemma which cannot be entirely resolved but slightly mitigated by making my findings as accessible as possible in India to those who may not be granted such freedom. It was encouraging that all the education officials were very helpful and took the research seriously, requesting copies of the final report.

A further point to be made in this connection is that because access to official files was so good, it is tempting to assume that chapter five is a complete record of the process of implementation. A caveat should be added: there is no way of assessing how much informal discussion took place, and the extent to which verbal exchanges affected implementation.

Analysis and presentation of data

Organising qualitative data is a difficult task, and the particular problem of this study was the multiplicity of levels and programme elements. The approach to writing up the data which seemed to be most manageable was to make two separate parts: the process, focusing mostly on administration and process of implementation (chapter five); and impact/acceptance, focusing mostly on teachers and schools (chapter six). These organising themes derived from innovations research.

I constructed a chronology of events and communications from MHRD to the State government first (Appendix 5.1). This was then described as a process, with illustrations from files (original English at central level, own translation - indicated with OT in the text - of State and lower level files, which are in Gujarati), with the source and date of the file entry, eg. MHRD 9.6.91. Appropriate comments made by concerned parties are included to illustrate how actors viewed the subject. These are numbered according to the interview (personal communication) number, eg. PC 26, and a full list of respondents, their official position and name of organisation is given in Appendix 5.2.

Chapter six, discussing the impact of OB on teachers and schools is organised chronologically, taking phase Ia, Ib and II in turn, which also coincides with very
different socio-geographical contexts. Each element of the innovation is reviewed in turn, according to the order in the NPE 1986 of rooms, teachers and TLE. To avoid making this chapter excessively lengthy, it has not been possible to include as much observation material as intended: I chose excerpts which would illuminate what seemed characteristic of a particular school.

Chaper seven draws on data presented in chapters five and six to analyse the implications of the findings: both at the micro level of the particular innovation of OB, and at the macro-level of policy implementation in Indian elementary education.
Chapter Five

IMPLEMENTATION OF
OPERATION BLACKBOARD
Introduction

This chapter documents, in its first two sections, the process of implementing Operation Blackboard. In the first section it describes preparations made and actions taken by the centre, at the Ministry of Human Resource Development's Department of Education. The second section describes the process of implementation in Gujarat, with special reference to the two case study talukas: Karjan and Chhota Udepur; and the urban location of Baroda. Communications between levels of government and the effectiveness of monitoring the scheme's progress are analysed in greater detail in section three. The final section evaluates OB according to the perceptions of key actors at each level.

Operationalising Operation Blackboard

Operation Blackboard was simultaneously a 'normative' policy programme for the future minimum levels of equipment and funding per elementary school, and a 'remedial' measure designed to bring all existing schools up to a prescribed minimum level. The latter part was to be completed by 1990 within a three-year phased time schedule, and was to consist of three interdependent components of two rooms, two teachers and a set of teaching-learning equipment (TLE: listed in Appendix 1.2).

Placing education on the concurrent list marked the acceptance of education as a national concern [Baker 1976], and legitimises the centre's movement towards a position in which it exercises greater control over the States' activities in order to attempt to bring about the national objective of UEE. The NPE 1986 notes the importance of the 'substantive, financial and administrative' implications of the 1976 decision:

While the role and responsibility of the States in regard to education will remain essentially unchanged, the Union Government would accept larger responsibility to reinforce the national and integrative character of education, to maintain quality and standards..and..to promote excellence at all levels of the educational pyramid [NPE 1986:5].

The Programme of Action (PoA) adds that at the national level the government 'now has to assume larger responsibility for motivating and, within a multilevel framework, ensuring proper management of the programmes for which central government will be making large provisions' [PoA 1986:198-199]. The NPE 1986 was the first policy opportunity for the centre to exercise its newly-defined 'responsibility'. In view of the large workload resulting from its new role under the NPE 1986, the Department of
Education proposed to create a new Bureau of Elementary Education. This measure to increase its staff numbers was made possible by a judicious rejuggling of existing staff and the bureau was operational by the end of October 1988 [PC 2; PC 6] with one deputy director specially assigned to OB.

In its conception of OB, MHRD recognises two outcomes of the pattern of educational growth under State/UT stewardship over the preceding decades: i) that 'the condition of buildings, facilities and equipment is unsatisfactory in almost all parts of the country'; and ii) that 'rapid expansion, which was not accompanied by sufficient investment or resources, had caused a deterioration in academic standards' [MHRD 1987b:11].

Following on from the incorporation of Operation Blackboard in the NPE 1986, the Department of Education had to operationalise the scheme so it could be implemented through the States. The size of the required outlay was such that, according to official protocol, a Cabinet Note was required as the first step. The procedure of making a policy measure operational is described by a key actor:

First MHRD defines, then the Minister approves and the design is made, then the Minister submits the proposal to the Planning Commission and the Finance Commission - it all takes about 1-2 months. Then we draft a Cabinet Note and that goes to the Cabinet with the comments from the Commissions - the waiting period is a maximum of three weeks [PC 6].

Once Cabinet approval had been given, the first essential prerequisite for MHRD was to ensure that adequate funds were available for this centrally sponsored scheme to be implemented through the States/UTs. Based on estimates from the Fourth AIE Survey (1978) of 'deficiency rates', the Note estimates a national requirement of 200000 school units and 370000 toilet units. Although the centre was financing initial teacher salaries and all TLE provision, it was not providing funds for new room units, so a first priority was to organise funds. In line with the NPE assertion that these would be forthcoming from existing RLEGP and NREP schemes, agreement at ministerial level was needed to prioritise construction of school buildings. This agreement was sought with the operating authority, the Department of Rural Development (DRD), Ministry of Agriculture.

The cost of a single room unit was subsequently agreed by the Departments of Education and RD to be Rs 52000 and toilet facilities Rs 5000 per school [MHRD 1987a]. The RLEGP and NREP schemes, however, operated on a fixed 50:50 labour:material ratio and only works which required a roughly equal amount of materials and labour were eligible: this ratio was unfavourable for school buildings, which tend to require about a 70:30 proportion of material to labour [PC 4; PC 26].
The centre had no specific brief in teacher recruitment, other than payment of their salaries. But, in keeping with the intention of informing all teachers of the components of the NPE 1986, MHRD expected them to be oriented to the policy and to OB: this could be dovetailed into the existing Programme for the Mass Orientation of School Teachers (PMOST) scheme which the National Council of Educational Research and Training (NCERT) had been running since 1986 (see chapter six).

For TLE, MHRD was to initiate the drawing up of the list of items, norms and specifications, to pass on to States/UTs:

The first thing will be to specify the various items so as to ensure quality. This work will be done by NCERT, in association with State agencies. Particular attention will be paid to procurement procedures because the general system of purchase by tenders tends to lead to the purchase of sub-standard materials [PoA 1986:16].

Responsibility for drawing up the survey format for initial taluka level data collection of school requirements for all three remedial scheme components rested with the National Institute for Educational Planning and Administration (NIEPA), to be subsumed for subsequent phases into the Fifth AIE Survey's information gathering.

The 'normative' component of OB - future levels of funding - was to be addressed by States/UTs providing the centre with assurances that they would make funding provisions for both the 'remedial' and 'normative' aspects of OB.

Although in the federal concurrency elementary education is a shared responsibility, the task of implementation falls to the States. The role for the centre is, according to the NPE 1986, motivation and ensuring proper management of the programme. In the Cabinet Note, the MHRD Department of Education defines the role of central government as 'crucial': provision of guidelines for OB, close monitoring and necessary feedback [MHRD 1987b]. Monitoring of OB in order to ensure 'that all schools progressively get essential facilities envisaged in the OB' [MHRDa 1987:36] was to be done through Quarterly Programme Reviews (QPRs) sent from States to the centre. The QPR proforma was issued with the initial letter informing State Education Secretaries and Directors: it is a quantitative statement designed to furnish information about each scheme component in terms of amount required, sanctioned, progress, completion, and amount received from the Government of India (Gol) during the year, and spent. State governments/UTs were also informed that, with a view to achieving UEE by 1990, the MHRD was 'taking steps to develop a proper management information system for the programme' [MHRD 1987b:36].
Once the centre had operationalised the scheme, individual States/UTs were to decide whether they chose to participate. Given their paucity of resources, this opportunity of benefiting from central assistance in the short term was, as discussed in chapter one, liable not to be weighed up as fully as it might be, considering the recurring financial liabilities that would then fall to the State/UT. However, once a State/UT had agreed to participate (all did, after hesitation in some cases), it was bound to accept the conditions of the scheme. The 'broad parameters' [MHRD file 15.4.87] of the scheme were discussed in a conference of Education Secretaries on April 15 1987, and Gujarat was favourably disposed towards participation.

Although Gujarat had done well in terms of its intention of providing facilities for UEE within the village or one km, achieving by 1986 97% coverage of villages and 99.5% of the population [5AIESGuj 1988; GoG 1990a], this coverage was very thin (see chapter two). As far as the components of OB were concerned, despite adoption of a two-teacher per school policy from 1979, almost a third of primary schools were single teacher schools, and 97% of those were in rural areas: 7739 of the total were single room schools [5AIESGuj 1988; GoG 1990a]. The State had not been able to implement its early 1980s intention of providing every working teacher with a separate classroom [6FYPGuj 1978]. The TLE position in Gujarat by 1986 was that every school in the State had a blackboard and chalk [5AIESGuj 1988], and some had maps and some charts. But in general, Gujarat State was nowhere near the position of having in all its elementary schools what the NPE 1986 regarded as the 'minimum essential'.

Overall, the Directorate of Education GoG recognised that, despite State support for expanding needs:

This support is not sufficient and hence schools in Gujarat are also starving for basic needs. State has decided to provide a roof on head to every teacher and taking this into consideration as on to-day (14.7.87) there are 36000 teachers without a separate classroom in rural areas and same is the story of urban areas too [GoGOB1 1987:2].

As far as State policy was concerned, therefore, OB offered a means through which to effect what was already largely on the State's own Plan agenda. There was at the outset some disagreement over the necessity to provide a second room but MHRD made it clear that this was an integral part of the programme. The multiple benefits appeared to GoG to outweigh this objection:

We accepted OB because our survey had shown that in the State there was a real shortage of things like furniture. We accepted it with the conditions as a package but we hoped and thought the GoI may come round and relax the rules because of special circumstances. OB was accepted by the State because as a
part of State policy it formed part of the NPE which we were following. It prioritised physical needs and was most necessary, otherwise it would not have been possible. These things were missing so we took up the scheme [PC 27].

Details of the programme of OB and States' obligations (see chapter one, section four) were furnished in September 1987 in an appendix to the official letter to Education Secretaries [MHRD 1987b].

The point of liaison between centre and States was to be a specially formed State Level Empowered Committee (SLEC), whose membership 'should have powers to make final sanction, which will be honoured by the central as well as the State governments' [MHRDb 1987:33]. Sanctions made by the SLEC would be the basis on which funds were released to States by the GoI: 50% immediately after receipt of the proposals and the remainder on receipt of progress of expenditure of 75% of the first 50% [MHRD 1987b].

Specific tasks of the remedial part of OB at State level were initially to survey for taluka level requirements in terms of rooms, teachers and TLE required to reach the prescribed minimum level. Taluka level projects were also to detail strategies for involvement of teachers and local people and maintenance of properties, as well as assurances that 'teachers appointed will in fact serve at the place of their posting' [MHRD 1987b:26]. These projects were to be submitted to the SLEC for sanction, without which the GoI would not release funds. Although sanctions for the various components of OB might be given separately by the SLEC, 'no sanction of central funds will be considered unless a clearly spelt out plan for construction of primary school buildings...is presented to the Empowered Committee' [MHRD 1987b:34].

In the selection of talukas for phased coverage, States/UTs were to give preference to those 'which are educationally disadvantaged and have a concentration of persons belonging to Scheduled Castes and educationally disadvantaged Scheduled Tribes and minorities' [MHRD 1987b:25]. The State/UT governments might lay down other criteria in the process of selection since:

The governing consideration should be greater people's participation, possibilities of success of the scheme and the overall strategies spelt out in the NPE [MHRD 1987b:25].

For the three interdependent room, teacher and TLE components of OB, State/UT governments were to ensure that construction work was taken up under RLEGP and NREP schemes; to arrange for construction of separate male/female toilets; and to ensure new rooms had inbuilt storage facilities. Wherever possible new teachers
appointed should be women, and any teachers re-appointed under OB should be given a suitable refresher course. In-service training of teachers under PMOST was also to be arranged. States were then to give an assurance that no single teacher schools would be sanctioned in future [MHRD 1987b].

The letter detailed the essential TLE but allowed that States/UTs might depart from it 'provided that they can give sufficient justification therefore and it does not lead to an increase in costs...there is an insistence under OB on purchase of material of good quality' [MHRD 1987b:30]. Although the NCERT specifications were being worked out, State/UT governments might draw up their own for use during 1987-88 but it would be obligatory to adopt the NCERT list once it became available. Necessary amendments to audit and accounting procedures which would remove teachers' disincentives for using TLE were also to be made.

The 'normative' components on which funds for OB were contingent were two-fold: provision of Rs 500 contingency money per annum per school; and administrative/political provisions to ensure that the State could give categorical assurances about minimum levels of school facilities and funding in future, as defined in the NPE 1986. The design of OB which made the allocation of funds for OB's remedial measures contingent on these assurances made the assurances the crux on which turned the success of the policy notion of 'minimum essential'.

Before the Department of Education's (DoE) scheme went forward to the Cabinet, however, it was sent for reactions to two most important other central governmental institutions: the Planning Commission and the Integrated Finance Division of the DoE. Their comments and the DoE clarifications were then submitted to the Cabinet with the Note itself. Responses of the DoE on its position vis-a-vis some of the doubts raised by these bodies help clarify the stance of MHRD with regard to implementation of OB, and make apparent some inconsistencies which later affected implementation.

The Integrated Finance Division feared the States were being absolved of their responsibility for elementary education. This is denied by the DoE, which affirms that States will 'continue to be primarily responsible for UEE' [MHRDa 1987:6]. It is however clear that centre-State relations are an issue and that OB is a political vehicle:

A one-time thrust is being made for improvement of primary school facilities, symbolically called Operation Blackboard, to operationalise the new Policy and to give shape to the role of the Central Government envisaged when Education was made a Concurrent Subject [MHRDa 1987:6-7].
A further point the Integrated Finance Division makes is that the Cabinet Note does not detail the mechanisms of dovetailing the programme with State Plans which already have allocations for providing additional teachers [MHRD 1987a:40]. The Department of Education replies that in view of the 'very large demands' of the existing backlog and expanding population, 'extra allocation...is inescapably required' [MHRD 1987a:47]. The Finance Division further wishes a more accurate definition of how TLE figures were arrived at, as it sees scope for reduction of cost. These were 'ascertained by making enquiries informally in the market. Thus an attempt has been made not to overestimate the cost of the items envisaged to be supplied' responds the DoE [MHRD 1987a:47].

The Planning Commission suggests that 'to begin with, the proposal for Operation Blackboard be tried out as pilot projects' [MHRD 1987a:44]. The response from the MHRD DoE appears to equate 'pilot' with reduced coverage and dismisses the notion:

The New Policy has conceived Operation Blackboard in very categorical terms and this is one of the most important programmes under the new Policy. This is conceived as a key programme for raising the standards of education at primary level and for achieving universal primary education. The Department of Education, therefore, strongly feels that a programme of this nature in a few schools would be totally inadequate to meet the requirements of the situation [MHRD 1987a:50].

MHRD had hoped to influence the Ministry of Agriculture (Dept. of Rural Development) (DRD) to change the existing NREP and RLEGP schemes' parameters to facilitate buildings for OB [MHRD 1987a: PC 4]. This the DRD was unwilling to do. As a result, MHRD submits in the Cabinet Note that 'even if construction of school buildings cannot be treated as first charge, it may be sufficient to consider it as an item of "high priority"' [MHRDa 1987:7]. Ultimately it was weakly phrased that after consultations with the DRD, there had been 'general agreement about using NREP and RLEGP funds for this programme' [MHRD 1987b:2], a decision that was transmitted from the DRD to State Governments in a letter of 30. 7.87 [MHRD 1987b:27].

In order to avoid discrepancies in the materials provided and to ensure minimum standards, specifications of materials were to be standardised with the help of the Indian Standards Institution [MHRDa 1987]. It was not until December 1988 that the NCERT published the manual [NCERT 1988b] with exhaustive details, as for example:

A football should:
be manufactured from butt portion of tight textured cowhide or buffalohide...
be free from flay cuts and grain defects...
be vegetable/semi-chrome or chrome tanned...
be dyed in any colour (preferably brown, cream or white)...

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suitable fungicide be incorporated...
be spherical in shape with circumference of 68-71 cm when inflated to an air pressure of 0.98 bar...(a tolerance of 1% in the circumference on sphericity be allowed) [NCERT 1988b:20].

But by that time, the first round of purchasing had already been completed in Gujarat, as States had been directed by MHRD initially to draw up their own specifications.

Implementation in Gujarat

Official notification of OB was received in Gujarat at the end of September 1987, five months after Education Secretaries had met and endorsed the scheme. In the meantime, the proforma for taluka-level requirements had been sent and the GoG had, in July, sought from MHRD three central government representatives for its SLEC (Appendix 5.1 lists the chronological sequence of actions and communications between the two governments during implementation of OB). The first SLEC meeting, scheduled for September, was cancelled and reconvened on 19 October, when it received taluka-level projects. Minutes of this meeting were sent on after two days and on 28 October MHRD requested by telegram details of talukas chosen. These were supplied by GoG the following day.

In order to delimit the talukas to be surveyed in the first instance, Gujarat took as its selection criteria for taluka-level projects the State and taluka literacy rates (census 1981 figures), to 'cover the entire State giving representation to all districts' [GoGOB1 1987:3], choosing at least one taluka from each of the State's 19 districts and not more than three talukas from any district (184 talukas in the State). The MHRD survey proforma, endorsed as 'well-designed and generally meets with all needs under this project' [GoGOB1 1987:4] was translated into Gujarati and, through district panchayats and municipal school boards, requirements of 43 selected talukas and 7 municipal school boards were canvassed.

Selecting according to literacy criteria meant that the talukas in most urgent need of OB facilities were the least developed and most remote. Accordingly, Gujarat's initial proposal for its phase I coverage requirements was very large in terms of all three components of the scheme. To raise the 3878 Std. 1-4 schools selected to OB-specified minimum levels, Gujarat State requested funds for TLE totalling Rs 3.46 crore: as Table 5.1 below shows, almost all TLE offered under OB was required. Most worrying however was the requirement of second rooms, for which there was no specific central funding and which the State had to assure MHRD as a condition of the
scheme that it would provide. There was very little provision in the Plan budget because, since the State had already achieved almost total coverage of villages, its Five Year Plan made provision from its own budget for the construction of only 300 rooms and 100 tents during 1985-1990 [7FYPGuj 1985].

Table 5.1 First OB project proposal, Gujarat State
Schools to be covered: 3878

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher male</td>
<td>410</td>
<td>charts (1)</td>
<td>3265</td>
</tr>
<tr>
<td>female</td>
<td>1527</td>
<td>(2)</td>
<td>3378</td>
</tr>
<tr>
<td>total</td>
<td>1937</td>
<td>balance/weight</td>
<td>3657</td>
</tr>
<tr>
<td>classrooms</td>
<td>3130</td>
<td>toilet</td>
<td>9793</td>
</tr>
<tr>
<td>blackboard</td>
<td>6009</td>
<td>wisdom blocks</td>
<td>3704</td>
</tr>
<tr>
<td>teacher's table</td>
<td>5408</td>
<td>magnifying glass</td>
<td>3449</td>
</tr>
<tr>
<td>chair</td>
<td>5125</td>
<td>magnets</td>
<td>3479</td>
</tr>
<tr>
<td>cupboard</td>
<td>6621</td>
<td>measuring tape</td>
<td>3446</td>
</tr>
<tr>
<td>trash can</td>
<td>7553</td>
<td>primary science kit</td>
<td>2194</td>
</tr>
<tr>
<td>seating mat</td>
<td>56631</td>
<td>two-in-one audio</td>
<td>3587</td>
</tr>
<tr>
<td>football</td>
<td>3822</td>
<td>school bell</td>
<td>3830</td>
</tr>
<tr>
<td>volleyball</td>
<td>3830</td>
<td>dholak/tabla</td>
<td>3812</td>
</tr>
<tr>
<td>rubber ball</td>
<td>3810</td>
<td>harmonium</td>
<td>3820</td>
</tr>
<tr>
<td>rings</td>
<td>3649</td>
<td>manjira</td>
<td>3855</td>
</tr>
<tr>
<td>skipping rope</td>
<td>3591</td>
<td>electrification</td>
<td>3154</td>
</tr>
<tr>
<td>swing rope</td>
<td>3839</td>
<td>drinking water</td>
<td>3754</td>
</tr>
<tr>
<td>air pump</td>
<td>3846</td>
<td>textbooks</td>
<td>3593</td>
</tr>
<tr>
<td>map district</td>
<td>3846</td>
<td>teacher's guide</td>
<td>3441</td>
</tr>
<tr>
<td>State</td>
<td>1946</td>
<td>dictionary</td>
<td>3781</td>
</tr>
<tr>
<td>country</td>
<td>2488</td>
<td>children's books</td>
<td>3781</td>
</tr>
<tr>
<td>globe</td>
<td>3412</td>
<td>magazine/journal</td>
<td>3988</td>
</tr>
<tr>
<td></td>
<td></td>
<td>newspaper</td>
<td>4207</td>
</tr>
</tbody>
</table>

Source: GoGOB1 1987

These very large figures indicate that in the selected talukas across the State, schools had been functioning with the absolute bare minimum of materials. Teachers did not even have the guide designed for them so were entirely dependent on the textbook and their own initiative to provide source material for all class work.

This project report was placed before the SLEC in 10 October at which an MHRD representative was present. It was submitted to MHRD and discussed at another meeting on 26 November between the MHRD Education Secretary and the Additional Chief Secretary, Education, GoG, who decided that in view of the size of projected requirements, the proposal should be reviewed 'to identify those talukas where it is not feasible to implement the OB scheme' [GoGOB2 1987:2]. The crucial demand was the construction of rooms, as the revised proposal indicates:
The GoI insisted upon having at least two rooms in schools which are covered under this report. A guarantee was sought by GoI to ensure that all the classrooms will be constructed in the current year for the schools covered under this project [GoGOB2 1987:2]

Because the State government could not guarantee construction of rooms, it drew up a revised proposal, in which the overall number of talukas selected where OB was feasible was 25. On October 14 at a meeting between representatives of MHRD and GoG, the GoG assured MHRD that under the NREP, the building rate could be increased from 1000 to 1500 per year. The MHRD promised to see if the DRD would sanction a special scheme: there is no evidence of any further action having been taken.

After submitting the revised proposal for 25 talukas the GoG reviewed the 18 previous talukas with the very high building requirements and submitted a supplementary proposal for 18 different ones in order to reach the 20% phase I target. The rationale for this selection was:

in order to minimise the number of classrooms to be constructed during the current financial year...in selecting new talukas, the feasibility of construction of classrooms has strictly been taken into consideration [GoGOB2 1987:3].

The number of schools to be covered under the revised and additional proposals (referred to subsequently as phase Ia) came to 2070, 78 of them municipal board schools. The number of rooms needed dropped to 1385, 'no more a difficult task for the State' [GoGOB2 1987:3]. The funding required was reduced from Rs 6.04 crores to Rs 3.51 crores, and the OB phase I target of 20% was exceeded by 3%.

These revisions are clearly illustrated by the sequence of events in Baroda district, which has four tribal talukas (if 50% or above of its population is tribal the taluka is designated 'tribal'). From these four, in the initial proposal, three were selected. Their literacy rates were well below the district average (48%) and the infrastructure was weak - out of 588 schools, 488 new room units would be required. In the additional proposal, these talukas were all replaced on the room feasibility criterion. There were anyway fewer schools in the replacement talukas and these were on average closer to the two room OB average, so fewer new rooms had to be provided:

<table>
<thead>
<tr>
<th>Original taluka</th>
<th>Literacy rate</th>
<th>Total schools</th>
<th>Rooms required</th>
<th>Replacement taluka</th>
<th>Literacy rate</th>
<th>Total schools</th>
<th>Rooms required</th>
</tr>
</thead>
<tbody>
<tr>
<td>C Udepur</td>
<td>15</td>
<td>229</td>
<td>230</td>
<td>Karjan</td>
<td>48</td>
<td>40</td>
<td>12</td>
</tr>
<tr>
<td>Jetpur Pavi</td>
<td>24</td>
<td>156</td>
<td>134</td>
<td>Pada</td>
<td>50</td>
<td>51</td>
<td>19</td>
</tr>
<tr>
<td>Nasvadi</td>
<td>26</td>
<td>123</td>
<td>124</td>
<td>Shinor</td>
<td>51</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>508</td>
<td>488</td>
<td></td>
<td></td>
<td>107</td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>

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The *talukas* of Baroda district selected as replacements were the three with the highest literacy rates and no substantial urban centre. In a complete reversal of the State government's intention of making a start with the most deprived schools, as per the NPE 1986 and OB programme intentions, the feasibility of implementation - ability to fulfil the conditions of the scheme - became the uppermost criterion for selection. However, even these schools still required most of the TLE provided under OB. As the list of requirements under the revised and supplementary proposals indicates (Table 5.2), schools in this area were marginally better equipped, but many 'minimum essential' items had not been provided:

**Table 5.2 Revised OB project proposal, Gujarat State**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>1016</td>
<td>charts</td>
<td>1866</td>
</tr>
<tr>
<td>blackboard</td>
<td>1908</td>
<td>wisdom blocks</td>
<td>2033</td>
</tr>
<tr>
<td>teacher's table/chair</td>
<td>2932</td>
<td>primary science kit</td>
<td>1305</td>
</tr>
<tr>
<td>cupboards</td>
<td>3255</td>
<td>mini tool kit</td>
<td>1944</td>
</tr>
<tr>
<td>trash can</td>
<td>2108</td>
<td>mathematics kit</td>
<td>2070</td>
</tr>
<tr>
<td>seating mat</td>
<td>37260</td>
<td><em>dhulak/tabla</em></td>
<td>1979</td>
</tr>
<tr>
<td>football</td>
<td>2956</td>
<td><em>manjira</em></td>
<td>2054</td>
</tr>
<tr>
<td>volleyball</td>
<td>2957</td>
<td>harmonium</td>
<td>1495</td>
</tr>
<tr>
<td>rubber ball</td>
<td>1978</td>
<td>drinking water</td>
<td>1951</td>
</tr>
<tr>
<td>skipping rope</td>
<td>1037</td>
<td>textbooks</td>
<td>1909</td>
</tr>
<tr>
<td>rings</td>
<td>1977</td>
<td>teacher's guide</td>
<td>1931</td>
</tr>
<tr>
<td>swing rope</td>
<td>2034</td>
<td>dictionary</td>
<td>2049</td>
</tr>
<tr>
<td>air pump</td>
<td>2068</td>
<td>children's books</td>
<td>2012</td>
</tr>
<tr>
<td>map district</td>
<td>1545</td>
<td>magazine/journal/newspaper</td>
<td>2141</td>
</tr>
<tr>
<td>State</td>
<td>1542</td>
<td><em>encyclopaedia</em></td>
<td>2070</td>
</tr>
<tr>
<td>country</td>
<td>1610</td>
<td>school bell</td>
<td>815</td>
</tr>
<tr>
<td>world</td>
<td>2070</td>
<td>syllabus</td>
<td>2035</td>
</tr>
<tr>
<td>globe</td>
<td>1844</td>
<td><em>bird/animal puzzle</em></td>
<td>2070</td>
</tr>
<tr>
<td></td>
<td></td>
<td>toys</td>
<td>2070</td>
</tr>
</tbody>
</table>

*Source: GoGOB2 1987*

During December 1987, the MHRD gave the go-ahead for tenders to purchase, and released funds for teachers and TLE, the latter to be used before the end of March (financial year end) the following year. MHRD, while confirming sanction of funds, also advised GoG in a telegram on December 3 that it should prepare and submit an additional proposal under OB at the earliest. Just over a month later, on January 11, MHRD wrote to all SGs and UTs:

The proportion of enrolment of SC/ST children continues to be much less than their population proportion and the dropout rate continues to be very high...The problem is more severe in the case of girls of these communities. The central focus in educational development of ST/SC is therefore on their equalisation with the non SC/ST population. This ministry would therefore like to emphasise that it be kindly ensured that the benefits of the scheme of OB reach
the children of ST/SC community in larger numbers even outside the ST blocks selected for implementation of the scheme [MHRD file 11.1.88].

With this impetus, coupled with Gujarat's own concern for its tribal population, the 18 talukas (three of which were tribal) dropped from the very first proposal were taken up again and an additional proposal (phase Ib) covering 2699 primary schools [GoGOB3] was submitted on February 29, 1988. In total therefore Gujarat's final 'phase I' covered 61 out of 184 talukas, and 7 municipal areas, bringing it to coverage of 28% of talukas and almost 40% of all eligible schools, well above the initial OB 20% taluka target. It was sanctioned for coverage in two sub-phases, denoted in this study as phase Ia and Ib to distinguish them from the overall phasing of OB. A total of 2374 teachers were needed and TLE totalling Rs 336.48 lakhs.

Taking together the initial revision, supplementary proposal and additional proposal, Gujarat's first phase of OB eventually covered a total of 4769 primary schools, almost a thousand more than in the initial proposal which MHRD had advised the State to reconsider. Yet there was no appreciable difference in the financial position of the State or any other change that would facilitate its ability to fund construction of the 3980 classrooms required. MHRD file correspondence indicates that Gujarat was allowed to go ahead with this huge building component in phase I because the centre had no doubt about the State's commitment to construction:

The GoG has already accepted the requirement of providing school buildings which is why they had curtailed their initial proposal drastically. In this context there is no real apprehension about their commitment regarding school buildings under the additional proposal [MHRD file 21.3.88].

A key MHRD official visited the State during March 1988 and a verbal assurance re buildings from a key GoG official was given on March 17, two written requests for it having come from MHRD on March 11 and 16. On March 21 a decision was made in MHRD that even without the assurance the State's commitment was clear and the phase could go ahead. Meanwhile GoG had telexed MHRD:

As regarding construction of buildings it is implied as it is basic to the scheme but we will send a telex to confirm [GoG file 15.3.88].

Without this confirmatory telex Gujarat's phase Ib was sanctioned by MHRD on March 29, and Gujarat telexed its assurance on April 22. Crucial to the success of the scheme, this consisted of a simple sentence: 'the GoG assures construction of required numbers of classrooms' [GoG file 22.4.88] with no indication of funds or how this assurance is to be realised in practice.
Since the implementation of Gujarat's phase I of OB suffered as a result of difficulties in identifying funds for construction of rooms, a problem that was repeated in other States, the eligibility criteria for the national phase II were changed. Although OB had been intended for the improvement of conditions in rural schools, the construction component was formidable and attention turned to the possibilities of implementing OB in municipal schools, where the position of TLE was equally poor and overcrowding the norm, but schools generally had more rooms. In a national meeting between Directors and Secretaries on 29-31 January 1990, 'it was discussed and decided that in urban areas, where the liability of constructing the classrooms is at a minimum, OB should be taken up, so that either the entire urban area or the ward thereof can be covered under this scheme' [GoGOB4 1988:3].

Accordingly, Gujarat's phase II proposal covered 445 primary schools in 21 municipal school boards (MSBs) and one 'notified area of Gandhinagar city'. In those schools 3556 teachers were working and 181504 students were enrolled; only three schools required a new room to achieve the 'minimum essential' and no extra teachers were sought. This proposal makes a blanket request for every available item to be sent to every school. In Baroda, 7 schools with 57 teachers and 1990 students were to be covered. On 27 March 1990 SLEC met and approved the proposal and it went forward for immediate sanction from MHRD. Gujarat's phase II started well before phase I had been completed.

For phase I, State-wide surveying for requirements of all talukas and MSBs was completed by the State Survey unit in coordination with staff provided for the Fifth AIE Survey by NCERT. Permanent staffing for the implementation of OB was a more difficult matter: no funds had been provided for any extra assistance. No extra personnel was appointed in any State, district or taluka administration to deal with the implementation of OB. A Deputy Director who would be in charge of centrally sponsored schemes was requested but due to a shortage of personnel this was not possible [PC 27]. At GoG Directorate level, responsible for the State's implementation of the scheme, the workload was carved up between accounts, statistics, establishment (clerical), and the Director of Primary Education's office. All correspondence between centre/State and other 'small work' fell to the statistics department.

In order to tackle the room component, negotiations had to be made to get the 3980 rooms required included in the already existing programme of RLEGP and NREP. Under these schemes, funded overall by an 80:20 centre:State arrangement, decisions as to which projects be taken up are made by district planning boards, in accordance
with the national Minimum Needs Programme (MNP). Although the RLEGP in particular had been used to construct school buildings in the past, it was better suited to the building of roads, which conveniently fitted the schemes' 50:50 labour:material ratio. For OB, as and when funds were identified, the GoG would give sanction to districts to go ahead with work on the list of rooms needed.

Advertising for the second teacher was to be done at district level, where the DPEO was in charge: posts were to be sanctioned by SLEC and salaries disbursed by the centre.

The largest workload for personnel in the Directorate of the GoG Education Department, once taluka surveying was over, was the initiation and purchase of TLE. For phase Ia the list of TLE to be distributed was drawn up by the State government through SLEC, without the NCERT specifications but on the basis of the PoA list, at a meeting between some NCERT invitees, GCERT staff and local experts. Items were matched with the State curriculum (largely the same as NCERT national framework). The cost of TLE was not item-specific and the money could be reallocated from item to item as long as the total was not exceeded.

A major difficulty was that, since no consistent TLE provision (other than inbuilt blackboards) had been made before, everything had to be done from scratch. The linkage with technical colleges for regular production envisaged in the PoA was not taken up in Gujarat. Since most items were not available in the market place, nor indeed was this considered a source that could be suitably monitored for quality, all OB items had to be specially manufactured, within a short time limit. The Cabinet Note explained that prices had been set according to informal enquiries from the Delhi market place. States/UTs therefore had to procure TLE within the financial limits set by a different market place.

Translating the districts' lists - 19 such as those previously cited - into production of a package of aids for distribution to schools was quite an undertaking:

At State level it was a tremendous task for us to administer all this programme, to float the tenders, to see the samples, to have all materials ready in time, supply to districts, transportation - very heavy on manpower and no other personnel was given to us so it was very difficult [PC 26].

MHRD sanctioned TLE purchase according to SLEC-identified requirements on December 3, on the understanding that these funds were to be spent by March 31. That gave the GoG four months to complete these tasks, from drafting the first advertisement for TLE tenders to delivering to the schools. For OB, as usual with business tenders, parties supplied samples according to the GoG specifications. These
were checked and a selection of suitable samples made, manufactured and delivered to district panchayats, where a district official was to check supplies against the list of specifications. If it matched he was to stamp the supplier's delivery note which was then produced for payment from the GoG.

The tendering system is, as its frequent mentions from the inception of the OB programme make clear, notoriously unreliable. Opportunities for 'inviting the familiar possibility of corruption' [ToI 21.9.91] in this system do exist, notably that parties preferred for tender are not necessarily those who offer the best product, and in discrepancies between price quotations and what is spent on materials. Although the district level checking was designed to provide a safeguard against malpractice, this task was allocated to a lower level official who had not seen the approved sample and had no experience of what the kit was supposed to look like. Existing practices made it almost inevitable that not all of the TLE allocation of Rs 7125 per school would be spent as specified. Tenderers all over India took advantage of OB, with governments as commissioning agents, to increase prices for ordinary items - such as a rubber ring - to prices that were well above the odds. This caused a squeeze within a tightly defined budget and some items were not included while others were overpriced and of poor quality. There are sufficient indications in the quality of materials supplied to indicate the likelihood of the purchase of OB materials failing to avoid these malpractices.

The MHRD did permit States, in a letter dated April 13 - after the March 31 deadline - to have until the end of May to complete spending. This advice came rather late; in Baroda district, for example, phase 1a kits were delivered in a single consignment to teachers' homes or their school during the long May vacation in 1988, in time for the next academic year. There can be little doubt that the very rapid pace of TLE provision also had a detrimental effect on quality, and there was no report of any of the existing arrangements being altered, as had been requested, for OB.

The heavy workload and administrative convenience were cited by GoG officials as the reasons why, for phase 1b of TLE supply (in 1989) tendering and supplying were decentralised to district levels, and the State allocated money directly to district panchayats, under supervision of the DPEO. This decision also meant that lawsuits and accusing media fingers pointing at the shoddy quality of OB items could no longer be directed at the State government, from which point of view 'it was safer to give it to the districts' [PC 26]. But if there was room for tendering malpractices with a single purchasing authority, that possibility was greatly multiplied through decentralisation.
A further important factor in passing responsibility to the district was however that transportation and delivery costs were virtually dispensed with, since they were included in tender prices. This meant that implementing OB placed no additional burden on fragile district or State budgets. The fact that this burden would be transferred to the OB items and affect their quality acted as no deterrent.

It was a costly decision also, for large-scale purchase has the advantage of economy of scale: contractors are more willing for instance to set up a press for plastic items if they are going to manufacture 2000 boxes of shapes than 200 [PC 28; PC 52]. Purchasing at district level is more difficult since manufacturers are less willing to provide smaller quantities, and raise prices correspondingly. While central purchasing and supplying was felt to have been administratively burdensome, and was ostensibly the reason for decentralising purchasing, GoG officials on reflection felt that since central purchasing is subject to audit, a greater degree of quality control could have been maintained.

The district's existing procedure for room construction, which was not altered for OB, was that at taluka level villagers could come forward to the TDO with their projects or the ADEI could pinpoint needs, based on the Plan policy of providing a school within a village or within one km. For OB, the ADEI at taluka level submitted the survey of numbers of Std. 1-4 schools and existing facilities to the DPEO, who forwarded it to the GoG, which incorporated it into the State's project outline. For any taluka building project, whatever its origin, the TDO is required to forward to the district panchayaat, on behalf of the taluka panchayaat, the necessary maps, quotations and 'administrative permission' for construction. At the outset of implementing the State's phase I, the room position in Baroda district was (as of 30.3.89) as follows (Table 5.3):

<table>
<thead>
<tr>
<th>Taluka</th>
<th>Number of Std. 1-4 schools</th>
<th>with no room</th>
<th>with one room</th>
<th>Number of rooms required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baroda</td>
<td>73</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dabhoi</td>
<td>79</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Karjan</td>
<td>42</td>
<td>2</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Padra</td>
<td>56</td>
<td>3</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Chhota Udepur</td>
<td>237</td>
<td>12</td>
<td>172</td>
<td></td>
</tr>
<tr>
<td>Pavi Jetpur</td>
<td>167</td>
<td>6</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Naswadi</td>
<td>137</td>
<td>22</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Tilakwada</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sankheda</td>
<td>170</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Savli</td>
<td>136</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shinor</td>
<td>20</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Vaghodia</td>
<td>97</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1285</td>
<td>45</td>
<td>371</td>
<td>461</td>
</tr>
</tbody>
</table>

Source: DPEO office record
According to existing practice, for the 45 villages with no schooling facility at all, provision of a school would be on the list of immediate works to be taken up by the taluka once funds could be identified. However for the 371 single room schools, provision of a second room would be seen by the DDO and TDOs as an additionality, less urgent than, for example, providing an access road or more handpumps. Furthermore, since no TDO was given advance information about the scheme [PC 62; PC 64], or a role in its implementation, OB was not presented as something that should be incorporated and integrated into his development agenda. Hence, until the GoG provided building funds, no work would begin at district or taluka level on provision of a second room which, in the official perception is non-urgent. Since no funds for the OB rooms were identified at State level, the district could not begin its construction programme. This situation remained unchanged until March 1990, and was the cause of Gujarat’s very slow progress in implementing the scheme.

A major setback to the provision of building funds was that from 1986-89, Gujarat was hit by drought for three successive years which ‘adversely affected agricultural production and entailed massive expenditure in the form of rural works’ [GoG 1991:12]. Under such circumstances the GoG was not able to allocate sufficient finances to fulfil its OB commitment of building a second school room, ‘relief works and then power and irrigation’ [PC 27] taking priority. However, for 1989-90 the GoG allocated 3.7 crores, a sum sufficient to cover only 711 of the 1850 rooms required in the State that year. By this time, inflation was wreaking havoc with budgeting. Although the Note set the rate of a school building at Rs 52000 per unit, rising prices, particularly of cement, quickly made that too little. While in theory 711 units could be built with the first allocation, in practice the sum was insufficient to complete that many, calling for caution at the district level over taking up the number of building works sanctioned.

The room component of OB was dependent on the continued smooth functioning of both RLEGP and NREP schemes. Since they were rural employment schemes with a fixed and unfavourable ratio, they were not ideally suitable, but had been used in the past for school buildings. Efforts were hampered by changes that both the RLEGP and NREP schemes were undergoing. The Jawaharlal Rojgar Yojna (JRY) scheme, proposed in the Finance Minister’s Budget speech for 1989-90, was initially conceived as an intensive rural employment scheme for very backward areas, an additionality to existing RLEGP and NREP schemes. However this decision was reconsidered and these schemes were both merged into the single new JRY scheme as of August 1989. As far as OB was concerned, a vital change under the new scheme was that from now,
80% of funds allocated were to be given to the village *panchayat*, leaving only 20% at the discretion of the DRD. The primary objective of the JRY was 'generation of additional gainful employment for unemployed and underemployed persons'; and the second, 'creation of productive community assets...for strengthening rural, economic and social infrastructure which will lead to rapid growth of rural economy and steady rise in the income level of the rural poor' [JRY 1989:2].

The JRY was largely divided into schemes such as 'million wells', social forestry and housing units, indicating perceived development priorities. The wording of the paragraph concerning school buildings is rather vague with regard to prioritising a second, OB room (emphasis added):

> higher priority should be given to works which are required for infrastructure of poverty alleviation programmes...and construction of primary school buildings in those revenue villages which have primary schools without buildings [JRY 1989:11].

A further problem of the JRY scheme was that its allocations were proportionate to the numbers of ST/SC per village. This meant that per village the maximum amount available would be very small compared with the amount of money needed for a school building. If it had been difficult to construct buildings under RLEGP and NREP before, it was almost impossible to do so with at least 80% of the JRY funds since they were both inadequate and to be spent according to villagers' priorities.

Finally, in August 1990, MHRD had to step in to regulate a situation in which States were falling further and further behind in fulfilling their building commitment. Under the JRY 60:40 labour to materials ratio, school construction projects were not normally eligible for JRY funding. Rather than discard this option altogether, MHRD worked out that under existing arrangements, 58% of a school unit could be funded if somehow OB buildings could be accepted under the JRY. It was arranged between MHRD and the Ministry of Agriculture that it would be in order for the JRY to finance up to this proportion. This left about 40% for the State to find (Rs 20800) and the arrangement was described in the MHRD as 'a breakthrough because it is very difficult to change GoI guidelines' [PC 4] which had effectively excluded school buildings from being taken up under JRY. Also, the money was an additionality, which was a great benefit to States. In effect, the JRY share became a substitute for the previously existing arrangement, overtaken by inflation, of raising a proportion of funds locally.

Under the revised conditions, the construction of school rooms was passed to the Department of Rural Development, and as of 30.3.91 the DRD was entrusted with
completing the backlog State target of 1806 rooms, through its District Development Agencies. Taking stock of the position, the DRD noted that as of 30.11.91 against the 1806 target, only 23 rooms had been completed and 587 were in progress.

Table 5.4 shows the GoG annual allocations for OB rooms between 1989-1992 (figures in crores of rupees), at a unit cost of Rs 52000:

Table 5.4 GoG allocations to buildings under OB scheme 1989-92

<table>
<thead>
<tr>
<th>Year</th>
<th>GoG sanctioned budget (crores)</th>
<th>Classrooms required</th>
<th>Target shortfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989-90</td>
<td>3.7</td>
<td>1850</td>
<td>budget meets 711 rooms</td>
</tr>
<tr>
<td>1990-91</td>
<td>2.45 (GoG) 5.63 (JRY)</td>
<td>1806</td>
<td>budget meets 1554 rooms</td>
</tr>
<tr>
<td>1991-92</td>
<td>1.82</td>
<td>707</td>
<td>budget meets ca. 350 rooms</td>
</tr>
</tbody>
</table>

Source: GoG files

This background of problems affecting the scheme helps to explain the picture of very slow progress in Baroda district during those years. The district target was 461 rooms but there was a hiatus in building activities until 6 March 1990, when sanction to begin building was received - but even then only for 253 units. They were located as follows:

Karjan 5 Chhota Udepur 113
Padra 7 Pavi Jetpur 65
Shinor 3 Naswadi 60

Work began on only 104 of the 253 (Plate 5.1). This appears to have been the result of both caution and administrative bottlenecks. The district was all too aware of rising costs and unwilling to take on any more than it could be certain to fund. It also proved a slow process collecting the taluka level projects through the taluka panchayat - an information lag that was repeated from district to GoG also [DRD file 18.12.91]. By 26.3.91, when the work was passed on to the DRDA, the 104 had still not been completed:

<table>
<thead>
<tr>
<th>Total begun</th>
<th>Completed</th>
<th>Under construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Padra</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Chhota Udepur</td>
<td>45</td>
<td>29</td>
</tr>
<tr>
<td>Naswadi</td>
<td>28</td>
<td>24</td>
</tr>
<tr>
<td>Pavi Jetpur</td>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>106*</td>
<td>61</td>
</tr>
</tbody>
</table>

* 2 dropped because of land disputes

Source: DPEO office Baroda
Plate 5.1: Buildings, Baroda’s Phase Iib

Above: Rangpur - new room unit adjoins existing unit to reduce construction costs
Middle: Lalpur - separate room unit as OB intended
Below: Constructing the new room, Lalpur (workers employed under the JRY scheme)
By the end of that year, in addition to completing the 43 not yet done, 229 rooms of the original 461 had still to be built, of which 102 were sanctioned and 127 were unsanctioned. Passing over responsibility to the DRDA, under the new nationally agreed arrangements, the DPEO specified the location of the 102 sanctioned schools: Chhota Udepur 50; Pavi Jetpur 27; and Naswadi 25. The District Education Committee also requested the DRDA to use any remaining GoG grant they might have on school construction [DPEO file 29.7.91]. In March 1991 GoG sanctioned its share of the money for a further 150 rooms in Baroda (specifying a proportion of 55 non-tribal and 95 tribal) - Rs 20800 per unit as per JRY State:centre funding ratio rules of 40:60.

Unfortunately the matter had still not been satisfactorily resolved, for no-one had made any adjustments to take into account inflation. By the end of 1991, in the least accessible area of Gujarat, Dangs, the price of a single room unit was quoted at Rs 90000. In Baroda district the minimum quoted price was Rs 60000. Even if the State made up its matching share to Rs 20800 as per the 60:40 renegotiated JRY agreement, inflation had raised actual costs to at least Rs 10000 above that. The extra sum is left to districts to raise, and the quoted sum had still not been officially revised to a more realistic rate by the end of 1991. To this end, the DRDA noted:

There has been a significant increase over the Rs 52000 suggested and fixed as the unit cost price. Directors of DRDAs find great difficulty in mobilising additional resources and this comes in the way of smooth implementation of the programme. As a last resort we have allowed use of State funds from the Special Employment Programme (entirely State sponsored) to compensate the deficit [DRD file 18.12.91].

The working copy used throughout by relevant authorities at GoG and district level remained the 1986 outline of the RLEGP scheme, which did not specifically prioritise primary school construction unless there was no existing school building [DRD 1986].

A note in the DRDA file, the agency now fully responsible for OB room construction, serves as a reminder that by the end of 1991 procedures had still not been tightened up, despite the outcome of the failure to get school buildings properly prioritised under the RLEGP and NREP schemes:

It was expected that the GoI in the DRD would issue some operational guidelines and clarifications. We had referred the matter to GoI in this regard but it is given to understand that no guidelines would be forthcoming...and as such the scheme has to be operated with reference to existing guidelines [DRD file 18.12.91].

In the JRY guidelines, the phrasing in the paragraph concerning school buildings is identical to that in the RLEGP.
The annual development Plan of 1990-91 [GoG 1990b] notes that according to the Fifth AIE Survey there would be a requirement of 43000 classrooms and 16436 would be constructed. There is no indication of any construction schedule or from where the requisite funds are to come, but there is an anticipated backlog of 26564 rooms at the end of 1990. The Plan of the following year targets 14705 rooms and allows for an outlay of Rs 182 lakhs: to meet the target, Rs 7.64 crores would have been needed, at the inadequate agreed rate of Rs 52000 per unit. There is therefore a very considerable shortfall between the State's target and the money it allocates from GoG funds; and although this may be raised from other schemes, there is no specification of how this might be done.

Several further points in connection with rooms should be noted here. Since Gujarat did not alter the standard design of the room to ensure adequate storage space as MHRD requested [MHRD 1987b], in those new rooms that were constructed there were difficulties not only for storage, but also for accessibility of the TLE. It is time-consuming to abstract a specific piece of equipment from the pile of boxes; and keeping it hidden from view perpetuates the notion that TLE is not part of the classroom furniture but something 'special'. This difficulty was sometimes compounded by an unanticipated outcome: since provision of the site was left to villagers, additional space was allocated where available, not necessarily in close proximity to the first room. As only a single set of TLE was provided, this presented problems as to whether some items should be permanently allocated to one site. Apart from this practical difficulty, split-site location draws into question the nature of the entity of the school, an outcome far removed from the thrust of the OB scheme.

In efforts to avoid this, the second room was frequently built on what used to be the school's playground, thereby removing this facility. Thus the introduction of one quality-enhancing measure has often resulted in the abolition of another, long acknowledged to be important for the totality of the child [Kothari 1970; IYB 1964], towards which the NPE 1986 was aiming.

For teachers, there was at State level no difficulty with GoG sanctioning the posts since the second teacher salary was to become the liability of MHRD until the end of the Plan period. There was also no shortage of trained teachers available, since teacher training colleges are able to furnish an annual supply of teachers that exceeds sanctioned posts. The appointment procedure is that once a district has assessed its needs, it informs the GoG, and according to availability of funds the GoG sanctions posts. The district advertises the number of vacant posts in the local media and appointments are made on
merit. If supply exceeds demand, names are put on a waiting list, until the GoG sanctions further posts.

The State required a total of 2374 teachers in its first phase, 1016 in phase Ia and 1358 in phase Ib. In Baroda district the phase Ia requirement for teachers was very modest: a total of only eight. In phase Ib the number went up to 369, taking the overall total to 387, as Table 5.5 indicates:

**Table 5.5 Teacher requirements under OB in Baroda district**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Teachers needed</th>
<th>Phase</th>
<th>Teachers needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ia</td>
<td></td>
<td>Ib</td>
<td></td>
</tr>
<tr>
<td>Karjan</td>
<td>4</td>
<td>CU</td>
<td>183 (m 38 f 145)</td>
</tr>
<tr>
<td>Padra</td>
<td>3</td>
<td>PJ</td>
<td>94 (m 28 f 66)</td>
</tr>
<tr>
<td>Shinor</td>
<td>1</td>
<td>Naswadi</td>
<td>92 (m 22 f 70)</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td></td>
<td>369</td>
</tr>
</tbody>
</table>

*Source: DPEO record*

In 1988, an advertisement was placed to fill these posts but because of the very large numbers of teachers required at once, teachers with rather low qualifications were offered posts. This was not considered in the interests of educational standards by the district *panchayat* and so the list was cancelled and a second advertisement was placed. Those eligible under the first list however objected to being bypassed by those with better qualifications responding to the second advertisement, and court action was instigated. This was resolved by complete cancellation of the waiting list and readvertisement of posts, which considerably delayed fulfilment of targets [PC 51].

Across the State, by 31 October, 1988, 1664 teachers had been appointed, 275 female. Progress in the following two years was very slow and according to the QPR of 30.6.91 referring to projects sanctioned in 1987-88, 2215 teachers had been appointed, 740 of them female, still leaving the State with a shortfall of 159 teachers. It was not until 23 October 1991 that the GoG was able to telex MHRD:

2374 posts of phase I under OB have been filled up and no post remains vacant in Gujarat [MHRD file 23.10.91].

Although the procedure of appointing teachers is not intrinsically complex, the whole business of appointing and transferring school teachers has become an arena subject to interference, as the example of Baroda illustrated. The impact on the smooth operation of recruiting teachers is described by a key GoG official:
There is a selection list and a waiting list but the problem is the political element, so the list can't operate. So there is a problem of actually filling up sanctioned posts, and that is why it takes so long. Actually the DPEO is not in a position to fill up the list because of political preferences. We generally go by persuasion and through official and non-official people, and with the DPEO and chairman of the District Education Committee we pursue them. But this is not satisfactorily successful...but we did ensure that all lady teachers on the roll be appointed immediately [PC 27].

Dealing with teacher transfer problems in the normal course of duty anyway consumes a good deal of the DPEO's time:

Every teacher wants facilities and it is impossible to give them to everyone. Teachers are fixed every year according to student ratio and every year that is different so every year there is this thing of fixing and rectifying - a terrible problem...and not everyone one deals with is of pure heart and mind. It is a headache if you are not interested in malpractice [PC 48].

The question of training these teachers for OB is taken up in chapter six, but it may be noted here that both the three and 10 day training programmes for OB were arranged to train only one teacher per school. This person would return to school and impart what was learned to the other teacher. The success of this peer training was dependent on the extent to which the first teacher had grasped the training and where this was not successful, the second teacher had no opportunity to learn from the kit because no manual was provided. Some, but not all of these teachers had been trained under various programmes. In 1988, for phase Ia, a three-day 'naming of parts' type programme was conducted at the initiative of the Directorate in order that teachers would be familiar with the operation of the TLE. The following year, teachers in phase Ib were trained under the PMOST-OB programme discussed in the next chapter.

As both State and district teacher recruitment figures indicate, it was not possible to appoint the targeted proportion of female teachers. In rural areas, elementary teaching is still a male preserve since conditions for single women in rural villages are socially very difficult. Accommodation in particular presents a problem and rising prices have ended the provision of teacher's quarters which was planned as part of educational expansion during the State's Sixth Plan. In cities the position is different: the majority of elementary teachers are women. Under OB it was difficult to redress the balance and recruit 50% women since no extra teachers were required in urban areas. Government officials are pragmatic about the inability to supply adequate numbers of female teachers to rural areas:

Female teachers go for a day or two and then get transfers out, rightly enough because they have their own problems in those social conditions [PC 17].
Activities for TLE at district level in phase Ia were limited to the reception of goods supplied by GoG-arranged tender, checking and distribution. There were reservations about the practical outcomes of decentralising this procedure, particularly with regard to both availability and quality control:

That is the problem, it will vary from district to district. In some district parties may be interested in supplying the material, in others they may not. What people in one place think adequate wouldn't be acceptable somewhere else [PC 26].

Many district panchayat education authorities, including Baroda, are housed in cramped surroundings which seem to reflect their status as an adjunct to the district panchayat. Storage of items supplied at different times from separate tendering parties caused problems: DPEOs arranged storage in a large local school. No budget for distribution of OB items had been arranged by the GoG and this had to be financed from contingency funds with the DPEO. This was not reported to be a difficulty in Baroda since such funds were available but it was not planned into the OB budget at either MHRD or GoG level.

The decision by the GoG DoE to decentralise purchasing for phase Iib made DPEOs responsible for tendering. Before the second round of purchasing, DPEOs were called for a two-day briefing on administrative matters, which included a written circular on TLE contents, policy, use of equipment and detailed specifications for procuring TLE [PC 26]. At this meeting it was apparent to the Directorate that DPEOs, responsible for overseeing its implementation, had numerous misconceptions about OB which needed to be cleared up:

It was a new programme with a confusing title - we are operating a blackboard but it is about school teaching, not only a supply of physical needs. Some thought it was an adequate supply of materials, some techniques, some a method, so it was necessary to make them clear that it was a technique, not a method nor supply of certain materials [PC 26].

The Directorate then provided DPEOs with the tendering forms, translated into Gujarati, as well as the item specifications, less exhaustive than the NCERT specifications, for DPEOs to refer to. They clearly specify size, number and preferred material: for example in the maths kit should be five plastic solids, size and shape specified. Little information about this procedure was available in the Baroda office since a court case had been brought about purchasing conduct: some district panchayat officials were charged, and later cleared. This was apparently not uncommon, as a key GoG official commented: 'disputes went to courts of law and some items may not have been supplied because of that ' [PC 26].
However, in neither supplying phase were items supplied to schools those specified by the NCERT or even those specified by the GoG: for example although five solids should be in the maths kit, visits to twenty schools did not reveal the presence of more than three in any one school. Specific mention was made of provision of a spike abacus, specifications for which were sent by MHRD on 5.2.88 [MHRD file] but a loop abacus was always provided.

Because delivering to schools became the responsibility of various suppliers, deliveries in phase Ib were no longer coordinated and schools received OB items in four batches, a situation the MHRD had wished to avoid.

Items purchased both by the GoG and the district were not of high quality and differed from the NCERT specifications (Plate 5.2). Tool and science kits were poor, and games equipment unsuitable for local conditions. There were, even so, many items that could be used (Plates 5.3 and 5.4). But for the State's phase II, which covered MSB schools, only TLE was required but malpractices were very apparent in this phase. On 15 April 1991 at the municipal office the OB sample kit was was seen to be of high quality, approximating NCERT standards albeit with no instruction manual. Tendering had been completed and manufacture reportedly was almost over [PC 55]. After an unexplained time lag the school kits finally arrived during December 1991, eight months later, and bore hardly a passing resemblance to the sample kit. At the MSB office the sample kit had been returned (contrary to GoG instructions) to the manufacturer and there was no institutionalised form of checking what schools had received.

A great deal of political interference and reported with the tendering procedures [PC 55]; and the combination of profiteering coupled with budgetary constraints [PC 55; PC 53] meant that the TLE which reached schools in this phase was virtually unusable. The sides of the dholak were of thin paper which ruptured on first use; the science kit was constructed in part from used ink bottles and thin corrugated plastic which creased and bent easily. The fraction disk had no back so it could only be completed flat on a table or desk, restricting its use to those able to cluster round; the cubic rods were lengths of unsanded wood with no markings indicating the units (illustrated in Plate 6.3, in next chapter).

A major failing of any of these supplying arrangements was that nowhere, for any kit item, was a manual provided. The prototype maths kit did have one, as did the NCERT prototype science kit, both of which would have been available from NCERT to base a
Plate 5.2: The science kit

Above: The NCERT science kit as distributed to an OB school in New Delhi

Left: Baroda’s phase Ia equivalent

Below: Example of unusable items in this and other science kits, Baroda Phase Ia
Plate 5.3: Contents of OB kit (1)
Baroda’s Phase Ia and Ib

Above left: Abacus

Above right: New blackboard

Middle: Sewing kit

Below: Fraction square
Plate 5.4: Contents of the OB kit (2)  
Baroda's Phase Ia and Ib

*Left:* Globe and mathematics kit, including fraction square, Cuisenaire strip, Napier strip, dominoes, abacus, plastic shapes

*Middle:* Few teachers knew how to use these miscellaneous items in the kit

*Below:* The tool kit: no blade, and woodworm in a one-year old plane; no rough surface on the rasp; rusted hacksaw; no drill handle
Gujarati manual on. This was not attended to by either the GoG or the GCERT which was involved in drawing up the specifications. As a result teachers had no reference material to draw on when they returned to their schools.

Despite all the problems which OB encountered as it moved from MHRD to schools, the scheme has not been cancelled or greatly revised. A special meeting was convened at MHRD on 6.2.1991 for Education Secretaries to discuss modifications to the scheme during the Eighth Plan. The amendment to the JRY scheme was welcomed and their endorsement sought by MHRD for setting up room construction as a special scheme under JRY, to be taken up with the Planning Commission. Secretaries felt the procurement of TLE created too many management problems for State governments and that more flexibility was required in choosing TLE.

On 9-10 August 1991, Education Secretaries conferred again in New Delhi amid considerable optimism that with the revised JRY guidelines it would be possible to get room construction up to target. For TLE it was agreed after this consultation that while some items, such as science and maths kits, would remain mandatory, others could be chosen by the State/UT according to its own priorities. As far as Gujarat was concerned, provision of a second teacher had anyway been taken care of under the State's own Plan provision.

The Eighth Five Year Plan (1992) has since made budgetary allocations for OB to be continued in this revised format and implemented in primary schools where school enrolments justify a third teacher and third room.

Communications and monitoring

This account of the implementation of OB has illustrated that each component of the scheme ran into a different set of difficulties, some directly related to the novelty of the scheme and others to long-existing characteristics of the normal operation of the education machinery and public market place. This section reviews in greater detail the way the policy message was passed from level to level, and how it was understood, as evidenced in the actions taken and perceptions of key officials interviewed. It pays particular attention to the monitoring of the scheme, bearing in mind that the upwards flow of information for planning and monitoring has been acknowledged as a severe administrative difficulty [Dhingra 1991].
Within the administration at all levels, modes of written communication have been formalised into a routine style: issue of a circular or letter, with perhaps another letter or re-issue of the circular as a reminder, then a series of telegram reminders. Communications which request the personal attention of a particular official are also impersonal circulars. Thus an intrinsically urgent communication such as a telegram becomes a routine matter; and a personal letter part of bureaucratic process. If the concerned official does not take action on the communication, it is merely repeated, which constitutes no real threat, as there is no effective follow-up from the party which issued the original communication.

The form of regular feedback adopted for OB, the Quarterly Progress Report (QPR), is common to all government sectors. At MHRD, QPRs were collated on computer and produced as a large quantitative statement of national progress towards numerical targets. As a quantitative instrument it functions adequately for this purpose: but it is useless for any diagnostic purpose if progress stops, as was the case with Gujarat's implementation. As the pattern of communications (Appendix 5.1) indicates, the GoG, with little progress to report on, became tardy with its QPRs, submitting them only after reminders from MHRD, and allowed them to become more and more overdue until, from 31.3.90, it stopped submitting them altogether.

Another way by which MHRD could keep itself informed was by requesting States/UTs to attend meetings, in addition to the annual conferences between Directors of Education and between Education Secretaries. Extraordinary meetings were only called, however, when MHRD felt there was 'something wrong' [PC 3]. They were not therefore consultative, diagnostic meetings, but occasions when the GoG was already appearing at a disadvantage since it was being reprimanded for, and having to justify, poor progress. This position is exacerbated by norms of bureaucratic service (see chapter one), which restrict the possibilities of critical evaluation by lower ranking officials present. Furthermore, the MHRD communicated with the Secretariat, in accordance with hierarchical norms, rather than the Directorate which was actually implementing the scheme.

Capacity for diagnosis of points for trouble-shooting or administrative intervention is very low at all levels, in part because of the paucity of timely and relevant feedback. The channels of communication carry information downwards but hierarchical norms do not allow for any forum for interactive feedback. There is evidence therefore that existing protocol governing use of the mechanism for reporting back does not feed to higher authorities information about problems encountered. Effectively this means that
the system does not allow the application of local expertise to the problem at hand, nor supportive assistance from those with wider decision-making powers.

This is amply demonstrated in the events following MHRD's realisation that Gujarat was in difficulties with OB towards the end of 1988, a year into the programme, when during October a key MHRD official visited to discuss progress. Disappointment was expressed at the lack of progress and that the GoG had only been able to report action on its phase Ia: the GoG Education Secretary was to 'check how and why the second sanction had been overlooked' [GoG file 31.10.88]. As far as building construction was concerned 'the progress of the State government would not do' and the Education Minister was specifically advised of the need for 'far greater effort on mobilisation of funds for construction if the next phase of the scheme were to obtain consideration for assistance' [GoG file 31.10.88]. As the GoG's financial allocations to OB show (see previous section), there is no evidence of any greater effort by GoG to mobilise construction funds as a result of this interchange.

The visit had repercussions which rippled through the GoG and downwards. Since OB was a programme of national importance, it was tackled at a political, ministerial level by a letter (6.3.1989) from the Minister of Human Resources to Gujarat's Chief Minister, noting that OB 'appears to have run into serious difficulties in Gujarat' [GoG file 6.3.89]. It referred to the GoG assurance that it would construct 3402 rooms by December 1988, but 'the State Government have not even been able to identify funds to cover this construction programme' [GoG file 6.3.89] and as a result MHRD had not been able to finalise its sanctions. Furthermore:

Operation Blackboard represents a national decision to give greater priority to investment in primary education. From 1987-88 there has been a substantial and completely unprecedented step-up in the central outlay on primary education, but the scheme cannot succeed unless State governments also give greater priority to primary education...it will be unfortunate if Gujarat falls behind other States in this regard [GoG file 6.3.89].

Before this diplomatically phrased letter reached the Chief Minister, the Directorate had issued to DPEOs a less diplomatic counterpart, a long circular (23.12.88). DPEOs were severely rebuked for their 'casual attitude', in contrast to the 'strong feelings and great concern' of both GoI and GoG towards implementing OB. As a result of the 'weak and insufficient attention' to the implementation of every aspect of OB, 'the State suffers' [GoG file 23.12.88]. Phrased in a mixture of threats, disappointment and coercion, the letter ostensibly exhorts DPEOs to take action:

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2 As, indeed, it did in many other States.
It has been found that, while GoG had given assurance to GoI regarding construction, no progress at all has been made. In this way, for room facilities we have not been able to give a good picture, which is a very sad thing. Because of this slow progress, there is a strong likelihood that GoG may lose its central grant and to prevent this from happening, immediate action must be taken at the district level to set up an efficient mechanism for building construction in order that solid progress can be shown forthwith. From now onwards, building construction should be taken up under 'immediate works' and all schools under OB which require a second room should please have this work completed within a month [GoG file (OT) 32.12.88].

This demand was in fact hardly possible since at this stage Baroda district had not received any financial sanctions for buildings from the GoG. Equally, although in person the Director was aware of the problems with recruiting female teachers - or any teachers at all - to rural areas, and was also sympathetic to the multiple conflicting pressures on DPEOs, the official letter said:

Recruitment of teachers...is a very simple administrative task. Nevertheless DPEOs are indifferent in this regard and this is a very unfortunate state of affairs. The outcome is that it has not been possible to spend the grant sanctioned by GoI so the remainder will have to be returned...at district level action should be taken and all teachers sanctioned under OB should be appointed within one week [GoG file (OT) 23.12.88].

Even at the time of writing this letter, it was not expected that appointment within a week was possible. This portion was designed to cut through local disputes, about which the DPEO could do little, and show that the Directorate would not tolerate this state of affairs any longer [PC 27]. The part referring to TLE appears a veiled enquiry as to what the funds were in fact being used for since there was no sign of any kits:

Grant for purchase of items was given in August 1988, according to which all purchasing work was supposed to be finished within 3 months...It has been found that even the basic requirements of this purchasing have not yet been initiated. Purchasing should therefore receive due attention and all items be distributed to schools within one month. Whatever the circumstances, if the work is not completed before March 1989 the GoI grant distributed to district level is to be repaid to GoG and this should be borne in mind by DPEOs [GoG file (OT) 23.12.88].

This insistence on the time-bound nature of the funding and that fact that monies advanced may have to be returned might be more than just an embarrassment to the State - it might not be possible. Although central funds are earmarked it is known that there are often lengthy time lags between their reception and their recorded expenditure, during which time they may be temporarily appropriated for other uses and repaid in time for audit [PC 19; PC 3]. The time lag between granting funds to the district and any evidence of expenditure points towards the possibility of the temporary borrowing
of TLE funds in this case, which would not have affected OB in any way other than slowing down the pace of implementation.

In case DPEOs had not read the letter in its entirety, the three main points 'necessary for immediate implementation of the scheme' [GoG file 23.12.88] are repeated at the end.

The letter can be understood in part as an attempt to 'jog just a little bit of action' [PC 27] by the State government, which under Panchayati Raj has as little real power to influence the district as the centre has to influence the State under concurrency. Yet, even in this strong language, this letter can scarcely influence a root cause of the delay, which the Directorate unofficially acknowledges to be the awkward position of a DPEO, the 'respondent in the box', as a relative outsider in the district panchayat.

The symbolic importance of the letter may therefore be greater than any expectation of an immediate outcome: the letter is evidence that the Directorate has taken action on the MHRD's comments. Although at the time of writing it was known that no actions were likely to be taken to meet the stipulated demands within the given time limit [PC 27], the Directorate has acted with administrative correctness on evidence of DPEOs not following instructions properly. The appropriacy of this action in addressing the problem is not evaluated, nor is there any follow-up to try and find out what the causes of slow implementation at district level might be. It appears that the Directorate assumes those not to be directly related to the components of the scheme, but local pressures caused by working through the District Panchayat; over which the Directorate has no official control, since 'implementation is a district responsibility' [PC 25], as laid down in the Gujarat Panchayat Act 1961. The Directorate's response was therefore not to diagnose, but merely to reiterate its instructions.

It is noticeable too, as an indication of the chasm between the administration and its raison d'etre, that the letter focuses on administrative failures and the prestige of the State, rather than correlating the DPEOs' inactions with their effects on schools, children and the quality of education.

The next year, the Directorate again had cause to reprimand DPEOs about the quality of their work, communicated again by circular. On 3.4.89 the Director of Primary Education GoG wrote to all DPEOs referring to a previous letter of 22.8.88 and telegram of 29.3.89 on the purchase of TLE and noted that because checking had been inadequate, quality was not good and nor were all items present. Commenting that this implied instructions had not been adhered to, they were reissued with the warning that no further payments were to be made without the Directorate's permission [GoG file
3.4.89]. Items in Baroda phase Ib arrived in schools in June that year so there was little time for any modifications to be made in the light of these reissued instructions. Again there is scant regard to the outcome of the circular or probing as to the cause of the poor quality of work.

Letters from MHRD to GoG also had an unsatisfactory response rate. According to MHRD, GoG simply failed to understand the amendment to the JRY rules which had been communicated to the Secretariat in a letter, and the MHRD felt there was little it could do 'if they don't read the letters we send...' [PC 1]. A consistent pattern emerges of a letter from an MHRD official, requesting information or action from the State, apparently inevitably followed by reminder and one, or a series of, telegrams, during which the signatory becomes a more senior official. This became extreme when MHRD, as it began to see that GoG was not progressing on building construction, began to ask for more detailed, sourcewise breakdowns of funding, and progress on construction and completion rates. There was no response from the State.

The pattern of ignored requests can be illustrated with the example of Gujarat's project proposal for phase III. This was submitted by SLEC on 27.3.1990 [GoGOB5 1989]. That May MHRD made its first request for intimation of source-wise availability of construction funds. The request is repeated on 4 January and a reminder telegram issued the next day. On 12 January the MHRD telegrams that it cannot process teacher salaries in the absence of a QPR; another reminder telegram re phase III is issued on 31 January. No answer was forthcoming from GoG so the MHRD sent another telegram on 12 August reminding GoG that its phase III could not be considered without construction funds information, which it requests, along with the missing QPR: on August 16 MHRD in another telegram refers to its original letter of 3.5.90 and January telegrams. There are two further requests in October, two more in November and one more in December, none of which draw any response from GoG other than, on 23 October, a repeated request for sanction of this phase. For a year and a half, therefore, the GoG ignored requests for information which it was required to give in order to have its own project sanctioned.

The MHRD, which had devised no other method of consistent monitoring than the QPRs, which made its monitoring reliant on the States/UTs passing on information, diagnosed poor implementation as a problem at State/UT government level. It understood the problems in terms of inadequate planning, allocations and feedback. Dissatisfied with the QPR and annual conference mode of reporting, it convened a workshop at NIEPA with State/UT Education Secretaries during June 1989. This
discussed the monitoring of implementation of OB which was 'far from satisfactory' [MHRD file 29.8.89]. Rather than only monitor targets, it was decided that it would be more effective to monitor the activities that go towards achievement of those targets, both as a 'better way of keeping track of what is happening' and 'taking timely corrective action where required' [MHRD 29.8.89]. Following on from the workshop, on 25.6.89 MHRD requested States/UTs to begin work on such a monitoring scheme and followed that on July 25 with a request from States for a breakdown of targets and actions to be taken. Not having received any reports back, the outcome of this workshop was reiterated to States/UTs in a long explanatory letter from MHRD DoE on 29 August, accompanied by a list of milestones for monitoring.

The MHRD clarified that project planning for OB would comprise 'breaking up the project into activities that comprise it at centre, State, district, block and school levels, setting out these activities to time and in a sequence which they must observe' [MHRD file 29.8.89]. The benefits of this type of planning were clearly laid out, that the exercise:

1 helps make one consciously aware of the activities actually involved and setting them to a timetable enables one to plan seriously and take positive action on what otherwise happens in due course, which consequently causes delay.
2 enables one to identify the activities critical to the plan schedule...If the causes of failure and action or resources required to make up lost time are also indicated the person in charge is in a commanding position to plan and take decisions rather than merely react [MHRD file 29.8.89].

The suggested format for the planning exercise was PERT\(^1\) and MHRD sent illustrative PERT sheets to State/UT administrations with the letter, pointing out that the critical path would vary from State to State. A response by the end of that month was requested. No action was taken by GoG on this and it was not until 10 October 1990, in the context of implementation of DIETs, that PERT was discussed again as a planning technique and the GoG promised to formulate a PERT chart for its phase III proposal.

Meanwhile MHRD itself was under political pressure to get OB implemented in a timely fashion to justify to parliament the enormous financial outlay on the scheme. MHRD therefore pushed the States and was displeased with slow progress, and as a result not

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\(^1\) Programme Evaluation Review Technique (PERT) systematically schedules and budgets both human and physical project resources, in order to accomplish a pre-determined job on schedule. The 'complete work programme from inception to end is clearly identified and defined, specifically in terms of manpower/ physical needs at any given point in time during the project'. PERT 'enables the project manager to arrive at highly informed decisions at the various levels of planning implementation and evaluation'. Through simple procedures PERT 'helps the manager view the project as an integrated whole instead of a series of isolated and unrelated tasks' [Domingo 1985:387-391].
only quality was compromised: it meant also that MHRD waived the safeguards built into the scheme to ensure that States/UTs did not treat this as a once-off injection of funds but took on a serious commitment to improving the quality of elementary schools in future.

The safeguards built into the scheme of OB to try and ensure that it was implemented as intended were the assurances from the States/UTs that they were providing stipulated contingency money, buildings or teacher training. In practice these assurances, which are critical, appear to make no difference. The scheme clearly stipulates that no funds would be forthcoming in the absence of such assurances: faced with this possibility GoG seems to have made assurances but taken rather lightly their implications. Only the teacher training assurance was in fact complied with in Gujarat.

Early on in implementation of OB the MHRD did not set a good precedent for Gujarat by sanctioning phase Ib without the requisite assurance and thereby visibly negating its importance. Equally, the MHRD attitude to contingency money did not reflect its crucial importance. MHRD enquired by letter on 31 January 1989 whether the contingency amount had been provided to all the schools covered in 1987-88 and what was the total amount budgeted to meet this stipulation [MHRD file 31.1.89]. According to the parameters of the scheme, MHRD should have ensured that it had this information prior to releasing the funds at all, rather than making an enquiry a year after the event. In fact, as far as provision of contingency funds were concerned, the assurance was given while a request was pending with the GoG and this was then turned down [PC 26]. Both of the instances indicate that the MHRD did not make use of the only safeguards incorporated in the scheme that would ensure success of the normative element of OB. The assurance as it stands is 'flimsy' [PC 4], amounting to little more than a gentleman's agreement. For MHRD this presents an ethical dilemma, connected with what it perceives to be a lack of professionalism at the State Government level, as a key MHRD official explained:

If someone in the position of a Education Secretary says he will do it you can hardly ask him to prove it...but in the Indian psyche a commitment doesn't really mean much [PC 1].

As discussed in chapter one, the only way in which the States/UTs can be made to take note of the centre is through leverage with funds. It was not until very much later in the scheme that the MHRD finally exercised its power to refuse sanctioning the release of money (for phase III) until information requested from the GoG was forthcoming. By that time the political backdrop was different. The Congress (I) was back in power with a new leader and the imperative of very speedy implementation appeared to have
relaxed slightly, with extension of OB funds in the next Plan already pledged. MHRD was thus better placed to be more insistent.

The whole pattern of communications and the lack of response, the assurances and their fragility throw into sharp relief relations between the centre and the States, and between the States and districts.

The situation of MHRD in concurrency remains unresolved and in the implementation of this scheme MHRD had not yet evolved a *modus operandi* to fulfil the role envisaged for it in the NPE 1986. Throughout implementation of OB, MHRD straddles awkwardly a role which can only be advisory and yet attempts, unsuccessfully, to control because it apparently feels that the States will not discharge their responsibilities appropriately. MHRD cannot force States/UTs but it can request action and make suggestions which it cannot itself implement, couched in diplomatic language which attempts to stress an urgency which the State Governments/UTs might not feel. For example, MHRD took the opportunity, on 19 May 1988, while confirming the extension of the TLE purchasing time limit, to invite the personal attention of State Education Secretaries 'which is not a routine matter', among other things, and to remind them:

I am sure you will agree that the procurement and issue of this equipment is a major and complex job and that, if it is not done correctly, we shall fail to achieve the real objective of quality improvement of primary education which underlies the scheme of OB [MHRD file 19.5.88].

But if things go wrong, the MHRD is ill-placed to do much about it, as the example of TLE - seen from the outset to be susceptible to a variety of problems - illustrates. MHRD set out its doubts in the scheme outline [MHRD 1987b] and listed the actions it expected States/UTs to take both in procurement of items and safeguarding their quality. Narrowing the focus further, to books, the MHRD wished States to 'ensure that the books procured are attractive, well-written and are of the kind to excite curiosity and retain interest' [MHRD file 19.5.88], and enclosed a suggestive list from NCERT. It became apparent that the initial fears were being confirmed as the States/UTs began purchasing and a month later a stern reminder came:

It has been brought to our notice that in some States tenders have been invited for books for the library under OB scheme, treating them in no way differently from other equipment under the scheme. We should like to reiterate that such an approach does not appear to us to be at all calculated to stock school libraries with the right materials to serve the purpose intended. The procedure adopted should be one that gives preference to good quality, well-produced books for children and encourages their production...We do not wish to suggest detailed procedures in such matters, but would request you to consider the whole issue
carefully with a view to creating a mechanism to continuously select and certify appropriate publications [MHRD file 15.6.88].

MHRD had to watch and wait as, despite this advice, a police inquiry was conducted into the distribution of books under OB in Madhya Pradesh, in attempts to 'identify those responsible for supply of sub-standard equipment under OB' [ToI 21.9.91]. A similar enquiry was held in Bihar; and in Gujarat, supply of books to schools was held up for 18 months because of the 'Suresh Dalal incident', a dispute over the selection of books. This was resolved by assigning the work first entrusted to an independent committee, reorganised several times, to the already existing State Textbook Board.

Evaluations of Operation Blackboard

The implementation of OB encountered many difficulties: decisions were made which altered the intentions of the scheme but facilitated implementation; often, conditions which innovations or implementation research have identified as necessary for effective implementation neither existed, nor were they created. Opinions on OB from key actors in the implementation process were sought and are presented in this section.

Officials at the centre fully accepted the correctness of the policy programme they were charged to implement. Referring to the findings of the Fifth AIE Survey, they did not doubt that the three components of OB were all necessary - which precluded any need for a pilot project - and that it was in the States/UTs' interests to adopt OB. There was furthermore no question that it was in the interests of the nation as a whole and elementary education in particular to ensure that the minimum levels of funding were adhered to. A stop had to be put to prioritising mere expansion, if that meant not having a minimum norm [MHRD 1987a; PC 1]. The MHRD's causal thinking is outlined by a key official:

We conduct pilot projects only if the viability is not certain, or if we do not know that we can achieve the objectives. But with OB all items were beyond doubt, the objectives were certain, and that they would constitute the minimum level there was no doubt. There must be a benefit because teachers would be correlated with rooms and equipment [PC 6].

Although the oversimplification of cause and effect was not seen as a cause of later difficulties, it was acknowledged that OB's dependence for the building component on RLEGP and NREP funds, a suggestion that emanated within the Human Resources Ministry [PC 1], was not 'realistic'. The MHRD was reportedly 'diffident about the provision of buildings as it had no money for funds' [PC 1] - and estimated Rs 1000 crore would have been needed [PC 6]. However, this compromise was accepted
because 'more realistic norms for buildings would have been a pipedream'[PC 1]. In effect MHRD presented States/UTs with a scheme for which the modalities of implementation had not been worked out.

The timescale for OB had been set up by the Prime Minister himself and publicised in the NPE 1986, which itself had been a high profile and very public undertaking because of the national debate initiated in its formulation. Although key civil servants attributed the speed and oversimplification of the implementation of OB to both the naivety and the inexperience of a young and enthusiastic Prime Minister, their experience could not counter the political imperatives: that timescale was the framework within which they had to work [PC 6], whatever the reservations. Officials felt that, given the sheer size and complexity of the venture, and 'an inevitable gestation period' [PC 1], it had been unrealistic:

Three years was too ambitious, it is too large and variegated a structure, and it was impossible to launch it within months. Any large project can't be done in less than ten years, even if brilliantly [PC 6].

The GoG Secretariat felt that in its conception of OB the centre, rather than taking into account the individuality of the State, had taken the lowest common denominator (Bihar, Rajasthan, Uttar Pradesh) and fashioned its scheme with those States in mind. This was felt to belittle the efforts of Gujarat where there was not a single school without a blackboard. Since a State Plan scheme already provided for conversions of all single teacher schools, it was felt that a main plank of OB was anyway being dealt with by the State. The latitude for 'necessary fine-tuning to take into account the stage of development of a particular system' [PC 31] had been precluded by the centre's insistence on provision of all three components and exact prescription of TLE.

Gujarat was, in some villages, still short of even a single room and it had been a planning priority to cover this backlog. Under OB, this priority effectively had to be dropped so that any available construction funds were directed to OB schools. This was unacceptable to the Secretariat, which wished to provide all villages with a school room rather than upgrade some at the inevitable cost of providing others with a school at all - giving to the less needy when the really needy remained unserved. The whole room component was perceived as a 'huge liability and a relatively lower priority' [PC 30].

Provision of TLE was also considered 'very peripheral' and pedagogical improvements as a result of providing this equipment doubtful. A key official commented:

I don't have a yardstick to measure whether a teacher supplied with this kit has been more able to teach or communicate better, but I suspect not because it was
not the kind of equipment which lifts the teacher to a level that is qualitatively different. So from that angle was OB a boon to the State? The answer is certainly not, it was just an addition [PC 30].

There was a feeling that OB was missing the mark, that the centre had not related its scheme to the situation in schools, which were functioning at a level far below where they could absorb this type of TLE. In the context of the 'limited' curriculum of Std. 1-4 such TLE was not felt to be very relevant. More crucially, schooling was felt at this stage to be about first generation learners being 'comfortable with the idea of being enclosed in a room for three hours, comfortable with being taught. Their whole culture has to be changed within these few years' [PC 31]. Seen from this point of view, to have a library of books, maps etc., if just being at school had not 'become the norm' was considered to be 'jumping the line' [PC 31].

Some assistance in improving the teacher's performance would have been considered a major and fundamental contribution but this was not possible under PMOST (discussed in the following chapter), which was felt to overload the teacher with information which did not address what existing conditions required:

The problem of the teacher is not one of information about what is what. Her problem is really to communicate, to increase the motivation of the students [PC 30].

Gujarat had accepted the scheme on strictly financial grounds although it felt that the aims of OB were broadly in line with State policy, or overlapping, and that the tangible benefits of the scheme were very limited. However, in a climate of extreme shortage, every little helps:

When there's money available we take it, OB is only marginal for us, it doesn't harm anybody to have a little embellishment here and there. Therefore we all made the proper sounds but what we are getting when we launch a programme like OB is a marginal increase and what they are expecting is a quantum jump in the quality of the school. Really, it's only a frill [PC 31].

Had the money been given without strings, the Secretary had no doubts how it would have been better spent:

I would have wiped out this basic ignominy of our children sitting outside, or had one teacher per class [PC 30].

On implementation, for which the Secretariat had been very much criticised by MHRD, the centre was felt not to have considered the implications of Panchayati Raj. Gujarat is known throughout India a successful example of decentralisation of administration. It was therefore 'unorthodox' even to consider that a central agency would buy for the

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districts. Although the implementation of OB clearly indicates problems in communication between Secretariat and Directorate, and a merging of tasks that diffuses the focus of the Secretariat, this was not cited as a factor which needed attention since the problem was perceived to lie in Panchayati Raj and not with government procedures.

The Directorate felt OB was 'philosophically a fine scheme' [PC 26] and endorsed the centre's diagnosis that conditions in schools were very poor and that action should be taken to improve them:

According to the Survey, certain institutions lacked certain things and this is such a horrible lacking one cannot bear with it - 80% of institutions were substandard. Our teachers are lacking, our schools are lacking...school buildings, numbers of teachers, children, everything is lacking. So the diagnosis is correct [PC 25].

However, although the NPE 1986 had been formulated through dialogue, it was not felt that OB had been discussed, so 'what the centre conceived was the programme and they visualise their way' [PC 26]. This did not give Gujarat the leeway it would have liked to tailor the scheme to its own perceptions of requirements. From the outset the Directorate had not only not seen the necessity of providing a second room, but stressed that it placed a burden on the State which was too heavy, and for which too little was being offered in return:

Institutions have only 30-60 students and to provide them with a second classroom is a very difficult task for us. My argument was this: it was only a certain amount, Rs 7000 per institution and for 7000 I have to go for 50000 for one classroom, which will obviously lie idle, because if there are really only 50-60 children one room is enough for them. We want these teaching aids and furniture, we don't need a second classroom because this is small material, it can be kept in one or two boxes, the charts can be hung on the walls. So we should economise on this point. We have been asked to provide classrooms all against this 7000 under OB. I don't think this is necessary or feasible [PC 25].

In the selection of TLE, the Directorate also felt some economies could have been made, and 'definitely we would not have taken certain things' [PC 26]. The Directorate felt 'hesitant' about the use of play materials; a ring was not very important and a football would inevitably last for only a couple of outings before being punctured, as was indeed the case. In this sense 'the advantage was of low priority' [PC 26]. The Directorate also found the low usage of OB items by teachers predictable. The Director himself as a District Education Officer in 1976 had written to the Directorate to advise them that the provision of science kits under the State's Fifth Plan was wasted since teachers knew neither how to keep nor open, let alone use, the kits. Little had changed since then: indeed the situation with teachers seemed to have worsened. In the analysis
of the Director, the effect of providing facilities did not then and still does not address the crux of the problem of quality in education:

Physical facilities are not the only means of salvation. You may provide the school facilities, teachers and teaching aids but generally nowadays the tendency is that the teacher is lacking. Nothing matters, teaching has lost its meaning, the teacher himself is not at all interested. So, as the problem is the dedication of the teachers, the material is immaterial [PC 25].

Part of this problem, which affects implementation of all education programmes, was seen to lie in the failure of the 'supervisory machinery' - the inspectors who link the administration with teachers. The fact that they do not go and demonstrate things or supervise properly even after training was seen by a key official as a 'very sorry state of affairs' [PC 26]. The inspectorate is felt to fail both teachers and administration, since it does not feed 'grassroots' information upwards. For OB, as the GoG had not been able to provide the requested Deputy Director, feedback on implementation remained a problem. A severe staff shortage meant OB frustratingly became a 'one point programme - you distribute and give guidance, then it is over, there is no follow-up' [PC 27].

The Directorate's experience of implementing OB reflects general feelings of impotence and inability to regulate affairs because of the administrative status quo. The Directorate felt its hands are tied by having to implement through the district panchayats, who are to 'administer, implement, and propagate primary education' [PC 26]. In the panchayat, the District Education Committee is a statutory body with an elected head so 'it feels it is a separate entity and they take the GoI and GoG very lightly' [PC 27].

At seniormost educational planning level in GoG, the overall impression was that OB had been 'easy to implement' [PC 28] since it entailed only supplying district level requirements. Concern about implementation of OB focused on practical difficulties associated with purchasing materials and getting them transported to schools, and the planning department could not comment on its preferred course of action in future with regard to procuring TLE since 'we have not surveyed for that' [PC 28].

No official evaluation of the scheme within and by government was officially sought from those most closely connected with the practicalities of implementing it: DPEOs. Baroda's DPEO had been surprised at the outcome of the Fifth AIE Survey showing the poverty of facilities in schools. While overall in favour of this opportunity to improve standards, he felt central provisions were in excess of the general level that could be absorbed by teachers in his district:
I appreciated this OB: due to this our schools were provided with facilities. If there is no provision for physical facilities then the base of education is not assured. Due to this scheme schools are well furnished and equipped and this supply is welcome but there is no need for more than a preliminary supply, the rest can be given after some time when these materials are regularly utilised and things have come up to some extent. These things conform to an ideal...I don't say they are useless but teachers are not in a position to use them all. OB seems to have been formulated for an ideal school with conditions where luxurious play materials could be used [PC 48].

He was in favour of 'minimising the number of articles to include only the essential' [PC 48], since he saw no point in supplying materials that a teacher could not use frequently. His 'minimum essential' was: furniture for the teacher; a blackboard; maths and science kits; charts - but not all of them; maps (taluka and district level only); useful books eg. a handbook for the teacher and some pictorial books that would 'attract students to see, read and understand'. A further rationale was that if the number of articles were minimised, less expense would be incurred in covering more schools. The present arrangement seemed wasteful, for 'if the range of items offered is high then naturally the selection will be more than is actually required' [PC 48].

The DPEO was concerned with two practical problems which were emerging. One was where to store kits if the teachers were not using them, and the second was that some villages could not provide land next to the first building so two rooms were constructed some distance apart and the single kit could only inadequately serve both.

Although he noted that districts had not been consulted about the choice of items, the DPEO had no expectation of participation in formulating policy: 'we have nothing to contribute to the formulation of policy...our major objective is to achieve outputs according to inputs which were decided at State level' [PC 46]. Personally, he considered that a waste of his many years' experience. He appeared inclined to take State Plan (EDN) schemes more seriously than the NPE 1986: he perceived OB not as a considered pedagogical input, but as a political programme:

OB was...part of democratic practice. Some policies are continuous, the very essential ones, others come up according to political will, as the vision of the party then in power' [PC 46].

Inspectors in the district had mixed impressions of teacher attitudes and capabilities. It was widely felt that in backward areas teachers had many problems associated with low parental levels of education and lack of interest in education generally. Some inspectors simply dismissed teachers as lazy and there was wide agreement that everything depended on a teacher's interest. But not all inspectors appeared very involved in their jobs either, which coloured their assessment of OB. Some simply dismissed it as 'old
wine in new bottles' [PC 51]; others were unfamiliar with it and had had no training in its use, so tended to ignore it on their rounds as they were not able to help teachers. Inspectors assessed OB entirely from a practical angle rather than offering any evaluations of its intrinsic academic merits or demerits, but some had diagnosed weak points where they were able to intervene. This insight came from an experienced inspector working in Padra, one of the most developed talukas of Baroda district covered by OB:

Teachers never revise what they learn in training so when it comes to implementation they don't feel confident. So when they work with children and don't get results they say the training wasn't good. Ten days' training is enough but training and operating are two different things. Some don't use them efficiently and some are not interested although they are teachers. And also, if they don't feel confident with the children they don't use OB. Confidence is most important, if they use the kits but feel the children won't understand that is a deterrent. But a teacher should understand that these children are very small and won't mind what they try out. Also teachers should be prepared for lessons and most of them aren't, so they don't get results [PC 50].

This more detailed analysis was however rare and a view that seemed more common among these inspectors, reflecting the position at every administrative level, was that in existing conditions neither policy nor programme, however good, would really make much difference:

The NPE is very good if you really understand it. The methodology for the NPE was very good, very communicative, but the point is, the people are the same and the system is the same, only new materials are given [PC 50].

The following chapter discusses the impact of OB at the 'grassroots' level: its effect on elementary schools and teachers in three case-study sites.
Chapter Six

OPERATION BLACKBOARD
AND SCHOOLS
Introduction

This chapter describes the impact of Operation Blackboard at the 'grassroots' level - among teachers in three differing socio-economic contexts. The first section examines the bridge between policy and practice for teachers: the 'in-service training' designed to orientate teachers to the National Policy on Education 1986 and OB. Teachers' receptivity to the innovation can be linked to their training, their attitude to their work and to the communities in which they live and work, and their perceptions of the administration to which they are accountable. These issues are key themes in the discussion of the extent to which teachers in Karjan (section two), Rangpur (section three) and Subhanpura (section four) made use of OB TLE provided, and how much of the underlying policy message of a change in teaching approach they had absorbed. Section five analyses the relationship between teachers and the administration.

A consistent finding from innovations research is that the adoption of an innovation is more likely if the suggested reform is incremental, building gradually on existing practice, and does not attempt to introduce sudden and radical changes. The policy of which Operation Blackboard was a part aimed to promote what would indeed be a radical change in teaching practice: a move away from the long established textbook tradition towards a child-centred approach, a very different mode of pupil-teacher interaction.

The causal thinking of OB posits that the reason for the text-book centred teaching practices in schools has been the lack of teaching-learning equipment. The programme provides TLE in the expectation that teachers will use it, and a change in teaching style will result. OB was however formulated with very little attention to how the gap between teachers' current practice and the desired behaviour was to be narrowed. Instructions for OB (MHRD 1987b) to States/UTs specified only in passing that teachers in schools covered under OB should receive training to encourage them to use the aids provided, although teacher training was one of the assurances the State/UT was to give the centre that it would undertake as part of implementing OB.

The package of OB considered two teachers to be the 'minimum essential' for a primary school. As chapter two indicated, there is cause for concern about the quality of elementary teachers. To provide more of the same is not, therefore, necessarily to improve the quality of the educational process - the overall policy aim. Also, the centralised, top-down approach implicitly assumes that the elementary teaching force of India is a homogenous body, and that the same centrally-devised package of equipment will be suitable for all teachers and all schools in rural areas. This chapter
will illustrate that this assumption is problematic, since a major factor found to affect adoption behaviour is the socio-economic context in which a teacher works.

Teachers working in Gujarat's Std. 1-4 schools teach the subject areas of mathematics, language and science. The latter is taught through environmental studies and broadened in Stds. 3 and 4 to use the environment as an introduction to social studies, including geography [NCERT 1991]. Art and sport are also built into the school day. Work experience, the lingering remnant of Gandhi's Basic education (see chapter one) forms a further part of the syllabus: it is sometimes incorporated by teachers, mostly in the form of gardening, but is widely considered unsatisfactory. Teaching aids might be useful in any of these curricular areas. Existing TLE in schools was minimal, as will later be discussed: but making teaching aids is a part of teacher training, so teachers were not necessarily reliant only on what had been provided for them, if they perceived a need for TLE.

Programme for the Mass Orientation of School Teachers

The Programme for Mass Orientation of School Teachers (PMOST) was designed to orient teachers to the contents of the NPE 1986. Given the lack of in-service training facilities (see chapter two), this was for some teachers the only in-service training received during perhaps thirty years of teaching. PMOST, with a Rs 12.80 crore budget [PC 6], ran between 1986-1989 and during that time teachers at both primary and secondary level were oriented. It was devised and implemented by the NCERT (National Council for Educational Research and Training) through its nodal agencies in the States, the SCERTs. PMOST was terminated in 1990 under the V. P. Singh government which did not endorse central schemes [PC 10; PC 31].

Basic orientation material for primary teachers was provided in a manual [NCERT 1988a] containing 18 'core' modules and 11 modules specifically designed for primary teachers. Operation Blackboard was covered in module 16c (Appendix 6.1 reproduces this module). Modules were designed to give enough information to provoke discussion and activities on the chosen theme, an ambitious target if all this material was to be covered within 10 days. NCERT provided SCERTs with a budget for initial translation into State languages and annual updating.

In order to cover as many teachers as possible, the format of PMOST was 'cascade', a form of pyramid training in tiers which allows large numbers of people to be reached from a small base. It began with 'nucleus' staff at the NCERT who trained 'key'
people from the State level; these in turn trained 'resource' people at district and taluka levels; resource people went on to train teachers at the taluka level. The trained teacher returned to school and was responsible for training the other teacher(s) there (Fig. 6.1). PMOST was conducted in 'cycles' - up to three 10-day teachers' camps per centre annually, the sessions held during the long May vacation, with 50 teachers per camp.

Fig. 6.1 Cascade training for PMOST

A separate, specific OB orientation programme in PMOST format was set up in 1989, but until then module 16c was the only introduction to OB for all teachers who attended PMOST between 1986-1988. The essential difficulty was that teachers had to be oriented to a programme which in the first two years of PMOST existed as hardly more than a policy suggestion: in Gujarat for example kits did not begin to arrive in schools until 1988, the programme working its way through the administrative machinery, unseen by teachers, until then. There was a significant time lag during which 'awareness was created but on implementation there was no significant progress' [Dorasami 1989:117].

Module 16c reiterates what the NPE 1986 and PoA say about OB, but contains little practical advice. It is of little relevance to teachers - who are excluded from this type of decision-making - to discuss 'judicious allocation of funds among decision-makers in Delhi' [NCERT 1988a:124] for room construction. There was reportedly a debate within the NCERT as to whether modules should stress theory or the practical applications, but the perceived need for both was not entirely resolved [PC 13, PC 11]. NCERT intended the modules as core material on which to base training camps, adapted to local circumstances by the key and resource people [PC 13].
At a New Delhi meeting between MHRD and NCERT officials on 21 March 1989 it was decided that one cycle of the PMOST programme should be devoted to OB. Teachers in some States had received OB materials but it was apparent that they were not sure how to use them [PC 11], module 16c discussed above having been the only preparation. The 1989 decision came from a recognition that orientation was insufficient for practical purposes. Although it continued with the same title, PMOST-OB was conceived as training in the applications of OB [PC 13]. But by then the change of government in 1989 had reduced the impetus of PMOST-OB as it was not certain that the Congress-initiated NPE 1986 would be endorsed [PC 11; PC 13].

Since the first cycle of PMOST-OB was to start in May, preparation of new training material was 'hurried' [PC 13]. Training material used that year was cyclostyled. In Gujarat the untimely death of the head of GCERT in an accident caused delays in a very tight schedule, but the cycle went ahead in July. For the training of resource people, the NCERT supplied Gujarat with two of its own OB kits (mathematics, science and tool kits) and assumed [PC 13] for the teacher camps that, as States/UTs would have purchased according the NCERT specifications, there would be no problem for resource people transferring their knowledge to the local kits. In fact the kits supplied to schools in Gujarat departed in many ways from the NCERT kits (see chapter five). Furthermore, the nodal agency, GCERT, charged with ensuring that full facilities were provided at all centres, had failed to ensure that these local kits were even available with the result that PMOST-OB camps in some places (for example Chhota Udepur) were held without the full OB kit. The OB kit itself did not include an instruction manual, which the GCERT had been charged to provide.

GCERTs were charged with selecting teachers and resource people, whose names were put forward by DPEOs. Teachers covered by OB in Gujarat's phase la (Kaijan taluka in Baroda), implemented in 1988, did not participate in PMOST-OB, but received a three-day training at district level, from GCERT staff and the inspectorate. This was intended as a practical orientation for teachers, to introduce them to kit items and how to use them, and was conducted at the initiative of the State government through the GCERT. Some of these teachers had had PMOST, some had not, a haphazard situation that is explained by the NCERT having set numerical targets which had to be filled but not exceeded.

1 With financial assistance from UNICEF, the materials were printed in booklets, with slides and accompanying video, for the following year, but no funds were sanctioned to run PMOST again.
The NCERT commissioned several different evaluations of the PMOST programme which concluded overall that modules had been followed closely with insufficient attention paid to discussion or methods of instruction other than lectures. Dorasami [1989:65, 79], evaluating PMOST in Karnataka, found 'PMOST did not help teachers develop a clear perception of the salient features of the policy' and that 'PMOST made no impact on curriculum transaction in terms of utilising varied techniques in teaching'. Other available studies, such as those by Ramadass [1990] in Pondicherry and Acharaya [1990] in Gujarat, support these findings.

A key person from Gujarat reported his impressions from the teacher- and resource-person PMOST camps:

Teachers understood that OB schools would be equipped with a certain kit, and gained awareness of the government scheme. They understood the need to change their methods and became aware of their changing role in classroom interaction. But there was a lack of confidence in the new trends, they were a bit half-hearted. Some resource persons left their training also feeling only half-hearted [PC 43].

As far as the success of the general PMOST orientation to OB went, for teachers who attended the first cycle there was a time lag of at least two years between training and reception of the kit, during which time the sense of awareness generated dulled. In interviews, teachers' memories of the orientation were often hazy and very confused and it was apparent that many teachers did not relate what they had learned with what they were expected to do afterwards. Four years on, one teacher said 'I am still waiting for the circular to tell me to implement the policy' [PC 106].

PMOST-OB had more impact [PC 3; PC 50] because the practical applications to teaching were obvious to teachers and because there were fewer themes to follow. However, in interviews it was apparent that the core notion of child-centred learning which OB is intended to facilitate was not well understood by teachers, who had learned that school activities should be centred on the child but did not understand why. For either programme, however, 10 days is a very short period to attempt to change the teacher-centred classroom practices that are an unquestioned norm.

Karjan taluka (phase Ia)

Karjan taluka covers 601 km² and comprises 93 villages with a total population of 137314, 121867 living outside the small town of Karjan [Census 1981]. Karjan town is an 'L' shape, with the bus station at one end and a covered mark: leading to the
main street along which are situated shops, the secondary school and, at the end, the *taluka panchayat* building. The shops include several for photo-processing: public xerox and STD phone facilities are also available and there is a comparatively wide choice of modern consumer goods. Karjan lies on the railway line to Bombay and one kilometre from the national Ahmedabad-Bombay highway: Baroda can be reached within 20 minutes by fast train or an hour by bus. Communications in some areas of the *taluka* itself are however on unmetalled roads which are difficult in the monsoon.

The rural areas of the *taluka* are fertile: wheat, *jowar* and rice are the staple food crops and the main cash crop is cotton. Village settlement patterns in this area tend to be clustered, with houses close together and land owned outside the village. The proportion of Scheduled Castes in this *taluka* is 8%, and Scheduled Tribes 25% [Census 1981]. Occupations are primarily agricultural: approximately a quarter of the workers listed in the 1981 census were cultivators, and over half were agricultural labourers. The average literacy rate of the *taluka* was 48% [Census 1981], exactly on the Baroda district average: male literacy was 59% and female 37%, dropping less than two percentage points in the rural areas.

Karjan area was previously part of the former princely State of Baroda, and so covered by the Gaekwad’s compulsory education experiment (see chapter two): a network of formal elementary schools began to be established there from the 1920s.

There are 43 government Std. 1-4 schools in Karjan *taluka* and 59 Std. 1-7 schools. Upper primary schools are therefore widely accessible so there is no physical difficulty in children continuing to completion of the elementary cycle. One higher secondary school is located in the town itself and Padra, which has a training college and secondary schools, lies within 10 km. An agricultural training college is within three km. of Karjan. Further afield, Baroda schools are within reach of children who can afford the transport costs.

Within Karjan's Std. 1-4 schools, conditions were nearing the policy minimum of two rooms and two teachers: only 12 new room units and four extra teachers were required under OB. Science kits had already been provided in many schools and only 8 new ones were needed: miscellaneous TLE had been provided over the years but the provision was uneven and many items from the equipment available under OB were required to bring these schools to the 'minimum essential' standard of the policy.

Teachers interviewed in Karjan *taluka* were drawn from Anastu group, consisting of five schools, three of which were Std. 1-4, which lies 5 km away from Karjan and is
connected by metalled road. Data were also collected in four other Std. 1-4 schools, one in a large village close to Anastu and the others over 15 km. away in rural areas of the taluka: this group is referred to as Karjan. Details of its infrastructure are given in Table 6.1, with numerical cross-references for the teachers to whom the text later refers.

Table 6.1 Karjan: infrastructure

<table>
<thead>
<tr>
<th>School name</th>
<th>No of Stds</th>
<th>Average attendance</th>
<th>Date established</th>
<th>Operation Blackboard</th>
<th>m</th>
<th>Teacher f</th>
<th>ref. no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrapura</td>
<td>1-4</td>
<td>11/9</td>
<td>1964+</td>
<td>yes</td>
<td>2</td>
<td>T8p T9</td>
<td></td>
</tr>
<tr>
<td>Anastu</td>
<td>1-7</td>
<td>-</td>
<td>1909</td>
<td>no</td>
<td>7</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Kandari</td>
<td>1-4</td>
<td>69/61</td>
<td>1910</td>
<td>yes</td>
<td>2</td>
<td>1 T5p</td>
<td></td>
</tr>
<tr>
<td>Kherda</td>
<td>1-4</td>
<td>-</td>
<td>-</td>
<td>yes</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kurai</td>
<td>1-7</td>
<td>-</td>
<td>no</td>
<td>-</td>
<td>7</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Harsunda</td>
<td>1-4</td>
<td>18/11</td>
<td>1970+</td>
<td>yes</td>
<td>2</td>
<td>T4p T3</td>
<td></td>
</tr>
<tr>
<td>Pingelwada</td>
<td>1-4</td>
<td>60/57</td>
<td>1906</td>
<td>yes</td>
<td>1</td>
<td>1 T1p T2</td>
<td></td>
</tr>
<tr>
<td>Sherpura</td>
<td>1-4</td>
<td>22</td>
<td>1976</td>
<td>yes</td>
<td>1</td>
<td>T6</td>
<td></td>
</tr>
<tr>
<td>Somej</td>
<td>1-4</td>
<td>11/16</td>
<td>1980s</td>
<td>yes</td>
<td>1</td>
<td>T7p</td>
<td></td>
</tr>
</tbody>
</table>

In the princely State of Baroda, it had been policy not to open single teacher schools (reportedly to the detriment of the spread of UEE under the Gaekwad's scheme [IYB 1964]): only if 75 children would attend could a school be justified, with two teachers [IYB 1964]. This explains the presence of large older schools, such as Pingelwada and Kandari: larger villages in the taluka thus generally have schools with at least two rooms. Table 6.2 shows the existing rooms and other equipment, provided by the district panchayat, and the requirements of these schools under OB among schools eligible for the scheme in this group.

Table 6.2 Existing facilities and OB requirements, Karjan

<table>
<thead>
<tr>
<th>School name</th>
<th>Existing rooms</th>
<th>new OB room needed</th>
<th>OB teacher needed</th>
<th>Existing TLE provided by local authority</th>
<th>OB TLE needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrapura</td>
<td>2</td>
<td>-</td>
<td>no</td>
<td>bbd</td>
<td>yes</td>
</tr>
<tr>
<td>Kandari</td>
<td>3</td>
<td>-</td>
<td>no</td>
<td>bbd map charts</td>
<td>yes</td>
</tr>
<tr>
<td>Kherda</td>
<td>1</td>
<td>1</td>
<td>no</td>
<td>bbd map charts</td>
<td>yes</td>
</tr>
<tr>
<td>Harsunda</td>
<td>1</td>
<td>1</td>
<td>no</td>
<td>bbd map charts</td>
<td>yes</td>
</tr>
<tr>
<td>Pingelwada</td>
<td>3</td>
<td>-</td>
<td>no</td>
<td>bbd map charts</td>
<td>yes</td>
</tr>
<tr>
<td>Sherpura</td>
<td>1*</td>
<td>1</td>
<td>yes</td>
<td>bbd map charts</td>
<td>yes</td>
</tr>
<tr>
<td>Somej</td>
<td>1</td>
<td>1</td>
<td>yes</td>
<td>bbd map charts</td>
<td>yes</td>
</tr>
</tbody>
</table>

* In unusable condition: school shifted to nearby dharamshala
While older schools had an adequate number of rooms, conditions in newer schools were still poor and below the OB minimum in terms of both rooms and TLE. It is seen also that in this group were two single-teacher, single-room schools. Single-room schools were located in smaller villages, where lower population rates yielded low enrolments. Average attendance in these schools tended not to exceed 50: it was observed in Harsunda that when extra space was needed to alleviate overcrowding and noise disturbance, one class would work outside on the verandah. In larger schools with more rooms and schools with low enrolments this was not done.

No observations could be made on the difference a new room under OB would make to a single room school as none had yet been built; neither had any extra teachers been appointed under OB. A variety of conditions could be observed: two teachers in one room, one teacher in one room; and even two teachers with three rooms.

Prior to the implementation of OB in Gujarat’s phase Ia, during 1988, few schools had usable teaching-learning equipment. Although the district panchayat had provided some teaching aids, these tended to be very old. Maps had generally fallen into a state of disrepair through age and were hanging in unusable tatters since the Dead Stock register prohibited their removal. Science kits were also not used: they had usually been in schools for longer than the teachers and their rusty padlocks could hardly be opened. Teachers reported that before OB, they had relied on the textbook and inbuilt blackboard. However, some teachers had felt there was a need for some teaching aids, and reported their own provision of very modest and basic teaching aids, made out of clay or with crayons and paper, as well as manufactured items such as beads. These things were used for teaching maths, language and environmental studies.

For teachers who used only so few aids, the OB kit presented an array of new items. Teachers would need to become familiar with the mechanics of kit items - how to manipulate the Napier strip, for example - and when to use them. To be adopted by teachers to any degree, OB would need to build on some degree of teacher acceptance of a need for TLE. That some teachers had provided a few aids indicates that there was some perception of a need for at least some type of simple TLE in the core subject areas. This suggests that these teachers might be receptive to the policy suggestion that a change in teaching approach was required, since for them OB represented an incremental change. For other teachers in this taluka, who had used no TLE, OB represented a much bigger step.

The TLE component of Baroda district's OB phase Ia was provided in May 1988, when schools in Karjan taluka received the single consignment of OB kit items.
Teachers were not informed that they were to receive the kits and were sometimes surprised by a consignment, including four large boxes, 45 charts and ten waste bins, arriving on their doorstep. Although, for reasons discussed in chapter five, the quality of teaching aids delivered to Karjan schools left something to be desired, the kit was, in general, usable. Consistently however the membrane of the drum was broken and foot- and volleyballs punctured after a couple of outings: a puncture kit was not provided.

In this taluka teachers' responses to the introduction of TLE varied very widely. All teachers used OB charts and leaders' photos to decorate the walls of the school. The abacus was usually to be found on top of the cupboard used for storing registers, while other TLE was in boxes neatly piled on top of each other and kept at one side of the room. Since OB was aiming for a minimum essential, the TLE was intended for very regular use, to become as much a part of the 'classroom furniture' as the textbook. Rates of usage of OB items were reportedly high, except for T6 and T7 who were alone with four Standards. There was however considerable variation in how many of the OB items teachers used, which seemed to result from a combination of a teachers' attitude and competence gained through training. Some teachers used almost all things on a regular basis while others used only charts - the most popular kit item. T3 commented 'these are very helpful for visual understanding: they are the easiest day-to-day things, things on them are familiar' [PC 75] and T7 found it clear where to use them in the textbook.

The second most popular item was the abacus because 'students themselves can count' [PC 76]. T3 liked the coloured plastic shapes because 'children can learn shapes and colours by playing' [PC 76]. Although some teachers said they used all items in the maths kit, it was clear that there was hesitation about using the Napier strip, a complex maths item.

In discussion, all teachers saw positive benefits from OB although in observation it was clear that the extent to which they actually used it varied. The benefits were seen to embrace both teacher and child by making teaching and learning more interesting and thus more effective. Some teachers spoke of the monotony of teaching prior to OB, and the difference they saw in the children's interest after introducing a visual element. Two rationales given by teachers for adopting OB may be cited:

Children are bright and if you give them material they will grasp fast. You can use OB as basis for other things - creativity is required, but OB can really broaden the range of activities [PC 77].
It takes less time to teach, it is practical and gives students life skills, things they can do at home. It used to be boring, now it isn't, the playway approach is possible and it's interesting. So the economic problems haven't gone away but the mental problem is solved through playway teaching [PC 72].

Teachers had differing opinions about when OB TLE should be used. T8 and T9, who manipulated kit items fluently in interview, felt that 'materials are more important than charts because they are more practical' [PC 82] and that OB was most important for the first two Standards. But T7, who used only charts, felt that children were too young for OB [PC 81]. Teachers found the library useful, especially for older children, and had sometime devised a signing-out system.

There was a clear relationship between the extent to which a teacher had correlated the policy message of child-centred teaching and his/her adoption of TLE. Teachers who had not really understood this message felt that items were more useful in upper Standards only, as children should concentrate on learning reading, writing and numbers in their first two years. This seemed for them to preclude the use of OB TLE.

Among these teachers, T6, who used the OB items infrequently, was the only teacher who seemed concerned about his Dead Stock register and potential damage to items. T8 pointed out that Rs 15 contingency money is given to schools and can be used for replacing ink pads for the animal stamps, for instance. A comment by T1 illustrates an attitude common to teachers who were inclined to make use of TLE: 'if it breaks, it breaks, children need these things' [PC 71].

Some teachers offered comments about the defects of the TLE provided. Only T1 had been able to use the tool kit, to effect minor repairs and make a chair with students; no other teacher found it useful. T3 felt that inaccuracies in the books can mislead students, but his difficulties with using the kit were that names were difficult to remember: he found the Napier strip too hard to use. He made a point which held for older teachers: that he was used to counting from 1-100 but a curriculum change meant he should teach in units of 10+1=11. His feeling that the abacus should have more than 50 beads indicated that he had not fully internalised the new system; this was borne out in observation. T6 commented that there was nothing for teaching language.

Factors which influenced teachers' adoption behaviour were superficially whether they felt competent to use the particular items provided, but fundamentally, whether they felt it was necessary to use any TLE in teaching and therefore to adopt the new materials. These comments have shown that teachers in different situations adopted the materials to different degrees, influenced in part by their own attitude, but also by their
understandings of how and why they should use the TLE - an understanding that was imparted through training. According to the OB programme, teachers should be competent to use items because States/UTs were to ensure that they received training. For TLE to contribute towards adoption of a child-centred approach, training would need to provide both skills in the mechanics of operating the equipment and an understanding of the conceptual underpinnings of the OB TLE.

Schools in Karjan received the kit before the decision was taken at national level to incorporate specific OB-training into PMOST. As a result, training had been of mixed types: some teachers in these schools had had the brief orientation provided by the GCERT, and others had been sent later for PMOST-OB training. Some teachers had also or only had general PMOST training, as Table 6.3 shows:

<table>
<thead>
<tr>
<th>Teacher</th>
<th>PMOST</th>
<th>PMOST-OB</th>
<th>GCERT-OB</th>
<th>Other teacher</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>T10</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T4</td>
<td>+</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T3</td>
<td>+</td>
<td></td>
<td>+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>+</td>
<td></td>
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<td></td>
<td>+</td>
</tr>
<tr>
<td>T2</td>
<td>+</td>
<td></td>
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<td>T8</td>
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<tr>
<td>T9</td>
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<td>+</td>
</tr>
<tr>
<td>T6</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>T7</td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td>+</td>
</tr>
</tbody>
</table>

The position of T1 and T2 illustrates a problem associated with staff transfer: there had previously been a third staff member who had been selected for training, but had since been posted elsewhere. As all orientation programmes had by then been terminated T1 and T2 had no opportunity to train. This lack was made good in their case by borrowing the notes made by the trained teacher. As OB continues to be implemented without an organised training programme, it is possible for staff in a previously non-OB school to be posted to an OB school with another untrained teacher, who is also be unfamiliar with the use of the OB kit - which itself has no manual.

Teachers who had attended PMOST training in Karjan were unanimous in their praise of it - important in terms of the conceptual underpinnings of OB. Although PMOST was largely theoretical, an effort had been made to orient the teachers to the child's experience of schooling, as this resource person's description of the first exercise of PMOST training illustrates:
Plate 6.1: Using OB items in Harsunda school

Top left: Despite being damaged on arrival, the drum was very popular
Top right: T3, who liked the plastic shapes and abacus best
Below: Doing the lion puzzle
We started with Chinese whispers to show how unclear the teaching message is in the classroom. A message was given and whispered from teacher to teacher: even after only three teachers whoever was called to say the message out loud said something which showed how different it was from the original [PC 65].

Not all of these teachers had been selected for PMOST training, but all had some knowledge of it, partly through group school interactions and inspecional visits. It was apparent from teacher interviews that on the whole, teachers had understood the message of NPE 1986 to be 'learning through objects' [PC 79] and 'more work for students with the teacher as the guide' [PC 81].

Most teachers who had attended PMOST training had grasped the stress on child-centredness and a changed role for the teacher: those who had not had training were at a disadvantage. Four teachers had attended PMOST-OB and all of them felt that ten days was insufficient to learn the mechanics of using the items and how to relate materials to the child and teaching. These teachers had clearly understood that the object of OB was child-centred learning, and that it is 'easy for a child to understand if there is a visual image' [PC 75]. Teachers were not very satisfied with the training, however: T3 felt that the resource people were not expert enough to give teachers real understanding; he commented also that it was 'difficult to grasp fully within 10 days, and the lack of revision afterwards makes it easy to forget' [PC 76], a feeling shared by T7: 'the modules were too long and now I am not sure how to use the things. There is no material to refer back to, but how can I remember everything? I need more training' [PC 81]. Only T8, who also felt the training was too short, said that the stress on the 'playway, activity approach and teaching through games' [PC 82] had been effective in changing his teaching methods.

The disparities in training help to explain why some teachers were better able to exploit the OB materials than others. However, the mechanics of manipulating items which were hard for some teachers were easily absorbed by others, who went on to use them more comprehensively than those who had received OB-specific training. When T3 and T4 were observed, in Harsunda school (Plate 6.1), T3 manipulated kit materials competently but with hesitation: T4 used them as a basis for a variety of exercises which he related to the children's world. Since they were working in the same room, T3 could benefit from T4's confidence, although T3 was the one who had had OB training. The following diary extract [4.4.91] illustrates how confident T4 took over the lesson once he saw that T3 was missing the opportunity to exploit the kit:

9.30 T3 shows Std. 1 and 2 animal pictures in textbooks: what do you see? Writes responses on the blackboard. T4 is doing fractions with Std. 4 and
discussing parts of a chapatti, then takes cubic rods and marks them off with chalk.

9.50 All students clamour to be the one to go to the blackboard and write.

9.55 T4 has taken out OB rectangle, shows big and small using matchbox, recapitulating earlier lesson. Marks sides with chalk, how many?

9.58 Name of shape? Takes out other solids, gets shapes named, demonstrates cylinder: what else in the classroom is this shape? Glass. Demonstrates sphere. T3 is still showing pictures, but all have turned to see T4. T4 asks what can you eat that's triangular?

10.02 Ice-cream. T4 returns items to box, students copy words on blackboard into their books. He checks on Std. 3 working outside.

10.10 T4 extracts animal puzzle and gives it to T3. Std. 2 boy completes lion with help from T4, another Std. 2 boy does the elephant. Pieces don't fit snugly, T4 tells them not to force them. Complete silence as another Std. 2 boy does the lion. T4 asks 'where you find a lion?' A circus.

It was difficult for teachers to use TLE when four Standards were working together in a single room. The new materials were observed to be disruptive. Especially while they are a novelty, all children try to see what is happening and for teachers who fear loss of discipline or inability to complete the curriculum, this is a threat to proceeding with orderly classroom life. Teachers such as T4 and T1, who were confident, did not allow these difficulties to detrack from their use of TLE; while T7, working alone in a single room, felt he could not risk this loss of discipline.

In observation, it was apparent that children were being asked to participate in lessons: T3 often invited a child to the front to manipulate the abacus, for example. However during two weeks of observations it was clear that some children were not invited, and only those who could reliably give the right answer were called up. Although some teachers mentioned the 'playway' approach, it was apparent that they did not practise it: there was little in the kit that encouraged play. The only item that could be considered a game in the maths kit was a double set of dominoes: but teachers were not aware that this was a game and used the pips for adding and subtracting only.

Despite the limitations of the kit and their training, for teachers who were confident about using the new TLE, it could be observed to provoke children's interest in a way that was conspicuously absent in schools where OB TLE remained firmly in the box. But an intrinsic problem with the OB kit is that it contains only a single set of items, so they can only be used by the teacher and not given to children individually. Although OB was intending to promote a child-centred approach, its composition was such that it did not really allow teachers to move far from an overall style of teaching that was teacher-centred. Even though the aids were used, they were embedded in a flow of teacher talk, and there was no evidence of any move towards children asking questions, experimenting or manipulating objects without very close teacher supervision.
Since the implementation of the building component had fallen far behind schedule, some teachers were waiting for their second room. They were looking forward to positive benefits, such as reduction of both noise and space problems; it is possible that use of OB would increase if the risk of disruption is less. Teachers also felt that a second teacher was very necessary, and the comments of both T6 and T7 illustrate some of the constraints that are placed on teachers who work with four Standards simultaneously. For T7 in particular, feeling pressurised to cover the curriculum in time precluded any attempt to experiment with the possibilities of the OB kit he was unsure about using. As a result, he was using some OB items as a means of keeping children quiet while he attended to administrative work rather than in a meaningful pedagogical fashion.

However, in some schools OB was able in a limited way to loosen the stranglehold of the textbook, and establish the beginnings of a move in the direction which the NPE 1986 envisaged. There was a clear correlation between the extent to which a teacher engaged with the children he/she taught, and the adoption of the innovation. In Karjan, teachers engaged with the work in very different ways: some were very involved and interested, others were not. While the socio-economic circumstances of the children were acknowledged to be difficult, in only one case were they seen as an insurmountable problem. Lack of parental support was generally considered less of a problem than the attitude of teachers themselves. In discussions, it was apparent that the criteria of a successful teacher was the teacher's own interest, and that a lack of interest was felt to be a common problem among primary teachers.

Chapter two pointed out that the sociological base of the elementary teaching force has changed over the years, and become an accessible branch of government service for secondary school leavers of the lower social strata. In Karjan group, three out of ten teachers were SC, and all the others from general social groups; there were no tribal teachers. Almost all were native to Karjan taluka and were settled there with their families. Most teachers were in their forties; only one was in his late twenties and one was 56. No teacher was in a first posting. It was common to find that teachers came from agricultural backgrounds and had some landholding which varied from four to fifty acres, which provided a supplementary source of income.

These teachers had all taken more education than their parents and enhanced their family status by taking a salaried government service post. It was usual to find that teachers' mothers were illiterate or had completed up to four Standards, while fathers had entered, if not completed, upper primary. The exception was the husband and wife
team teaching in Pingelwada, who both came from Bharuch (the neighbouring district), whose parents were an auditor and primary teacher respectively.

In general therefore these teachers were secondary school graduates from modest, rural backgrounds. Employment prospects for such candidates in rural areas are poor; but teaching is a profession that offers stability, respectability and an opportunity for local employment commensurate with the educational level gained. With these realities looming large, the motivations of these teachers for entering the teaching profession had been exclusively pragmatic. Only one had wanted to be a teacher; another was forced by financial circumstances to take up teaching; and one other mentioned an interest in giving to others. All others had been attracted by the ready availability of this job; the need for a secure income; and the possibility of working in their native place. Thus the motivations for reasonably well educated rural people to become teachers reflected the need for a secure job, rather than the desire to be a teacher.

Only two of these teachers came from educated backgrounds; some older teachers had completed only Std. 7, with a further one year of teacher training. This implies that their general knowledge base is low, a factor which is held negatively to affect teacher quality [Avalos 1991; Lockheed and Verspoor 1990, 1991]. But there is more to this, for a formal knowledge base can be supplemented by informal learning - beneficial to teaching - if this is possible in the local environment. Karjan is near Baroda: teachers interviewed who lived near Karjan made regular visits to Baroda (to relatives or for outside business). Contact with the city and new ideas came also from teachers' children studying in Baroda but living at home. Teachers living in Karjan or the large village (3000 or more people) nearby reported regular discussions on various topics with teachers and others working in the urban centre. Newspapers and TV were easily available. Other teachers, who lived and worked in more remote rural areas of the taluka, had less opportunity for such interaction. Interviews pointed towards a correlation between teachers who sought closer contact with 'modern' life in the city and an ability to exploit more widely the potential of textbook and TLE, representing an urbanised model of education, than those who were closely involved only in the 'traditional' rural sector.

Teachers brought a mixed range of attitudes to the job and communities in which they worked, but overall the feeling tended to be positive, and several teachers mentioned that 'teacher interest is most important thing' [PC 75]. Teachers such as T4, T8 and T9, who had really built up a rapport with the village community, were very enthusiastic. T4, himself a first generation learner, commented that he liked working with these
children because he could 'identify with how they feel' [PC 78]. T7, who was near to retirement and had been seconded to a temporary post for three years, was negatively inclined: 'the enrolment is low so I don't feel enthusiastic, and I find that the intellectual capacity of students is low so I don't really feel like teaching them' [PC 80]. For T1, on the other hand 'it (was) very important to create a loving and child-friendly atmosphere' [PC 72].

Only one teacher, T1, who came from an urban area and had wanted to be an ayurvedic doctor, felt that he was quite stagnant in the same old routine and would have liked to work in a secondary school. One other teacher felt he would have preferred to work in a 1-7 Std. school. More than one teacher expressed pleasure at the opportunity to give to others; there was generally a sense of respect for the job and an awareness of the responsibility attached to teaching young children. For example, T4 strongly felt 'we are not here just to teach or for administrative work, we are responsible for everything' [PC 78]; and T3 commented 'if children come to school, teachers are bound to teach something, they can't just let them sit there. So a teacher teaches and students learn' [PC 76].

From a pedagogical point of view, the working conditions of these teachers were poor, lacking space or TLE, or both. It might be thought that there would be a sense of frustration among teachers at the austerity of their surroundings. But when asked whether they like doing this work, teachers usually responded positively; no-one expressed any wish to move to a different type of work. They enjoyed the comparative comforts of being settled with their own land, having their family around them or within reach, the opportunity to reach Baroda with relative ease, and a secure income which is not dependent on agriculture. Perhaps because they had expectations of teaching that were more to do with their personal security than vocational ambition, teachers were not very concerned about the poverty of the school conditions in which they worked. They were settled in their work, and were concerned to discharge their duty, but they tended to have other interests, and were not ambitious for change.

It has been seen that in general these teachers had improved their personal situation through education. In this context, their attitudes to dropout and wastage may briefly be examined. It has long been an imperative for teachers to try and attain UEE and they are expected to contact parents if children drop out: in some of these schools the numbers of children in Std. 4 is near half of the first year intake, so dropout is something which teachers still encounter. There was a wide range of attitudes but there appeared to be a direct correlation between teachers' sense of identity with the children and their feeling
that they have a responsibility to prevent wastage. Teachers 8 and 9 work in a very small community and are enthusiastic and involved: they have arrested dropout altogether. Teachers 6 and 7 live and work in remoter areas, are in single teacher schools and attribute dropout to poverty, for which they take the approved action (a couple of tries to persuade parents) but make no further special efforts. T4, on the other hand, the first generation learner, goes daily to the village to collect children and has almost stopped dropout. If it does happen, he contacts parents and really explains to them the implications of dropping out, because 'I feel very bad, I am also from the same background' [PC 78].

Whatever their actions, most teachers attributed dropout to the socio-economic circumstances of the children, rather than the quality of classroom life. Only one teacher saw a possible correlation between dropout and his own teaching practice: 'these children come from very poor backgrounds but if they drop out I feel it is my failure' [PC 72] and he also contacts parents for discussion. There was apparent among all these teachers a lack of awareness of a possible correlation between conditions in schools, their own pedagogical practices and educational wastage.

A further factor which seems important in shaping teacher attitude is, as mentioned above, the development context of Karjan. Although the taluka is small, it is evident that it is unevenly developed, with a range of well established and comparatively well equipped schools near to Karjan to the remote single room establishments in villages connected by unmetalled roads. There was a consistent link between teachers who lived and/or worked in a more 'developed' environment - better infrastructure and communications, more opportunities for interaction - and their more 'modern' outlook, which saw the value and implications of education and related that to the children in their care. In the areas of the taluka lying beyond some 6 km.of Karjan town, teachers are more isolated, road connections are poor, and there are fewer opportunities for personal contacts with other teachers. These factors appear to be negatively related to teachers' school inputs.

Teachers did not relate the introduction of OB to universalising elementary education; although they mostly were concerned about retaining children in their schools, there was no sense of their feeling involved in a national campaign to achieve UEE. The potential for increasing retention of children in school by enhancing the quality of the teaching process was explicitly realised only by T1, who said 'OB things make the school attractive, which is useful for children who don't like school. They can look at the things to gain interest and this helps to make teaching more practical; and it helps in
creating a classroom atmosphere of love' [PC 72] - the latter he felt to be the most significant contribution a teacher could make to retaining a recently enrolled child.

Otherwise, some teachers noted that retention had picked up when OB was implemented, and that they felt children were more attracted to attend school since OB, and the chance of working with different objects in the classroom. Although it was felt that fewer students were dropping out, this was positively correlated by teachers with the midday meal scheme, and it would be difficult to disentangle the two incentives. The impression was that if the midday meal scheme could be used to attract poor children to school in the first place, OB items could be instrumental in improving the regularity of their attendance and thus their retention in school. However, the termination of the meal scheme and its replacement by the grain scheme may be for a child a less tangible incentive than the prospect of a hot midday meal every day. Improved facilities of the school alone were not felt to act as a sufficiently attractive incentive.

Chhota Udepur taluka (phase Ib)

Chhota Udepur (CU), bordering on Madhya Pradesh in the east of Gujarat is one of the district's four tribal talukas, along with Pavi Jetpur, Naswadi - also covered by OB - and Tilakwada. It is Baroda district's largest taluka, 1373 km² comprising 276 villages with a total population of 240699, 216718 living outside the two small towns of CU itself and Kawant [Census 1981]. Almost 82% of the population is tribal. The average literacy rate of CU taluka in 1981 was 15.1%, the male literacy rate 21.9% and female 8.29%: dropping to 17% and 4.3% respectively in the rural area outside CU and Kawant [Census 1981].

Chhota Udepur itself is a small and elongated town with government offices and a bus station at one end, a market place, hospital, temple with a tank and teacher training college in the centre; a shopping street runs parallel to two sides of the tank. Shops sell functional items such as cooking vessels and dress materials: there are also tea houses with snacks. CU is connected by metalled road with Baroda: State buses offer services approximately every three hours during the day and the journey takes about four hours. In the taluka itself, bus and other transport between CU and Kawant is frequent, and the State Transport Corporation runs a bus service along 'roads' that are little more than dust pans winding up and down the hilly terrain, and through river fords. Local services are suspended when these roads become impassable during the monsoon. A
few decades ago the area was densely covered with teak trees which have all been felled: reforestation programmes are being undertaken under GoG schemes but have made limited impact so far.

Predominant tribal groups of this area are the Bhil, Rathwa, Tadvi, Dhanki, Naika, Koli and Vasava; the tribal group in the area studied is Rathwa, a comparatively poorer and less developed community [ITDP 1988]. The census 1981 figures for CU taluka as a whole list under 'workers' approximately 45800 as cultivators; 25300 as marginal workers, and 16300 as agricultural labourers. The main cash crop is cotton, and the staple is maize, made into roti (flat bread) up to 30cm. in diameter, and tuver (a pulse). A popular local beverage is an alcoholic preparation from the mahuva flower. Traditionally animist, exposure to the outside has brought Hinduism; in recent years some tribals have become Swami Narayan adherents. A strong musical tradition is evident in the enthusiastic playing of large drums, and bamboo flutes are often played by young men as they move around the fields. Local markets (haath) are held in one place one day and, moving in a weekly circuit, are opportunities for purchasing as well as great social events.

The physically least accessible areas of the taluka remain isolated from the outside world. In such homes, neither a clock, nor radio or any reading material is to be found and although many villages have been connected to mains electricity, this seldom works. Where road connections have opened up communications the village may have a very small shop, and perhaps a radio. In rural areas 'modern' material culture - TV, books, plastic bags, traffic - is almost entirely absent.

The infrastructure in CU tribal taluka prior to OB was skeletal: virtually all its existing 237 1-4 schools were single room and very little TLE had been provided. The State's policy of two-teacher schools had made a limited impact on this taluka, which required 183 teachers under OB: the shortage arises from the rapid movement of teachers who prefer not to work in such remote rural areas. All schools had, on the roll at least, two teachers.

Conditions in these schools were therefore considerably lower than the policy minimum, and remedial requirements high. In the wider context, problems of high rates of illiteracy, first generation learners, and subsistence agricultural workers ill able to afford the opportunity costs of sending their children to school, plus a shortage of secondary schools - and in inner areas even schools offering Stds. 5-7 - add to a picture of a generally very low level of educational development.
For this study, the unit of analysis in CU was Rangpur group, which has ten schools. Two of those are Std. 1-7 and out of the remaining eight, six 1-4 schools were covered by OB (the seventh had had six Standards when the Fifth AIE Survey was conducted in 1986 but had since lost the upper two). One school with only three Standards was also covered. Table 6.4 gives an overview of the schools and teachers in the group: for Lalpur, Sodvadh and Muglavant a school building had been provided after the teacher had been first posted there, and teaching had been going on in private accommodation, as it still was doing in Muglavant at the beginning of 1991. The group school was Rangpur.

Table 6.4  Rangpur infrastructure

<table>
<thead>
<tr>
<th>School name</th>
<th>No. of Standards</th>
<th>Average attendance</th>
<th>Date established</th>
<th>OB</th>
<th>Teacher m</th>
<th>Teacher f</th>
<th>ref. no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bagliya</td>
<td>1-7</td>
<td>360</td>
<td>-</td>
<td>no</td>
<td></td>
<td></td>
<td>T16 T17p</td>
</tr>
<tr>
<td>Ucheda</td>
<td>1-4</td>
<td>28/22</td>
<td>1964</td>
<td>yes</td>
<td>2</td>
<td></td>
<td>T22p T23</td>
</tr>
<tr>
<td>Mandvada</td>
<td>1-4</td>
<td>28/16</td>
<td>1982</td>
<td>yes</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lalpur</td>
<td>1-4</td>
<td>10/8</td>
<td>1986</td>
<td>yes</td>
<td>2</td>
<td>1</td>
<td>T11* T12 T13p</td>
</tr>
<tr>
<td>Sodvadh</td>
<td>1-4</td>
<td>25/21</td>
<td>1978</td>
<td>yes</td>
<td>2</td>
<td></td>
<td>T14p T15</td>
</tr>
<tr>
<td>Motavada</td>
<td>1-7</td>
<td>310</td>
<td>-</td>
<td>no</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jharoi</td>
<td>1-4</td>
<td>14/16</td>
<td>1977</td>
<td>yes</td>
<td>2**</td>
<td></td>
<td>T24p</td>
</tr>
<tr>
<td>Rangpur</td>
<td>1-4</td>
<td>21/29</td>
<td>1960</td>
<td>yes</td>
<td>2</td>
<td></td>
<td>T18p T19</td>
</tr>
<tr>
<td>Mundamor</td>
<td>1-4</td>
<td>26/24</td>
<td>1979</td>
<td>no</td>
<td>2***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muglavant</td>
<td>1-3</td>
<td>22/20</td>
<td>1980</td>
<td>yes</td>
<td>2</td>
<td></td>
<td>T20p T21</td>
</tr>
</tbody>
</table>

* Replaced T13p
** Unofficially absent on all data collection visits over one year
*** One untrained

Among the schools eligible for OB, most needed a second room. However, owing to the delays discussed in the previous chapter, during the period of observation and interview, two years after Gujarat had begun implementation of the scheme, none of the new OB rooms was built. In CU also the district panchayat had provided some teaching aids but these were very limited, consisting of an inbuilt blackboard and maps. As in Karjan taluka, these maps were in an unusable condition but were kept in deference to the Dead Stock register. The newest schools had no teaching aids and consisted of a whitewashed room with two inbuilt blackboards and nothing else.

Table 6.5 shows the position of existing rooms and other equipment which had been provided before OB; and new rooms and sets of TLE needed:

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Table 6.5  Existing rooms; new rooms and TLE needed in Rangpur's 1-4 schools

<table>
<thead>
<tr>
<th>School Name</th>
<th>Existing rooms</th>
<th>New OB rooms needed</th>
<th>TLE in schools provided by local authority</th>
<th>OB TLE needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ucheda</td>
<td>1</td>
<td>1</td>
<td>bbd map</td>
<td>yes</td>
</tr>
<tr>
<td>Mandvada</td>
<td>1</td>
<td>0</td>
<td>bbd map abacus</td>
<td>yes</td>
</tr>
<tr>
<td>Lalpur</td>
<td>1</td>
<td>1</td>
<td>bbd</td>
<td>yes</td>
</tr>
<tr>
<td>Sodvadh</td>
<td>1</td>
<td>2*</td>
<td>bbd</td>
<td>yes</td>
</tr>
<tr>
<td>Jharoi</td>
<td>1</td>
<td>0</td>
<td>bbd map compass</td>
<td>yes</td>
</tr>
<tr>
<td>Rangpur</td>
<td>1</td>
<td>1</td>
<td>bbd map UNICEF</td>
<td>yes</td>
</tr>
<tr>
<td>Muglavant</td>
<td>0</td>
<td>2</td>
<td>bbd</td>
<td>yes</td>
</tr>
</tbody>
</table>

* Existing brick construction given by villagers discounted by government.

In this group the use of previously existing teaching aids such as charts and maps was lower than in Karjan. Most teachers reported their own provision of very basic teaching aids, such as sticks, stones, marbles, or bits of chalk. One mentioned using flowers for environmental science. None of these teachers had actually drawn or made any aids, but gathered them from what was locally available. Teachers observed that children grasped the manipulation of figures more quickly if a visual aid was used, and this was why they used stones, for example. Although there was a perception that TLE was useful, aids were used only for basic mathematical manipulations. There was less inclination to use aids here than in Karjan.

Phase Ib of OB was implemented in CU in 1989, but because of district-level tendering, the aids arrived in four consignments over eight months rather than in a single package. Again, teachers were not told of the imminent arrival of the TLE. Here also the balls were all punctured and the pump had either not been supplied or was useless; the swing rope was dangerously thin. The quality of the materials was almost the same as in Karjan but plastic items were not as brightly coloured.

In this group, teachers used very few of the items provided under OB, selecting only a limited range of items from those the kit contained. Charts enjoyed universal popularity, and the tool box was widely condemned as useless, but most teachers ignored most of the other aids. Two types of reasons were given: some which reflect a genuine problem with suitability of the kit; others that appear more a rationalisation for non-use which reflects more on teacher attitude than the kit itself. Indeed, when questioned more closely, it was apparent from what they said that some teachers either did not know what was in the boxes, or did not have any idea what they were. T22 and T23 were the only teachers who had obviously looked into the kit and what they could do with it; all other teachers' responses were a series of justifications for not using the
kit. One teacher's remarks were so curious that it appeared he had not opened the box at all, even to see what was in it.

The position may be illustrated by the following progression of responses from T16 and T17 to questions about the OB kit. They began by hoping that the questioner would be content with a global denial that anything was even there at all, moving from there to justifications for non-use which were challenged, towards some insights to what part of the problem really was:

There is nothing for maths in the box, no games or toys for maths, especially for Std. 4 [PC 92].
Maths things are no good because students don't understand them [PC 90].
Not everything has come so how can anything be used [PC 92].
The things are black and white, students don't like that and it makes them difficult to arrange [PC 92].
There isn't anything to keep the kit in, no cupboard [PC 92].
It's difficult for a child to understand games so we don't give them [PC 90; PC 92].
The tool box is only useful for showing things and naming them [PC 92].
There is too much to be done for language and maths to have time to use OB [PC 90; PC 92].

T13 felt there was not enough time to use materials other than charts; when pushed a little further, he said 'the OB kit isn't necessary at this stage: students are too small to handle the things' [PC 86]. Many teachers felt unsure of names or uses of items [PC 94; PC 95; PC 87; PC 89]. T14 and T15 also began by saying that they felt nothing was really helpful, and when this was probed, T15 said bluntly that he was not interested in OB as he didn't know how to use it. T24 said there was no list of games, and along with all other teachers felt the tool box was not suitable for children of that age. Four teachers said they already had too much administrative work to cover the syllabus anyway [PC 87; PC 89; PC 94; PC 95]. Only T19 commented on the poor quality of the OB items, saying that they would break with frequent use [PC 95]; he felt angry that poor equipment had been provided, blaming indifferent bureaucrats, and his response to this was to say 'anyway, no-one has the authority to see that we're using the things' [PC 95].

The reasons they gave were varied but in general it was apparent that teachers here were making consistent use of no OB items except charts and musical instruments. The reasons for this are clearly closely related to both their attitude to working in a tribal area and to their training.

A review of the socio-economic backgrounds of teachers in these schools is helpful in understanding why they often found their situations difficult. The profile of teachers in
this group was significantly different from that of Karjan, although an agricultural background and low parental levels of literacy were common here also. Out of fourteen teachers, five were ST and four SC. Non-ST or SC teachers all came from homes where the father had entered if not completed Stds. 5-7, and mothers had completed Stds. 1-4. Among tribal teachers however only one father had completed Std. 4 and otherwise both parents were illiterate; so all but one of the tribal teachers were first generation learners. Parental educational levels among SC teachers were higher: one had had a literate mother, and fathers had all attended, if not completed lower primary school. Without exception, all teachers had taken education further than their parents and as a result were able to move from dependence on a manual, agricultural job to a secure, salaried and permanent post.

There were two specific age bands of teachers: four teachers were in their late forties or early fifties; most of the younger teachers were aged around twenty. Seven teachers were serving in their first post and of those, only one was tribal and native to the area; others were non-tribal and mostly drawn from the neighbouring Panchmahal district, itself relatively backward in terms of development. All tribal teachers had worked only in this tribal area although they had trained elsewhere. Of all the Rangpur teachers, only one had any experience of teaching in anything other than a tribal area.

Teachers who were local all owned shared land which they worked with their family; one owned a small shop providing day-to-day necessities for the village. This gave them a sense of permanence: teachers from outside living in the same or a nearby village to the school had no such ties with their place of work.

As in Karjan, these teachers' reasons for becoming a teacher reflect the poor prospects of employment in rural areas. Only one had actively wanted to be a teacher, while others had taken the opportunity on advice, and because jobs were available. It was noticeable however that these teachers stressed financial stringency as a reason for becoming an elementary teacher. For all the young teachers, financial considerations had been the major consideration in the choice of job: an often-repeated motivation was that the training course is inexpensive. T16 for instance said 'I couldn't afford much money and PTC is easy and cheap' [PC 90]. The cheapness of the training and the security of a job after only two years was mentioned by several other teachers. T22 was an exception: he had wanted to be an engineer but didn't get high enough marks, and although he had a second try at getting into engineering through a different route, he left after a year to do his PTC.
Service security was a strong motivation, especially in the face of poverty at home [PC 92]. But it was apparent that, while 'general category' teachers had entered teaching for economic reasons, there were other factors affecting tribal teachers' choice. Three comments by tribal teachers point towards a lack of awareness about possible employment options, and the lower career aspirations noted by Chitnis [1978]. An older tribal teacher commented that he had not known of other options and had been advised to take up teaching. A younger tribal teacher who had not known what to do had taken also advice - from an educated local leader - and gained a reserved place in college because of his ST status. Tribal T17's comment 'I don't think there is anything else I could do', can be understood not only as a statement of economic difficulties, but also as an implicit recognition of the low social status of tribal people vis-a-vis 'mainstream' society.

This theme offers a way into understanding some of the difficulties which made most schools in this area very far from the world of policy 'appearance'. Most teachers, whether from the tribal areas themselves or from outside, perceived the local socio-economic environment to have negative consequences for student attendance and performance. T23 was an exception in his comment that 'villagers are cooperative and willing to send their children, but parents think their children are weak and so don't send them to school, I don't agree' [PC 98]. Far more usual was a perception that 'parents don't take care of children' [PC 90]; 'illiteracy of parents cause problems for children' [PC 92]; 'parents don't send their children to school' [PC 85; PC 87; PC 88]; 'parents promise to send their children to school but nothing happens' [PC 101]; 'parents aren't aware and don't feel the child should be educated, they are more interested in having the child work' [PC 94]; 'tribal people aren't ready for change' [PC 95]. Among teachers who blamed parents, only tribal T24 phrased the problem positively: 'literate parents would help contribute to fast progress in school' [PC 102].

There was little evidence of much understanding between teachers and children, even though five teachers were tribal and local, which would be thought to be two positive indicators for rapport between teacher and students. In these schools, drop-out rates are high and all teachers were asked how they felt if children dropped out of school, and what their response was when this happened. Since tribal teachers had greatly improved their personal security through education, and as first generation learners themselves were conversant with the difficulties of remaining in education to this level, they might be aware that dropping out would deprive children of the means to effect a similar change. Taking positive action to prevent this would be to enact the role of agent of social change. But in general, an attitude of indifference to drop-out prevailed. There
was no apparent correlation between teachers being of the same social background or locality and actions they would take on dropout. T17, tribal, said: 'what can be done, they go' [PC 93], which was the most common attitude. Exceptions were T22, non-tribal but very committed, would make several efforts to contact parents; T14 was the only tribal teacher said he felt sad, 'I want them to go on and do something' [PC 87].

Younger, non-tribal teachers had entered teaching because it offered a relatively 'easy life' rather than because they had any strong zeal to educate or increase social equality. In all except one case they could not really identify with the tribal culture or cope with the difficulties at school, tending to see tribal people as backward and non-mainstream, rather than as a different cultural group. This seemed to lead to an attitude of seeing the situation as hopeless, and beyond their power to improve, which explains their lack of effort in trying to curb drop-out.

Overall, the morale among the teaching force in Rangpur was very low, with the notable exception of T22, who had clearly favourably influenced T23. From interview discussions, many teachers appeared fairly disenchanted with their jobs - fighting a losing battle with time and covering the curriculum, and feeling isolated and often also alienated from the environment in which they worked. Again, however, teachers were content with their jobs and mostly did not feel they would like to move out of education, although the two ambitious teachers would have liked to try working at higher levels. It was apparent that teachers, with one exception, did not think they would be physically or financially better off in another field of employment. The one teacher who wanted to leave teaching came from one of the most developed districts of Gujarat, was very unhappy working in a backward area and wanted to go to something else where he could earn more.

Tribal teachers cited as reasons for being happy with their work strong family motivations; three wanted to stay in their native place to care for an ailing mother. Tribal T14 however also said 'I love my job because some of my students go on and get jobs, and I gave them a start' [PC 88]. Among non-tribal teachers, only T22 said very positively that he really enjoyed teaching and working with children. T12, the only woman, was not happy because she felt very lonely, and the authorities did not try to solve her problems (disputes with the politically active, permanent absentee principal). Another teacher who came from outside CU taluka quite liked his village and was happy that his workload was light [PC 96].

In this group also, then, teachers were content to teach because this service offered security: tribal teachers could work in their native place. Teaching was for most of them
a pragmatic choice based on a perceived or actual lack of an alternative. It is significant that the two teachers who were enthusiastic (one having chosen her vocation [T12] and one having found his [T22]) both aspired to work in higher levels than these very small primary schools, but that T12 was considering changing profession altogether because of the lack of professional support.

Here also, the paucity of equipment and general conditions of their schools did not appear to have a negative impact on teachers, whose primary considerations were related to their personal security, in return for which they carried out their duty as a teacher.

Two teachers had a consistently different pattern of responses from any others, for which several reasons are apparent. T22, the principal, was very enthusiastic and communicated this both to his students, and to T23, who did not have the same obvious flair but was carried along by T22's guidance and expectations. T22 had a higher educational level than any of the other teachers and had made a positive decision to become a teacher after finding he did not enjoy engineering. Neither teacher was local, but both felt very much part of the local community. The village headman had only completed Std. 3 himself but was very supportive: he was politically involved and paid frequent visits to Baroda, and had introduced both sanitation arrangements for the village and irrigation. The constellation of the enthusiasm of the heads of both the school and the village allowed for none of the apparent feelings of hopelessness encountered elsewhere, and the teachers clearly felt accountable to the children.

Given the difficulties in communication, OB, with its emphasis on a more visual style of teaching, might have offered teachers a better means of communicating than through the textbook. But to adopt changes would require a teacher to feel that the experience of schooling was unsatisfactory from both sides: both the teacher and the student. It was noticeable that in the course of wide-ranging discussions about teaching aids and their impact on teaching practice, teachers hardly looked beyond the problems they themselves perceived to think about how a child might find school. 'Children like looking at charts' [PC 94] was one of the few comments that resulted from asking teachers what problems they thought children might have with school: it was more common to see an infrastructural defect as a difficulty for students: 'it used to be difficult because of the leaky roof in monsoon but that's been mended now' [PC 90]; 'it's not difficult for students now there is a (water) pump' [PC 87].

Teachers saw the connection between learning difficulties and local environment, notably irregularity and language issues - 'students who want to work are hindered by
the language problem' [PC 88]; but had mostly tended to focus on how it affected themselves rather than its impact on the child's experience of school. Most teachers had a negative perception of the children they teach and the communities in which they work. While many of the difficulties are without doubt very great, teachers tended to legitimise their own lack of engagement by finding reasons rooted in problems which they felt they were not in a position to do anything about.

This was not so for T22 and T23, who both had a child-centred attitude to teaching: they had given thought to the difficulties children had with school, reasons for those, and their role in finding ways to overcome them:

If children do things themselves they remember it better and understand faster. It's easier to assess individual progress if a student is called to operate and explain OB items. It's difficult to keep children's attention on the problem, not that they are weak, they aren't. OB items are easy for a child to handle [PC 99]. Use of visual aids increases a child's capacity for remembering and ability to grasp a concept. We give individual guidance for weaker students and call parents if necessary. I get students to demonstrate things using parts of their own body. I guide a student's hand if there are difficulties with writing. Children react to visual things [PC 100].

The often-cited uncertainty about names and uses of the OB TLE should have been cleared up through training, since in every school except one teachers had had 10 days of PMOST-OB. In the remaining school, the principal had had PMOST orientation; his was the only school where the second teacher reported that what had been learned during training had been passed on. Peer training had not taken place in any other schools, so the second teacher had neither any means of finding out how to use OB, nor any practical orientation, nor recourse to a manual as none was provided.

The five teachers who had attended PMOST-OB training were dissatisfied and unclear about it, and returned to their schools with many doubts. Interviewed two years later, they reported that they did not fully understand what that training had been about, and that they had difficulties in remembering the names of the kit items, and how to manipulate them. Training was felt by all to have been very theoretical, and too formal. Teachers felt that the use of some items had not been demonstrated at all and others inadequately, which meant they did not feel confident enough to try them out with their classes. No-one trained under PMOST-OB felt fully clear about OB. After a little thought teachers did remember that the main emphasis of training had been the use of visual aids, but this was not linked with a comprehension of why, or what difference it
would make to teaching. Teachers had not at all grasped the concept and implications of child-centred learning underpinning the introduction of OB's TLE. What they had learned at training had, in all except one case, not become part of daily practice.

When inquiries were made among those who had imparted this training, PMOST-OB resource people said they had focused on how a teacher can communicate better with students [PC 67]. However, 'no kit had been provided but one was borrowed in arrangement from a local school so not everything was available at the training' [PC 67]. Training materials were also insufficient but trainers reported they had worked with the maths kit [PC 68]. Although much had been discussed it was apparent that the topics had not been OB or child-centredness, but teachers' difficulties with the local environment and the syllabus [PC 67; PC 68; PC 69].

Arrangements for PMOST-OB in this centre were obviously highly unsatisfactory. Even if they had been better, the training did not tackle any of the problems which teachers faced in their daily work, which made the message of PMOST-OB seem irrelevant to teachers. But teacher trainers tried to persist with the unadapted, unsuitable PMOST-OB material. The reasons for this is are the bureaucratisation of teacher training and lack of contact between trainers and practising local teachers. Asked if PMOST-OB training was helpful to teachers, trainers said 'we have no contact with them so we don't know' [PC 67]. PMOST-OB was unintentionally an opportunity for teachers to discuss their general teaching problems; and so teachers' interest was diverted away from PMOST-OB. Teacher trainers were aware of this but imparted the given materials anyway, since this is what they felt they were expected to do (a pattern teachers reported to be equally so for pre-service training). Like the teachers, trainers do not feel they have the autonomy to adapt what they do to local circumstances, and continue to impart training according to a prescribed format with no regard to the fact that it does not equip teachers with the skills they actually need for school work. The problem is construed not as their problem, but as that of the administration:

The environment of the teacher is the biggest problem but we can't do anything about it because it is an administrative problem. The syllabus is designed to teach them and not to solve administrative problems. A teacher can't do anything, the government needs to do something. The government see everything according to what they imagine, but education is very different [PC 68].

Thus teacher trainers do not attempt to innovate or change although they are aware that the work they do is not correctly targeted; but they are also government servants,
lacking in autonomy and discharging what is perceived to be their duty, regardless of the fit with actual conditions in schools.

It appears that teachers were not very receptive to OB training because OB was not felt to address the most pressing school-related problem perceived by these teachers: their difficulties, because of language and attendance problems, in completing the textbook (and de facto syllabus) in time. No teacher evaluated the curriculum load per se as being either too heavy or too difficult: the curriculum was taken as a given and the local environment was held responsible for the teachers’ difficulties in covering it.

It is worth briefly exploring how time was actually used in these schools, since the lack of it was so often cited as a problem. Schools do not keep a punctual schedule; teachers were late to arrive and ring the attendance bell, and children were still arriving an hour or more later as they only came after the bell had rung. This shortened the length of the day. Because some children attended irregularly, repetition was inevitable, since they found it difficult to comprehend lessons of which they missed parts. However, it cannot be said that teachers made the most of time available to them. Teacher absenteeism was regular in some schools; and a commonly observed pattern, when both were present, was that only one would teach, the other occupying himself with administrative work or sitting on the table interjecting the occasional remark and maintaining discipline. In class it was observed that for much of the time children sit unoccupied. Although the following observation was with only one teacher, a similar pattern was observed in all except one of these schools [Diary 14.3.91]:

12.22 All 18 children back from recess. 2 Std. 2 students write on their slates, 1 Std. 3 st. is reading a book, all others are talking. 3 sts reading with T get frequent taps on the back with ruler. Older sts are clicking their tongues. 12.37 T hits a Std. 2 girl and goes to retrieve those outside. Gets two, hits them, one immediately goes out again, passes unnoticed. 12.45 Std. 1 boy has completely shredded his textbook and throws it out of the window. 4 Std. 4 sts are here, only one has worked all morning, reading intermittently to himself. 12.48 T hits 3 non-working Std. 4 boys and sends them out, then goes out herself. 12.55 17 in the room. 3 working, 2 at T’s table, one boy reading. Two men come in and show T a piece of paper, all crowd round to look, men go. 1.14 All doing nothing, T occasionally talks to older ones. 1.19 T walks round showing them what to read. All turn to look when she goes to other side of the room to draw numbers for Std. 1 sts to trace. 6 Std. 4 sts doing nothing, one sits with everything firmly packed in his bag. 1.40 T goes round tapping them as no-one is doing anything. 1.50 Only 11 left in the room to dismiss for recess.

In such situations, the time on task is minimal. As this excerpt shows, this teacher was teaching only very few students at a time and because there was so little of interest
going on in the room, students were continually going outside - to play on the building site of the second OB room. This created discipline problems. As the teacher did not give the children instructions, they spent much time unoccupied and talking, which also required disciplining. In a vicious circle, this school had so many basic operating difficulties that adopting teaching aids was out of the question for this teacher, although they might have made her work easier.

When teaching is going on however considerable repetition of lessons is necessary because of the children's local dialect, which is very different from the lingua franca of the school or the textbook, using in places a very different vocabulary. Textbook vocabulary, quite apart from the concepts in which it is embedded, is something these children have to struggle to acquire. Language problems not only slow down the process of teaching but appear to reinforce teachers' sense of the backwardness of local communities, which in turn contributes to their generally low perceptions of the children's capabilities.

Observations and discussions indicated that although OB had been 'implemented' ie. kits distributed and teachers 'trained', very little TLE provided was in fact being used. All teachers were accustomed to, and continued with, a teacher-oriented classroom practice, the teacher telling and the children sitting: but even the blackboard was used only for five sentences in one whole week in one school observed. Teachers were almost always sedentary, rising only to write something on the blackboard: children would bring work to show them but most teachers did not circulate round the room. There was no evidence of any activity approach, or indication that teachers had absorbed any messages from PMOST-OB.

Although most TLE was not used, the charts had quickly found a regular place in school activities, and were appreciated by all teachers. Several reasons may be advanced for this. Charts are physically very easy to use, since a teacher can hang them up on the wall, rather than having to unpack piles of boxes. These children had been exposed to very little of what they read about in their textbooks and a chart can provide a quick visual illustration that is more effective than a long explanation, especially in the context of language difficulties. It was obvious to teachers how and where these charts could be used, since they fitted into the textbooks. Indeed, it may be argued that the chart is little more than the extension of a textbook page and the adoption of this particular aid therefore follows naturally in a textbook culture.

Generally, teachers in this group felt pressurised by the lack of local support, language and communication difficulties, difficulties in completing the syllabus on time, and
what they perceived to be a high administrative workload. Only one teacher was really positive about what he could achieve, and he favourably influenced his junior teacher; most felt there was little they could do because, with low levels of parental literacy, language problems and the attitude of parents towards school, the local context was not conducive to education. T18 summarised a feeling apparently shared among outsiders serving in this environment:

If the language isn't the same and the people are different, how can the teacher be expected to be there? [PC 95].

OB, which was on the whole not well understood, was seen as an extra: 'most of the time we have so much work for language and maths that we don't get time to use the OB kit' [PC 92]. It was not perceived as offering a solution to any of teachers' difficulties, and had not changed a basic belief of teachers in this area that the only function of a school in the first two years is to teach a child how to read and write:

The government has spent a lot of money and it's a waste, it's not going to improve even if the methodology is improved. We are supposed to teach them the alphabet and numbers so whichever way we teach they should learn this [PC 95].

There was no evidence among the majority of teachers of any critical awareness of the relationship between their pedagogical practices and teaching problems. Most teachers meet with limited success in their teaching of these children, which they explain in terms of the backwardness of the local community, the language problems and the lack of parental support for children. Teachers seemed to deal with these problems by adopting an attitude of 'they can't help it and neither can we' - a carefully balanced equation by which they adjust to their circumstances. While in many cases this came over as an indifference to the children and communities, teachers hold responsible the administration that employs them. They feel neglected by the authorities but think it is up to them to do something that will improve the whole situation.

OB, which was intended at policy level to improve teachers' working conditions, was not recognised as an attempt in this direction. Because it did not tackle what teachers perceive to be their real difficulties, teachers could find little use for it. Rather, it presented a threat to the delicate balance of teachers' coping mechanisms (Plate 6.2). The very poor quality and obvious unsuitability of the tool box, in an area where supplies of wood are virtually non-existent, was resented and taken as a symbol of the amount of thought and care shown by the authorities - 'if they cared about us why do they provide us with something like this?' [PC 95]. For the majority of teachers in these schools, OB reduced further the low credibility of the authority to which teachers
Plate 6.2 Reaction to new materials

Above: Rangpur school at the end of the day - a 'minimum of institutional care'
Below: Books in Lalpur school, unopened after several months after delivery
feel accountable, and further reinforced teachers' sense of isolation and alienation. Yet at the same time they take this as part of the wider social context: 'you know what the situation is everywhere: you can't blame anybody' [PC 87].

In Rangpur group teachers, whether tribal or not, are - with the expection of T22 and T23 - isolated from the local community, from whom there is usually little understanding of their enterprise. On this evidence, the prognosis for any innovation in a context as difficult for teachers as CU is not very hopeful unless it has a strong element of motivating and supporting teachers, which OB lacked and seems to be lacking at the wider level of the system. Teachers do seek recognition for their work, but primarily from the administration, with which there is an uneasy relationship. On the one hand teachers feel overburdened with administrative tasks, but on the other, it is the administration that legitimises their presence in these schools and to which, rather than villagers or children, they feel accountable.

The relationship between teachers and administration is an important theme and is taken up towards the end of this chapter.

Subhanpura: OB phase II

Subhanpura used to be a small village outside Baroda but it has been subsumed in recent years by the rapid growth of the city. Subhanpura itself is a quiet residential area but the school's catchment area includes the busy shopping and business area of Ellora Park, one of the most modern parts of Baroda. The school was founded in February 1924 by the Gaekwad of Baroda and is run by the municipal authority, through the Municipal School Board (MSB). It has three rooms, two of which have a leaky roof and are not used in the monsoon, when all the children in the school pile into a single room. The rooms are dark and poorly lit, each with only a single tube. There is a playground in front of the school and an adjacent toilet block, for which a water supply is separate but available: boys urinate at the side of the playground.

The school works in shifts: Stds. 1-3 between 7am-12.20, Stds. 4-6 between 12.30-5.25 pm. There were 7 female teachers, one the principal, who has no teaching duties; and 3 male. Usually however teachers attended irregularly by arrangement, so that only one taught all children of a Standard, rather than two. When two were present, only one taught while the other maintained discipline.
The total enrolment of the school in 1990-91 was 282, dropping sharply from about 60 in each of the first four Standards to 32 in Std. 5 and 23 in Std. 6. Children attending this school are drawn from a nearby 'bustee' (slum) settlement and workers' homes: children's parents work as rickshaw drivers, on tea stalls, as cleaners and sweepers, and in other manual occupations. Teachers estimated that almost all of these children were from the Backward Caste category [PC 104].

Prior to OB, the paucity of TLE noted by Buch and Sudame [1990] in Baroda's schools was observed in Subhanpura, which had some maps in poor condition. There was a large wooden protractor, triangle and compass: a teacher who had more recently completed her PTC certificate had made and put out on top of a cupboard some cardboard houses but these were for decoration only. One teacher-made chart hung on the wall of one classroom. None of these teachers reported using any TLE at all prior to OB, either of their own making or of the very little provided but in discussion, the lack of TLE was reported to be a problem.

Profiles of two teachers may suffice to indicate what was found to be a general pattern among staff in this school. None was working in her first posting, all were middle-aged or above, and none displayed much enthusiasm for her work. T25, for example, 55 and close to retirement, was a Patel (non-ST/SC) born in Bombay. Her father had completed 10 Stds. and her mother, five. She became a teacher to support her husband who wanted to study further and, qualified to senior PTC level, had worked in Subhanpura school for 19 years of her service total of 34. She was not satisfied with her job because there were no facilities in the school and the children are weak: and 'that inhibits my performance so I don't bother much' [PC 104]. She believed that children should learn to read and write in their first two years- science and maths should come afterwards.

T26 (aged 46, also non-ST/SC) had a BEd qualification but after working in a private secondary school where she had to sign for more pay than she was receiving, she sought a new job. A government primary school was near home which suited her family commitments, and the government is regular with her salary. She also felt that students are weak but the job is convenient for her.

In the school, days started with worship and children then filed into their respective rooms, to be followed after a lengthy pause by teachers who had been chatting. Until recess, the teacher would write on the blackboard and children would copy into notebooks. Exercises would be given but little attention paid to students' completion: if the lesson ended they would be rubbed off and no follow-up given. The rooms were
extremely crowded, making it difficult for the teacher to move around: children would bring their books for correction but many children had no interaction with the teacher at all and sat unnoticed, doing nothing, day after day.

During breaktime teachers would sit chatting while children played without any supervision in the playground: only loud crying would attract a teacher's attention. The end of recess bell would be 10 minutes late and teachers would not return to their rooms until at least 15 minutes after the children had gone in. In the classroom, while ignoring the children in front of her, the second teacher would always be busy with some kind of administrative work. Although sometimes the register this was, ironically, an exhaustive daily 'record' of what had been 'taught', required by the authority.

Corporal punishment in this school was observed to be frequent, both to maintain discipline and to punish poor work. The former was attempted first by making children sit upright with folded arms, and then by calling children to the front and pulling their ears, the younger ones responding with tears and the older ones ruefully rubbing them as they returned to their seat. Teachers would walk round the room, ruler in hand, and strike children making a noise. These tactics were also used if a child was having problems with set work: many instances were observed when a cheek or ear would be pulled hard and a child ridiculed for poor work. But there were also times in the school which were fun, for example an impromptu disco session with one boy singing and girls dancing. Teachers could also be very kind and patient with children, for example:

Std. 1 boy has come in his pyjamas. He's called to the front and extremely gently prompted to say why? Who brought you? How many cups of tea did you have before you came to school? What did you eat? He's very shy but answers slowly and is sent off with a little pat on the shoulder [Diary 14.4.91]

All teachers felt that the children were very poor; irregular attenders and unintelligent. The school itself was frequently closed, however - teachers stayed away by consensus, leaving children to turn up and stand in front of doors which remained unopened, and wander away after an hour. Teachers felt that heavy discipline was most important as about quarter of the children just wander in and out of the school during sessions [PC 104]. There was unanimity that the MSB management was very weak and did not care what was happening in its schools.

Without exception, teachers felt that teaching in Subhanpura school was not rewarding, but was convenient as a source of steady income in return for a few hours' work. Implicitly it was clear teachers felt there was no point in exerting themselves as there
was no-one to recognise their efforts - neither children, nor their parents, nor the municipal authority.

The OB kit had arrived in October 1991, and as with all other phases this was without prior information to teachers. No teacher in this school had had any specific training for OB. The MSB had made no arrangements for training any teachers covered by the programme, and the PMOST cycles had been terminated. The Administrative Officer felt that teachers had had PMOST orientation and that was sufficient [PC 55]. However out of the teachers in this school only one had in fact attended PMOST, which she did not think was relevant for her school, as she felt that what the policy tried to promote could possibly work there. Teachers stored the OB kit in the cupboard after a cursory glance and showed no interest in it whatsoever. The quality of the kit was very poor but even so, it was apparent that teachers had not checked to see if there was anything from it they could use. There was indeed very little that was usable; but teachers had little idea of what OB was, no idea how to use the kit, and displayed little interest in finding out (Plate 6.3).

Observations in this school were carried out before and after OB, and indicated that the programme - which in this school only provided TLE, no extra room or teacher - made no impact of any kind, which continued just as before, with one cupboard fuller than it had been before the programme was 'implemented'. If anything, it had a negative impact since it confirmed the poor impression of the authority in charge, which was already perceived to do nothing for teachers. It was therefore 'typical' that it should provide them with useless TLE, a perception reminiscent of Rangpur.

Teachers in this school all mentioned that the children are low-caste and backward, with uncaring parents and that these are the factors responsible for students' poor school performance. Teachers felt that this is something they can do nothing about and because of this, they have little motivation to teach. The strategy by which they dealt with the situation was to form a very strong clique of 'them and us', delaying entry into the classroom and reconvening for recess in a tight circle which physically shut out the children. Conversation during these times turned on any topic other than teaching and teachers simply behaved as if the children were not there. In this way a very strong group identity is formed: one which daily reconvenes to legitimise its own attitude.

Teachers take their administrative work seriously, since they feel accountable to the MSB which pays their salary. Simultaneously they have a low opinion of the MSB management of the schools, and the inspector who comes 10-12 times a year but comments only on the lack of a boundary fence. This adds further fuel to the attitude of
Plate 6.3: The OB kit, Baroda’s Phase II

Above: The poor quality of the kit is evident: cubic rods, neither marked into units nor sanded; broken rubber rings; no backing for animal puzzles or fraction disc; flimsy abacus; dominoes all with nine pips.

Left: Teachers consigned the kit to the cupboard
'survival against the odds', which is reflected in the paramount importance placed on maintaining discipline. This seems to be how these teachers gain a sense of being in control over the circumstances in which they find themselves.

The TLE provided by OB, and the shift in teaching attitude it would entail, would trespass on the precious territory which teachers had set up on their own terms. Without any sense of accountability to the children, and secure in the weakness of the management, OB failed even to gain a passing acknowledgment by teachers in Subhanpura school.

**Teachers and the administration**

It was noticeable that in those schools where it was more difficult to carry out the expected norms of the bureaucracy - keeping the school running regularly and completing the syllabus in a timely fashion - teachers showed a strong tendency to attach more importance to administrative work. Teachers in Rangpur group and Subhanpura repeatedly stressed the burden of a heavy administrative workload, but this was not mentioned in Karjan, although all teachers have the same load. This indicates that the problem may lie more in perceptions of the task than the task itself.

Teachers' general administrative duties include keeping the daily attendance register, which is especially important as this is the basis on which children claim their grain allowance, for which teachers make out the coupons for redemption. Teachers also have to fill out their own daily attendance register, a meaningless exercise since they do not register their own absences. For the last two years, teachers have been asked to prepare village surveys of children eligible for education, so they can be registered and non-attenders pursued [PC 45]. These numerical tasks do not record what is achieved during registered attendance; the stress is on the physical presence rather than the amount children actually learn.

As far as academic work is concerned, teachers are supposed to prepare a year plan and lesson plans. It was apparent that for many teachers this was more so these could be shown to an inspector than for teachers' actual use; and teachers were observed to do this in school rather than their own time. Since there is no expectation that students will do school work at home, homework, with resultant marking that can be burdensome to teachers, is rarely given and when assigned, is marked in class.
There are other duties associated with government employment which make demands on teachers' time. The wide network of schools ensures that there is a teacher in almost all but the smallest Indian villages, along with two village officials, the Sarpanch (headman) and talati (taxman): as a government servant, a teacher has to do other work on the government's behalf. Teachers' regular assistance with family planning campaigns is expected and they are financially rewarded for recruiting men for vasectomy operations. Every ten years teachers complete the census returns for the village where they work. This requires preparatory training for administration of the complex and lengthy questionnaire. During elections - recently three within as many years - teachers are returning officers and man the polling booths. Since the latter are the local schools, they are closed for teaching anyway during that day. During data collection, both electoral and census operations were in progress which, as they were combined with regular teaching duties, resulted in a heavy temporary workload for the principals who carried them out.

These factors combine with the rigidity of the curriculum, represented by a single textbook, so the overall tendency is that the system does not treat a teacher as a professional educator with his or her own initiative, but as a government employee who teaches but can be called on for other duties.

The negation of the role of an educator is upheld by those whose role is to bridge the gap between schools and the administration - the inspectorate. In district panchayat and MSB schools, inspectors are the sole representative of the bureaucracy with whom teachers have any sort of regular contact. Their interactions rarely touch on academic matters. Inspectors' reports are not helpful in this regard to teachers, since - sometimes in an unchanged pattern of remarks over 20 years - they stress the need for boundary fencing, trying to enrol all children, and comment on the weakness of maths and language. Conspicuously absent are any suggestions as to what teachers should do. Although teachers did not perceive the inspectorate to be very useful to them, this was apparently not expected. But within the hierarchy an inspector does have some power, as he can report any irregularities to the DPEO: he is also a small threat to younger teachers as an 'efficiency bar' operates and after eight years' service a teacher must be passed by an inspector in order to continue to receive annual increments of Rs 30 [PC 52].

The inspector's visit is however indirectly of importance in terms of implementing an innovation, and as an authority figure, as is shown by this dialogue with Karjan's T7, who clearly needed help with OB [Diary 1.5.91]:

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CD Did the inspector, having mentioned the underuse of OB things, discuss with you why you don't use them much and what difficulties you have?

T7 He asked if I was using all the things and I said no, it's a fact I can't use them all. So he said please try to use them.

CD Did he help you with how to use them?

T7 No, that was not discussed.

CD Do you find his report helpful to you then?

T7 In PTC training they tell us the inspector is friend, philosopher and guide. Most inspectors aren't like this, but this one behaves like a friend.

CD Couldn't he have given you more help using OB things?

T7 No, he doesn't have time, he needs to get round the schools.

In Rangpur group inspectors' visits numbered three to four a year, including the annual inspection, and were always announced. Inspectors in Karjan visited more frequently and sometimes spontaneously; in Baroda the inspector visiting Subhanpura school made frequent visits but was frustrated by the MSB and teachers' unwillingness to try and do what she suggested. As far as the OB kit was concerned it was apparent from their own comments and teachers' reports that the inspectors knew very little about it. Although teachers do not find what the inspector writes particularly helpful, they do go by what he says; so for instance if he writes that maths is weak, a teacher tries to focus on this area. From this point of view the consistent omission of mention of the OB kit from any inspector's reports in these schools is highly significant, as it means teachers think the inspector does not consider the kit to be important, and if so inclined, this adds to their legitimisations for non-use. There is no other institutionalised avenue for academic support although teachers in Karjan reported monthly meetings for group discussions, which those who were interested found quite helpful.

Environments such as Rangpur or Subhanpura, and some schools in Karjan, are very difficult for policy, or a tangible innovation framed within that policy, to find a way into. Few teachers commented on policy, which was tacitly accepted as something that was inevitable but in which teachers had no say. Those who did offer an opinion were the more engaged teachers, who displayed a degree of cynicism about rapid changes in government and political seesawing. Ups and downs of government detracted from seeing policy as a blueprint for the direction of change, and allowed it to be seen only as a political programme of a government that would come, and probably go. This perception is illustrated by T4, voicing a commonly-held perception that teachers have no part in formulating policy but are in fact the ones who keep the whole education system going:
The NPE is very helpful for building a child’s character. After the new policy the syllabus didn’t change, but the focus did - they looked at how it should work and the result is OB. This is government policy, this particular government feels this is the right policy at this time, so this is what comes. Whatever government comes, we’re concerned with education: if they change policy we’ll work on, it has nothing to do with government. Each government tries to do something new in education, so we expect the next government to make changes too. The government can change the methodology and syllabus but education remains. But the NPE forces a teacher to work, and can measure if a teacher has worked or not [PC 77].

Many Karjan teachers were concerned less about policy, and more about the lack of interest in the job endemic in the profession. For them it was important that the NPE 1986 had succeeded in generating some enthusiasm among serving teachers. But there was a limit to what it was felt policy could actually achieve, as T3 pointed out:

The new policy has improved matters, and now teachers have a different attitude to teaching. This leads to progress in education. Policies come but all are on paper, nothing materialises, even for OB 25% remains on paper and is not put into practice. If you have a policy and don’t use the things, what’s the point of having a policy? It’s a question of interest [PC 76].

In Rangpur also, few teachers commented on policy but those who did felt it was as ill-attuned to local needs as the administration. For these teachers, there was a far wider gap between what the policy was aiming for and the conditions in their own schools, which lent a degree of unreality to the policy aims. Their PMOST-OB training had done little to close that gap. Teachers felt they were fighting a battle with a government that formulates policies which bear little relation to their situation, as T18 commented:

The government doesn’t know what our needs are. Parents send a child to school to get grain but at the same time they are not aware of education, they actually prefer that a child should work. Even if you work for a hundred years it’s not going to change: they can make any number of policies and nothing will change. The government makes policy for a city environment and in the villages the scene is very different. These city-oriented policies just aren’t suitable for the village environment [PC 95].

This theme, and others arising from this and the preceding chapter, is taken up in the following chapter.
Chapter Seven

OPERATION BLACKBOARD
AND THE DYNAMICS OF
EDUCATIONAL POLICY IMPLEMENTATION
Introduction

The stated aim of Operation Blackboard was to bring about a substantial improvement in the quality of elementary education by remedying the shortage of rooms, teachers and almost universal lack of any teaching-learning equipment. As preceding chapters illustrated, implementation of OB ran into various difficulties which slowed its progress and resulted in changes to the scheme as it was originally perceived. Among many teachers was a perception that OB was 'a failure'; officials of the government of Gujarat also did not view OB in particularly favourable terms. At these levels, it was felt that OB was not addressing needs which should have been prioritised.

This chapter will address these perceptions and draw out the implications of the data, presented in the case study of OB, for the wider context of Indian educational policy implementation. The chapter is divided into five sections. The first discusses aspects of the administration that affected implementation of OB; and the second, OB and centre:State relations. The third reviews notions of education and development as revealed through actors' perspectives; and the fourth, teachers' capacity to absorb an innovation and the importance of the socio-economic context in which teachers work. The final section returns to the notions of 'appearance' and 'reality', discussed in chapter three, and applies them to explain the underlying dynamics of policy implementation, both of the OB scheme, and of education policy in general.

The administration

During implementation, OB moved through no fewer than four tiers of government, from the capital in New Delhi to the talukas and municipal corporation of a particular district in Gujarat. As it passed from level to level, it encountered and was shaped by a local agenda and modus operandi of each administration.

The State's Directorate of Education is a key level in the top-down hierarchy as it is from here that changes to existing procedures are initiated. Internally, OB had to be administered according to existing routines as no extra personnel was sanctioned. To the detriment of the scheme this office did not issue instructions to DPEOs to request any alteration of existing routines. For example, the practice of logging equipment into the Dead Stock register remained; the school building design was not changed to provide storage space; and existing tendering procedures were used for purchasing TLE although these were known to be highly unsatisfactory.
The State level was seen to have little real control over implementation once the innovation passed to the district, because of the decentralising measure of Panchayati Raj. In this sense the GoG is little more than a forwarding point for instructions to the district, a position depicted by a key Directorate official: 'education is a transfer activity so just as it is a centre-State activity so that continues at State level' [PC 27].

At district level, as noted, the DPEO, omnipotent to the teachers in his establishment, in point of fact has very little authority: decisions are taken either by the District Panchayat, in which he is an outsider; or by the State government, in which he has equally little say. The most immediate task for a DPEO is to maintain an acceptable equilibrium between teachers, Panchayat and State government - a position that leaves little time for attending to the process of education. The DPEO office struggles to maintain itself at a basic level of regular distribution of teacher wages, ensuring teacher attendance, and adjusting postings in accordance with numerical norms and vociferous teacher preferences. This pattern has now become the norm: the DPEO characterises his own work as 'maintenance of the establishment' [PC 46]. Since no extra personnel was allocated, the innovation had to pass through the regular channels, as an additionality to existing workloads. No extra instructions about OB were issued to the three relevant clerks, who dovetailed it into usual office procedures.

OB in its entirety implied a vastly increased workload for which the DPEO office was ill-equipped, both in terms of number and nature of available staff. The programme was nowhere accorded the special priority envisaged by MHRD, and the more abstract concept of OB as a programme for school quality improvement was not understood in terms of anything other than extra equipment which the district budget had not been able to provide.

At taluka level, the resident administrative inspector (ADEI) occupies a low-ranking position in the hierarchy: in practical terms the taluka is little more than a channel through which to forward salaries and circulars. Although according to instructions this officer was to play an important role in quality control for the TLE, his approval of tendered items - regardless of their quality - was virtually ensured by the norms of 'careerism' and bureaucratic hierarchy; and the opportunity, if taken, of financial gain.

Attention to the process of education is left to inspectors, who tend to stress the importance of a teacher administering the school so that it runs regularly. The evidence is that this vital bridge between schools and administration shows little more than a superficial concern for the process of schooling. This is a reflection of what is found throughout the system.
Clearly, then, although faced with a programme that required change, the bureaucracy in Gujarat preserved its own way of operating. OB was adjusted to fit in with existing institutional arrangements, rather than vice versa. The outcome was a slowing of the pace of implementation, dilution of the quality of the TLE provided to schools, and a loss of the 'normative' dimension of OB as the administration focused on implementation of its 'remedial' component. But even with this narrowed focus, the outcomes of decisions made were excluded from any consideration of efficiency. Thus an action that was inefficient in terms of programme execution appeared more appropriate than one which might undercut or bypass bureaucratic norms. Administrative correctness outweighed efficiency, of which officials in their private capacity were aware, but no-one took on the responsibility of addressing this situation.

Between the levels of this bureaucracy, communications between various tiers of government flowed downwards in the form of instructions and upwards in the form of statistical progress towards targets set. This pattern neither demands nor allows monitoring or troubleshooting, and indeed, some of the written communications were even stated to have only a symbolic importance and no expectation of any practical outcome further down the line. Local level expertise or discretion is not sought as an aid to implementation.

Bureaucratic norms applying to MHRD were an important factor in its inability to fulfil the new and different role envisaged for it - one of management, including provision of support and encouragement to States/UTs [PoA 1986]. In execution of OB, the MHRD did not move away from its control orientation: for example its prescription of TLE to States/UTs; and insistence that OB was implemented as a package without regard to State/UT priorities. A 'managerial' perspective might have sought an alternative to the pattern of meetings called by MHRD for GoG to 'defend' itself; and use of the QPR reporting format which gives no information appropriate to management needs. It would perhaps also have facilitated smooth implementation of the scheme through States/UTs by timely provision of the TLE specifications, and by reaching a more solid agreement than the 'general consensus' on the use of RLEGp and JRY schemes.

For the TLE component of OB, the lateness of the norms and specifications indicates a lack of coordination between MHRD, as the commissioning agent, and the NCERT, which drew them up. Obviously MHRD required the specifications by a certain date for a functional purpose, since nothing like OB had been done before. Although NCERT drew up a document that was theoretically watertight, it was too late to be of practical use. The fact that MHRD allowed the States/UTs to proceed without these
specifications indicates that it placed greater priority on getting the scheme moving than on ensuring its quality. The same urge for speed is apparent in the failure to resolve with the Ministry of Agriculture the conflicts about the use of the RLEGP and NREP schemes, which had already surfaced before OB even passed to States/UTs.

On the face of it, opting for a room construction arrangement that later proved to be ill-suited for the programme in hand appears to be a matter of expediency, but it can be explained in other ways. Use of the RLEGP and NREP schemes suggested itself to MHRD because, according to 'appearance' they, like OB, had rural development as their long-term aim; they were thus apparently appropriate. But in 'reality', State/UT governments used these schemes for other purposes, related to their dominant notions of development, which are different from those of the MHRD - a theme taken up later in this chapter.

As chapter five illustrated, the strategy adopted by MHRD for implementing OB is ambivalent: it functions neither as top-down 'control'; nor as 'management'. The former appears not to be tenable in view of the federal set-up and the imperative of maintaining States'/UTs' interest in participating in the scheme; the latter is virtually precluded because of the norms of bureaucratic practice. There is thus no evidence of this bureaucracy at its various levels functioning as a top-down chain, forging links so that policy objectives are realised [cf. Dunsire 1978]. Rather, it appears to be characteristic that one level does not look to see how its actions will impact on the ability of the next level to execute the stated objectives.

The account of how OB was implemented shows bureaucracy to be an end in itself, its focus restricted to its own process and largely unconnected with the outcomes of that process.

Nor is the bureaucracy administering elementary education united by its apparently shared purpose, fulfilment of the constitutional pledge of UEE which, at every level - national, State, and in Panchayati Raj bodies - is stated to be important. As the following section shows, there are multiple conflicts at, and between, these levels as each one pursues its own - 'explicit' or 'implicit' - agenda.

**OB and centre-State relations**

A centrally sponsored scheme is, as this account has illustrated, very difficult to implement. In the prevailing federal climate, MHRD cannot adopt a tight top-down
strategy of implementation and treads instead a very fine line between suggesting and prescribing. Under concurrency it could legally take a tougher line but politically it could not sustain that course of action. As a result, in the interest of getting OB implemented, shortcuts were taken and compromises made which did not sustain the scheme's intentions. To take three examples: for Phase Ia, the criterion of the neediest schools being selected was rapidly dropped when this threatened to present an insuperable barrier to Gujarat being able to implement the scheme; also, although OB was conceived as a programme for the improvement of rural schools, with some urban wards, this was changed to municipal schools only in Phase II, because that facilitated implementation. More crucially perhaps, MHRD in effect undermined OB by not adhering to, and not making the GoG adhere to, the vital assurances regarding both the 'normative' and 'remedial' components of the scheme.

There are many reasons accounting for the MHRD's actions, not least of which is that it is not, after all, an unfamiliar position for MHRD itself to find funding for education low on the list of priorities. This gives rise to a mixture of sympathy and understanding for under-resourcing at State level:

Here we know what the State actually gets because we see the planning allocations, so we know how little able they are financially to fulfil assurances [PC 4].

A perception that a State has enormous difficulties in taking on a centrally sponsored scheme in addition to its regular workload can also be a rationalisation for not pushing States, as a key MHRD official explains:

We have to realise that anything extra in the State governments brings everything to the point of collapse. All the time they are on the threshold of feeling harassed. So an additional scheme means that there will be more work and it gets buried. We could make a lot of nuisance of ourselves but there is a point beyond which you cannot push [PC 1].

Yet this understanding of the States' circumstances cannot mitigate for MHRD the negative outcomes of this position in terms of actually getting things done, which gives rise to irritation at slow implementation and lack of response - and justifies central intervention:

The States are ill-equipped and blinkered, so busy with teacher transfer that they have no time to look at policy. Policy can't be done at State level which is where it should be done. If they are on a one or two year contract post, there are too many daily details to deal with [PC 1].

This is an important comment on what has become the norm over some years - that the Secretariat takes on administrative work that should be done by the Directorate and thus
leaves itself no time to work on policy. The centre realises that this position is not a 'meaningful partnership' [NPE 1986], but fears for the success of the programme if it were left entirely in the States' hands:

OB should be decentralised but no-one can guarantee that implementation will pick up if it goes to the States. Education is not their priority, especially not elementary education. They use the money for something else [PC 4].

It is this very fact which could be seen, as the MHRD itself does [MHRD 1987a], to legitimise OB as an expression of the MHRD's concern to realise UEE, and to justify its intervention in a precarious arena of unresolved centre-State tensions. Although, in view of the performance of the system, this concern is justified, the experience of implementing OB has not paved the way for greater openness in policy dialogue.

But a dialogue concerning the 'explicit' agenda would anyway not address the driving force underpinning much of the MHRD thinking, and resulting actions; for as far as MHRD was concerned, in the implementation of OB a great deal more than educational quality improvement was at stake. OB was seen as a vehicle for giving expression to the concurrent amendment which allowed the centre to intervene in what had been a State preserve [MHRD 1987a]. In this sense, successful implementation of the scheme would legitimise MHRD's new role. 'Successful', however, is implicitly not defined in terms of quality improvement but in terms of visibly getting States/UTs to achieve the numerical targets set, by which central intervention is justified. This 'implicit' agenda for OB is at odds with the 'explicit' agenda's concern with school improvement.

This notion of 'explicit' and 'implicit' agendas for an innovation, which is largely unrecognised in the relevant literatures, is shown through OB to be an important dynamic of policy implementation, which can contribute to an understanding of why decisions made by the MHRD are at variance with 'good' innovatory implementation practice.

Perhaps aware of this 'hidden agenda', the GoG consistently referred to OB as a centrally-sponsored scheme, rather than consciously adopting it as a plank of State policy; and the Directorate sought an extra officer to 'be in charge of centrally sponsored schemes' [PC 27]. On the face of it, it could be argued that a State/UT which accepts a centrally initiated scheme should consider it as a part of the State's own policy, even if it was initiated elsewhere. This would seem especially to be the case when that scheme reflects the stated Plan priorities of the State - as OB did, by intending to increase the numbers of both teachers and school rooms.
But MHRD's lack of consultation with Gujarat State about its needs and circumstances, or the possibilities of integrating the national and State aspirations for development of the elementary sector, was greatly resented. Under OB, the centre dictated the location of the new buildings and a very rapid pace. The centre-State tension was exacerbated by the room component of OB which, in the guise of a centrally sponsored scheme, placed a heavy burden on the State. Thus, although in 'appearance' the policy aims of the two levels of government were not conflicting, OB in 'reality' intruded on what the State understands as its own preserve.

At the same time, however, it could not be said that the State was moving rapidly towards fulfilment of its own policy goal - completion and consolidation of its widespread but thin network of elementary schools. In seeing OB only as an additionality or frill, the Secretariat did not recognise the 'policy' element of the scheme. The unifying, long-term objective - a minimum level of facilities to ensure quality, leading to UEE - was submerged in dissent over the execution of OB's 'remedial' tasks. In this sense, OB was translated into a technical problem, and the underlying, more abstract, 'policy' concept was lost.

Arguments put forward by the Secretariat against the 'explicit' agenda of OB were rather frail; and although the State wished to preserve its own policy-making arena, there was little evidence of a vigorous State policy agenda to implement if resources were available. Gujarat, by not confronting the MHRD with a strong alternative of its own, strengthens the MHRD's conviction that if it does not initiate policy, no-one will, thus allowing MHRD to penetrate the State's policy arena.

**Education and development**

Policy documents and academic writings concur, although they prioritise them differently, that education has both intrinsic and instrumental objectives: the former to 'enlarge human capacities' and the latter to be 'useful both to the learner's future life and to the needs of society' [Commonwealth Secretariat 1991:4]. It has been amply demonstrated that Indian policy-makers neglect the intrinsic objectives of education. There is sufficient evidence to assert that the New Delhi policy community understands UEE within the conceptual framework of education as a tool for development - a perception echoed in State Plans. An analysis of the problems of funding the OB room component however indicates that in 'reality', neither the lower levels of Panchayati Raj nor the GoG understand education even to play this role.
The GoG is reported by its own Directorate to perceive education as no more than the ‘spending department’ [PC 27] and to allocate funds according to this perception. As earlier noted, the interest of Gujarat State government is vested in industrial advancement, in which it has done well, rather than in social welfare, which it tends to leave to the voluntary sector. An expression of this conflict was the dilemma facing the Directorate of how to raise building construction and contingency funds. For this it required the State government to make the required allocation out of the Plan budget - no easy task. The following insight from a key official illustrates the position of the Directorate in trying to secure funds for its activities:

> Development activities have high priority but education is seen as an investment activity, as the spending department where there is no return at all. So we are always fighting. If the axe falls naturally it falls on education [PC 27].

This is a great difficulty since one result of the creation of an interventionist state is the growth of a strong public perception that provision of educational facilities is a government responsibility. Furthermore, because of the weightage of the Savings Schemes and conditions of JRY, the smallest villages now physically cannot raise enough money to make much of a contribution. Even if the sums involved are very small, the reformation of the JRY rules was intended to allow village panchayats to allocate their budgets according to their own priorities. No doubt it would be possible for District Rural Development Agencies to lean heavily on village panchayats, but not without encroaching unacceptably on local democracy. This change, coupled with escalating costs and social expectations, indicates that unless local participation in the process of education is actively promoted, the State government is increasingly viewed as the only body that is in a position to provide funds.

But the problem with which both Secretariat and Directorate have to contend is the perception of the GoG which allocates funds to elementary education, and of the public, as a key official comments:

> People think it is OK, children go to school and they come out. They do not ask any question about what goes on in the schools, about the quality of the process [PC 27].

At the district level, in consonance with the aims of local government under Panchayati Raj, projects submitted by village panchayats are taken up and the district cannot superimpose a different priority. The agenda at that level is entirely shaped by local leaders' perceptions of what is important. Had OB been an entirely centrally sponsored scheme, it would have sidestepped the problem of funds for room construction: but since it was interwoven with existing schemes for rural development its implementation
was conditioned by an agenda that embraces many concerns of development, of which education is only one.

An education facility, in practice usually a single room school, forms part of the package of the Minimum Needs Programme as a component of the local infrastructure. Apart from sheer lack of resources, another reason why lower levels of Panchayati Raj are unlikely to produce funding for a programme such as OB is the perception - which OB ran up against, but did not change - that one school room is sufficient when there are so many other claims on limited money. New Delhi priorities, in the form of OB, clashed with those of villages, who prioritised a panchayat building, pump or approach road. To forego the obvious and immediately tangible benefits of the latter for a second, expensive school room, remotely linked to an unexplained long-term social benefit of qualitatively improved education, would require a leap of faith among those who draw up and sanction local plans of action.

Although some villagers and Panchayati Raj officers were concerned about what they saw as the low quality of this facility, there was no expectation that graduates of a school would benefit the community. It is usual to see children dropping out early and returning to agriculture, having learned little of relevance to this occupation during their school years; or continuing with their education and drifting towards an urban centre in search of appropriate employment. There is thus little evidence, at this level, either of education being viewed as part of a strategy of rural development, or of development depending on the building of human resources. In backward areas such as Chhota Udepur and Karjan, 'development' is still a struggle to obtain physical basic necessities such as water and the access roads which are a prerequisite to development in the established urbanised development model.

Furthermore, at the taluka level, responsibilities are allotted in such a way that is not within the remit of a taluka development officer to intervene in education: poor schools are tolerated as, according to local development priorities, the dysfunctionality of elementary schools does not impinge on the process of development.

This situation is exacerbated by the lack of communication between the Departments of Education and Rural Development, which maintains the two as separate entities. For example, in discussions, key non-educational officers of the district Panchayat were not fully aware of either the practicalities of OB, nor its conceptual importance; and had only a hazy notion of it as a centrally sponsored scheme. They could therefore hardly be expected to incorporate OB as an integrated component of district development planning.
Thus although national and State-level policy documents, such as Five Year Plans or the Minimum Needs Programme, claim to treat elementary education as a developmental priority, in 'reality' it is not viewed by the GoG or Panchayati Raj institutions as an integral part of a development strategy - but as an obligation. To step up this obligation and treat elementary education as a top priority, as OB demanded, led to a clash of priorities - most obviously manifest in funding problems - from the State government through to the lowest tier of local government.

**Teachers**

Almost all elementary teachers in schools studied had a low level of general education, pre-service training that did not equip them with strategies to manage the classes taught, and tended to see themselves as government servants rather than professional educators. Few teachers had great expectations from the job, and took up the work because they knew that with existing high levels of unemployment, as a primary teacher they were certain to get a job. Academic support from within the school system for these teachers is almost non-existent, taking the form of irregular inspectorial visits. Teachers are left alone to impart the curriculum that has been laid down by the authorities. In this situation, mediocre teachers remain so, and good teachers cannot grow better.

Teachers receive a regular income in return for which they work a short day and are free to do other work on the side as long as they are posted in a place near their permanent residence. The latter therefore takes on a greater significance to the teacher than the conditions of service, which accounts for the sensitivity of teacher transfers. For young teachers, a first posting is likely to be to a rural area where they may find themselves working alongside a 'principal' - an older teacher who has resolved the conflicts of his situation to establish the *modus operandi* of that particular school. The younger teacher is socially conditioned to defer to him/her in his/her superior position in both the official and social hierarchy. Furthermore, this new teacher has no experience of a different working environment and often, prior to OB, no classroom in which to exercise his/her own autonomy. Thus the culture of the school is set - a climate not at all conducive to innovation or experimentation.

Everything that teachers have to do is laid down by a higher authority, which does not consult teachers on any issues however teachers might be affected, and makes no concessions to local circumstances. The severe disjuncture between the teacher's work and the conditions in which it is to be performed can be reinforced where the social
status of a teacher is not affirmed by the local community, to whom his/her actions and work do not have much meaning. Such was often the case in Rangpur group, and in Subhanpura. Then, teachers have a low sense of accountability to the children they teach or the local community, and compensate with administrative work. Ironically, the only real check on this is outside the bureaucracy - the local community. In Karjan, teachers knew that if children could not read and write after a couple of years at school, it was likely that parents would come and ask why not [PC 78]. This was unlikely to happen in either Rangpur group, where parents do not know what to expect from a child who has been at school for three years, or in Subhanpura, where children's parents tend to have no contact with the school. The interaction with, and validation from, the local community made most teachers in Karjan more inclined to be accountable to children; the absence of either in most Rangpur schools and in Subhanpura shifted the focus of accountability to the administration.

Teachers who need to do so give themselves the sense of self-worth they do not derive from teaching by behaving as part of the top-down civil service hierarchy. Thus teaching itself reflects a tendency pointed out in the whole administration of education; officials carry out the norms of service without really attending to their outcomes. Applied at school level, some teachers understand teaching as imparting the content of the textbook, regardless of whether children learn. For a teacher employed in this system, visible, correct record-keeping appears as the means by which the administration measures teachers' work; and as Kumar [1991] suggests, little that is creative is expected or demanded from them. There are no examinations until the fourth Standard, and failure in those is blamed by the prevailing ideology on the 'common sense' reason that it is caused by the weakness of the children rather than the schools.

It was seen that teachers who have a roughly similar educational background and level of training perform significantly differently in differing environments. The socio-economic environment in which a school is located is thus revealed to be a very important variable in shaping the attitude of the teacher and the quality of the educational process. Data were collected in three very different socio-economic locations: tribal, rural and urban, which approximate to three very different levels of development. Discussion of Karjan briefly touched on the concept of 'modernity', in terms of both general infrastructural development and teacher attitude. In the form that has evolved since indigenous schooling was superceded by government sponsorship, the whole tenor of the educational enterprise has been geared towards production of 'modern' individuals. Greater degrees of 'modernity' in school settings are complementary to the educational enterprise, as education per se is seen to be relevant.
In the tribal area, for example, in a context of subsistence agriculture and scarcely any incursions from the 'modern' world, education of the type which is offered is not of obvious immediate relevance. The mode of information exchange is almost exclusively oral, and the very real need is to ensure a sufficient level of subsistence from one day to the next. Demand for education is relatively low and children drop out before they gain enough from their education to be much advantaged by it. The majority of teachers in the tribal area clearly felt discouraged by having to work in an environment where so little support was forthcoming from a largely illiterate local community. These communities themselves are not in a position to support an enterprise of which they understand very little, since their knowledge and experience is gathered in, and applies to, a totally different environment. Tribal and non-tribal teachers had low expectations of tribal children and in its turn, the tribal communities were not aware of what they should expect from their teachers; a combination that results in low accountability from the teachers. Teachers appear as lonely outposts of the modern world, symbolised in their school and its textbook, and on the periphery of the local social culture.

In a backwards rural area, such as those in which T6, T7, T8 and T9 work, there is more evidence of the 'modern' world, in the form of newspapers, vehicles, clocks and so on, either in the immediate context of the school or where the teacher lives, or both. The relevance of education is greater and the two worlds grow nearer with proximity to a modern centre such as Karjan. In non-tribal rural areas, expectations are different. Levels of literacy are higher and even if parents have only reached Std. 3 themselves, they are aware that at least teachers should be regular and that a child should be able to read and write after a couple of years. In Karjan, the majority of teachers belonged to the local community and were able to integrate the school and the community at least to some extent. Levels of accountability were on average much higher.

In Baroda, Subhanpura school is physically surrounded by symbols of modernity which are compatible with what is presented to children yet, because of their socially disadvantaged circumstances, not necessarily theirs to participate in. But here again, where teachers had low expectations of the children, and no contact with the parental community, there was no sense of common purpose and accountability to children was as low as in the tribal area. In Subhanpura, teacher attitudes and the indifference of the administrative authority combine to produce an environment which can at best be described as mediocre and does little to redress the social stratification which places children who attend it at the bottom of the social ladder.
When teachers were visibly highly integrated with the local community, this had positive associations for their work and gave them a very clear role even if, socially, when they were outsiders. In tribal Mandvada, for example, the headman had a 'modern' attitude and saw education as a means forward: he was encouraging and recognised the potential value of a teacher, to which the teachers responded. Teachers in Abrapura, Harsunda and Pingelwada in Karjan had also managed to fashion this role for themselves, and were respected as a necessary member of the community with an important role to play. Thus, although a teacher's enterprise may not be well understood, it is understood to be important: employed by a faceless bureaucracy to whom she/he is just one of several thousand, in his village she/he is something special. But if there is no community recognition or, as in Subanpura no really identifiable community, teachers do not feel answerable and resort to deriving their sense of worth from their civil service status.

Each different school has a different constellation of these factors - its own 'culture' - which seems to affect its capacity for absorption of an innovation. At one end of the scale is a very low capacity, when the relevance of education is low, the impact of the 'modern' world is low, the teacher has low expectations either of himself and/or the children and community. Overall the level of such a school lies far below the minimum required to absorb the innovation. For T12 it was seen, for example, that even getting the children to remain in the classroom was difficult.

The capacity for absorption rises in proportion to the presence of the identified factors, such as physical and attitudinal modernity, community support and so on. The crucial component is however the relationship between teacher and community. T22 and T23, and T8 and T9, two in Rangpur and two in Karjan, both work in villages where the level of development is very low. In each case however the community is very supportive and the teachers are enthusiastic, the one sustaining and nourishing the other. In Subhanpura, there is no contact with the local community and the teachers, who are of a completely different social background, in terms of both caste and class from the children, rejected the innovation outright.

The capacity of absorption of an individual teacher could be enhanced by in-service training, although teachers bring to training a background of their own education, pre-service training, attitude and experience that may be powerful barriers to believing in something new or different. But perceptions and analyses of the training programmes which were used for OB clearly show that PMOST, PMOST-OB and GCERT 'trained' teachers did not receive an adequate preparation either for adopting the physical
mechanics of using TLE or absorbing the underlying concept of a change in teaching methodology. PMOST and PMOST-OB were marginally successful in making teachers aware of some elements of the NPE 1986, but most remained confused about the difference between PMOST and PMOST-OB. For many teachers, there was no 'subjective change' and even 'objective change' was limited. For those who showed a greater capacity of adoption, the training was frustratingly insufficient, and teachers wished for more.

NCERT apparently overestimated the capacities of its cascade trainers, who themselves do not commonly teach using an activity or teacher-centred approach [Dorasami 1989; Ramadass 1990]. This was not addressed at the NCERT sessions. If cascade trainers were unable to translate the message of child-centred learning or the underlying concept of the need for OB, this reflects the depth to which the 'textbook mentality' pervades the whole system of elementary education, at teacher training college level no less than in schools themselves.

That teachers across the country [Acharaya 1990; Dorasami 1989; Ramadass 1990] had such difficulty with their training indicates NCERT's lack of understanding of elementary teachers' capabilities and/or situations, which resulted in an over-estimation of what PMOST or PMOST-OB could achieve. The lack of advance distribution of modules to facilitate discussion during the camps, and the absence of any follow-up coupled with the failure of the GoG to provide any reference material for the use of OB items is evidence of a lack of care and support for teachers. The PMOST approach illustrates the limitations of the top-down perspective to policy implementation, which proceeds without reference to the 'targets' of policy. It may serve to generate an awareness of the policy but often, teachers did not feel that this applied to them. Even after orientation, teachers' concept of policy was still that it is nothing more than a political programme.

The notion of in-service training was however welcomed by almost all teachers, and despite its limitations, PMOST and PMOST-OB had raised teacher interest; but for less motivated or able teachers, this had not been sustained by the system once they returned to their schools. There was a clear discrepancy between the NCERT's supposition that teachers were capable of responding to the programme of PMOST as an 'orientation' to policy, and the 'reality' of teachers working in various socio-economic environments.

How new or different the message of training appears to be may also be influenced by local levels of modernity and development. In Chhota Udepur, for example, PMOST could hardly function because it was providing information that was not relevant to the
local agenda; the gap between 'appearance' projected in the modules and the known 'reality' of schools was too wide to be bridged.

As an innovation Operation Blackboard is conceptually derived from the 'modern' world. It addresses itself to an improvement in educational quality based on the furnishing of physical facilities. Its inherent concept of a school is a well-ordered environment in which teachers would like to make teaching interesting for children. It is a world in which a globe and a carpentry kit are relevant, a world where there is a place for books, where people read and write. But this is not the environment which exists in many schools where OB was implemented. There the children attend irregularly and do not sit still. The teachers are not concerned about whether their teaching is interesting, or even whether children learn, but how to complete the textbook on time.

The problems of the teachers in rural low absorption schools are not primarily related to infrastructure, but to the absence of strategies and skills to cope with teaching first generation learners. In Subhanpura the teachers did not have the skills to engage the attention of a very heterogeneous set of children, some streetwise and cheeky, others silent, all from a social background for which they had little tolerance. Such very real social issues are not addressed by providing a second room, a second teacher or a set of TLE, although the former reduces disruption, and the second to some extent alleviates classroom management problems. In these schools teachers have developed their own coping mechanisms and justifications by which they legitimise their own tactics. An innovation could upset this delicate equilibrium, and especially one like OB where the use of TLE, because it is conceptually not well understood, appears as a distraction from the aim of completing the textbook.

For other teachers, who take an interest in their work, and had already felt the need to try and enliven their teaching by the production of their own aids, the capacity of absorption is higher. Such teachers are able to make use of more of the items provided and to vary their applications: they see relevance for teaching aids at all ages and not just after children have learned to read and write by using traditional methods. It is in such an environment, in a handful of schools, that teachers and children seem to be working together with some sense of common purpose. As a result there is the least gap between the policy world of 'appearance' and the 'reality' of school life; these schools are nearest to operating in the conditions where OB could make the difference policy-makers expected.

Provision of an extra room or an extra teacher, or a set of TLE, to bring a school up to a minimum level is an arbitrary standard. This standard is only relevant if certain
conditions have been fulfilled. In the majority of schools observed there was, even after OB, a severe disjuncture between what are professed to be the objectives of a school education and the ability of the schools to deliver them. To decide from a considerable distance that all schools regardless of their context require certain items if their quality is to improve is to turn a blind eye to capacity of schools to utilise what is provided. The existence of a wide variety of very different educational contexts needs to be recognised, and the implications of that variety for the educational process considered in the formulation of any innovation in a country of such diversity as India.

Operation Blackboard in the worlds of 'appearance' and 'reality'

The emergence of OB can be traced to three major factors: the Prime Minister's concern about the ability of the education system to prepare people to meet the demands of a technological future; the NCERT's Curriculum Renewal Project which, to be feasible, required certain conditions in which the curriculum could be transacted; and the findings of the Fourth AIE Survey revealing the paucity of the average elementary school environment.

On evidence of the case study units, some comments may be made on the validity of the policy-makers' causal thinking which posited OB as a means by which to improve elementary quality. This entails a consideration of the notion of educational quality itself since, as previously noted, the NPE 1986 did not define quality, and definitions in academic literature vary widely.

In Baroda district, the size of 1-4 Std. school enrolments varied from 18 regular attenders (Abrapura, Lalpur) to 117 (Pingelwada). Even when the total number of children is small, on the basis of observations of single room schools and discussions with teachers, the policy suggestion that for schools with 4-5 Stds., a minimum of two rooms is a prerequisite for quality improvement appears valid for a number of reasons.

A single room of the prescribed size is only sufficient to accommodate 40 children as long as they are sitting still and copying from their slates. When two teachers speak at the same time in one room, children, especially younger ones, tend to listen to what is being said on the other side of the room. When OB items were used, children from all Standards were distracted, although this was obviously linked to the novelty of the TLE which had not been used sufficiently to become a commonplace in the classroom. In 'high absorption' schools, teachers made use of the verandah or a lean-to in order that Stds. 3 and 4 did not disturb each other. Such accommodation is hot, cramped and
allows for no possibility of using teaching aids, or any more activity-oriented teaching, thereby reinforcing the textbook-centred learning which the NPE 1986 intended to change. The second room is a prerequisite for any development in this direction, since such schools are already fully utilising the resources they have.

In 'low absorption' schools, where the second teacher tends to maintain order rather than teach, and no additional space has been sought, provision of a second room if it were used would almost immediately double the total amount of time spent in the school on teaching. This might go some way towards increasing the pace of proceeding through the curriculum. It might also be postulated that if a teacher has his or her own classroom, accountability to children might increase. Although the less engaged teachers observed rarely rose to their feet, if a child-centred approach to classroom transactions is to become a reality in future, as the NPE 1986 intended, sufficient space is a prerequisite for teachers to circulate in the classroom to monitor and give individual attention. Then also, a single room is inadequate. For all these reasons, therefore, in order to move towards the policy goals, the MHRD's causal thinking for this OB component was valid in the situations encountered in target schools.

Validity of the second OB component, the addition of a second teacher, is more complex, since an improvement in quality is seen to depend not only on the existence of that teacher, but also on what he or she does. Naik's [1953] report on single teacher schools argued that the problem of the single teacher school rested primarily with the overloaded curriculum and lack of teacher training in classroom strategies simultaneously to manage different and heterogeneous classes. These were observed still to be major problems teachers encounter, together with the problems specific to the situation of first generation learners. The addition of an extra teacher could have some impact in alleviating both problems since the number of classes demand simultaneous attention is reduced and contact time increased.

This would be a significant gain if teachers reflected OB's implicit assumptions of professional competence: but in general, they do not. For the majority of teachers, teaching was found to be incidental to other considerations such as security of service, low cost of training, or the guaranteed availability of a job. Only a few had 'grown into' their jobs and it was clear that only those who were interested had either made any real effort to use the TLE provided under OB, or undergone any 'subjective change', according to the degree with which they perceived a need to improve their current practice. For most teachers, teaching meant 'getting through' the textbook within the prescribed period. There was an almost total lack of critical insight into their own work,
and a tendency to rationalise their own lack of success by blaming local circumstances which they perceived themselves unable to alter - uneducated parents and a lack of interest in, or understanding of, education - for the problems they encounter in the classroom. Teachers had expectations from both parents and children which could not be met. The 'coping strategies' by which teachers dealt with their situations were negatively related to teaching and the children in their care. Given how little teachers were found to relate to the child's experience of school, it seems that many teachers have not only a very narrow notion of teaching, which the NPE 1986 acknowledges, but a concept of learning which is very far removed from the baseline which the policy assumes.

Overall, a majority of elementary teachers interviewed tended not to be 'professional' in their approach, were poorly trained in pedagogical practices, and had little rapport with the children. The relationship between teacher, child, teaching, learning and quality improvement is thus far more complex than MHRD realised, or chose to acknowledge. The addition of another teacher of similar calibre with such insufficient training as was given can make little impact on the wider policy aim of enhancing school quality.

Also, although OB viewed the addition of a second teacher as an essential input for quality improvement, it was indifferent to the needs or characteristics of teachers. That attention should be paid to training teachers was acknowledged [MHRD 1987b], but the centrality of their role in the innovation's success was not. This was manifest, for example, in the lack of consultation with teachers in the formulation of the OB programme; omission of teacher manuals to accompany the TLE; inappropriate training programmes; lack of attention to the issues identified in available research as potentially problematic in relation to teachers and change; and lack of any specific training programme for those who support teachers, the inspectorate.

The third OB component, teaching-learning equipment, was also included on the basis of statistical proof that in elementary schools there was little more than textbooks with which to transact the curriculum. According to the policy 'appearance', the lack of equipment was a rational reason for teachers' heavy reliance on the textbook: thus if teaching aids were supplied teachers would have other sources of input.

The point of reference for what should be provided was the New Delhi vision of what an Indian elementary school should be; but in schools observed, teachers could never make full use of all the items in the kit, and some teachers made use of virtually nothing. Although the quality of the items was not good, this was not the reason for non-use. In 'reality', teachers did not behave according to the policymakers' rationality
but according to their own, shaped by their personal backgrounds, training, motivations, and the set of local circumstances in which they live and work, as illustrated in the preceding chapter. The case studies illustrated, as have previous commentators [eg. Berman 1981; Coombs 1970; Govinda and Varghese 1992; Newman 1989; Rao 1985], that the context in which a school is situated is critical to, and impacts on, its process. There were clear differences in the capacity of schools to absorb the TLE, reflecting the heterogeneity of elementary schools and their surrounding contexts - a factor which those who devised the programme did not take into account.

Furthermore, reflecting the priorities of the technological consciousness of central decision-makers, equipment for use in the classroom was mostly for mathematics and science: there was no provision of interactive games for active language learning, for example. The status of the small library in 'reality' is unclear: there is no place for reading for pleasure in most schools as they run at present, under pressure to finish the prescribed text and serving children who have not been encouraged to develop the habit of taking home any school work.

Although inclusion of each of the three components of OB is valid according to the policymakers' vision, the teacher and TLE components in particular highlight the problematic relationship between 'appearance' (of policy documents) and 'reality'. For, while a causal relationship is valid in one environment, it may not be so in another. The practical corollary of this is a need to test this causal thinking in 'reality', for example through a pilot project. The implications of findings made would be used to amend the innovation, before attempting wider coverage. Key actors however equated the notion of 'pilot' with 'reduced scale' and dismissed this as 'unnecessary' for OB. This dismissal reflects simultaneously the top-down assumption that teachers are passive recipients - which is shown through OB to be erroneous - and a lack of insight into dynamics prevailing in the schools to which OB was addressed. As far as the MHRD's 'implicit' agenda was concerned, a pilot project might expose problems with OB which could not be quickly or easily resolved, threatening its position as the agency that could successfully regalvanise elementary education in the interest of national development.

Formulated as a single package with fixed components from which States/UTs were not supposed to deviate, OB did not take into account factors shaping the absorption capacity of schools. The implication that all elementary schools in India, regardless of their context, required an identical input is rational in the policymakers' world of 'appearance'. This world is concerned with national integrity and, in wishing to reduce
disparities, is inclined towards minimising differences and perpetuating a homogenous model which is inappropriate in the complex and heterogeneous world of 'reality'.

Beyond the policy domain, conditions in schools bear little relation to the policy world, and there are more fundamental issues than the lack of facilities which make many schools in their present condition dysfunctional in pursuit of the objectives of either the 'explicit' or 'implicit' agendas for education. These schools are below a minimum capacity which seems to be required to be able to utilise the OB TLE or even additional space in a way that even begins to approach the policymakers' intention. Even if the schools are brought to the minimum level envisaged by the policy, which in turn establishes better working conditions for teachers, on the evidence of the case study, this measure is not sufficient to improve the quality of the teaching-learning experience.

The case-study evidence of the difference between the worlds of 'appearance' and 'reality' provides a way into understanding how policy-makers define the problematic notion of 'quality'. It may be inferred from the experience of implementing OB that the policy-makers' definition of quality confines itself to the provision of material inputs. This is in contrast to educational definitions of quality which are concerned with more than merely material provisions [Commonwealth Secretariat 1991; Hawes and Stephens 1990; Kothari 1970; Lockheed and Verspoor 1991]. One recent study [Commonwealth Secretariat 1991:8] suggests that the idea of quality needs to be operationalised, initially by selecting indicators, as 'explicit and measurable representations of quality in education': 'the inputs in education are such obvious factors as school buildings, teachers, and materials. It may not be too difficult to devise some indicators of quality with regard to each of these'. But:

One should not however overlook that what is perhaps the most important input of all to the learning situation is the learner... Education processes refer to the interactions in the...classroom between the pupil and the learning environment ...It may be possible to define a few objective measures of processes which could stand as indicators of quality [Commonwealth Secretariat 1991:8].

It is this whole aspect of process which OB neglects, for in so far as the NPE 1986 has an operational definition of quality guiding the formulation of this programme, it is based on inputs: process is not taken into account. As an attempt to address the quality of elementary education, OB suffers from a lack of coherence between the format of the programme and the policy goal - the failure to acknowledge the crucial importance of process in any consideration of educational quality. The 10-day PMOST-OB camps cannot be regarded as much more than a cosmetic attempt in this direction.
It cannot be said, therefore, that policy-makers' thinking has moved very far beyond the pattern of providing physical inputs which has underpinned the development of elementary education in India since the 1950s. This account of the implementation of OB illustrates that it is not possible for existing institutions and structures to translate into reality the NPE 1986 policy idea of qualitative improvement of elementary education.
CONCLUSION
Summary

Implementing public policy in the Indian federal polity is a lengthy and complex process. This study described, in its first chapter, the circumstances in which the backbone of all policymaking in elementary education, the constitution's Article 45, emerged, and the strategy chosen to reach this goal. It was seen that achieving UEE has suffered not only from the limited funding allocations to the elementary education sector; but also from the rejection of Gandhi's Basic education, with its focus on village reconstruction, in favour of the attractions of a Western science-based curriculum. The latter may be in consonance with the aims of industrial progress, but in its current form is of little relevance to the lives of many school-going children. Chapter one illustrated also the tensions of centralising tendencies of the federal structure, in both policy-making and financing; and shortcomings of the attempted solution - the decentralising measure of Panchayati Raj, operating in India since the 1960s. A detailed picture of the pattern of development of Gujarat State, focusing particularly on components of Operation Blackboard, was given in the second chapter.

These were the circumstances in which the 1986 National Policy on Education was promulgated. From this policy it was clear that, despite its focus on the education system, there are simultaneous nation-state concerns in which education plays an important role. One such concern is the role of education in the maintenance of national unity and integrity; another, that through education India should rise to the challenges of the technological age and attain her place in the international comity of nations. A third issue was the status of the concurrent amendment which legitimised central intervention into the State preserve of elementary education. Chapter three, after reviewing the implementation and innovations literatures, argued that the existence of 'implicit' agendas of policy implementation, such as that of control, underlying the 'appearance' of policy is not addressed in existing research, which deals with the 'explicit' agenda only. But in the implementation process, the dichotomy between these agendas, which shape the policymakers' world of 'appearance', and the 'realities' of other actors, including teachers, seems to be an important clue to understanding the characteristic 'gap' between policy and practice. The chapter argued that if research neglects the existence of 'implicit' agendas, it fails to expose agenda conflicts which shape actors' decisions at the 'explicit' level and so impact on implementation in 'reality'.

To explore these issues, the 1986 policy programme of Operation Blackboard was selected as a case study, and approached through a qualitative methodology, taking a 'bottom up' or 'backwards mapping' perspective, described in chapter four. As the
policy programme moved from the world of 'appearance' into that of 'reality', the application - and limitations - of the top-down model of implementation India adopts in pursuit of the 'explicit' policy agenda became evident. Chapter five documented how OB moved from the central government through the State government of Gujarat into Panchayati Raj at the district level. It showed that administrative procedures were often not compatible with efficient performance in terms of realising the explicit goal; that there was a lack of information in the top-down hierarchy, and little meaningful feedback to improve implementation; and that at every administrative level there are problems in maintaining the implicit 'control' approach to top-down implementation.

Teachers, who are fundamental to efforts to improve the quality of education, are treated as little more than government agents who must be employed in sufficient numbers to keep the schools running. As a result their morale is generally low and there is little provision for increasing professional standards. At school level, as chapter six illustrated, many teachers found no use for the teaching-learning equipment supplied under OB; and had yet to benefit from the addition of a second room. Teachers were found not to behave as policy-makers had assumed: their attitudes were shaped by their own socialisation and training, and by the socio-economic context in which their school was situated; the 'training' they received for OB was found to be largely inappropriate for their needs.

Chapter seven drew together these strands and focused on themes emerging from the two preceding chapters. It drew out how the characteristics of Indian bureaucracy, as revealed through the case study, are ill-suited to administering an educational innovation; the use of education as a tool in conflicts of centre-State relations; and how notions of education and development differ widely at various levels of administration. It discussed the complex web of factors affecting the 'absorption capacity' of an innovation among a teaching force which is in general not motivated by 'professional' considerations and for whom the 'system' largely precludes recognition, encouragement or support for academic endeavour. It emerged also that throughout the implementation process, the 'explicit' agenda for education policy is tempered by considerations from the 'implicit' agenda, and that the interrelationship of these two is an important dynamic of policy implementation.

Conclusions

The 1986 National Policy on Education focused on quality, and was clear about trying to evolve new ways to tackle familiar problems. Despite the optimistic beginning of a
nationwide educational debate and a Programme of Action which appeared to indicate the MHRD's seriousness of intent, this policy impetus was quickly lost. The political climate changed; and in Gujarat some of the NPE's package of measures designed to increase quality in elementary education, such as District Institutes of Education and Training, and Village Education Committees, failed entirely. While OB was implemented, its unrealistic timescale was demotivating; and administrative procedures rapidly rebuffed the broader scope of the programme and narrowed its focus to remedial tasks, significantly diluting the policy's intention.

As far as the 'explicit' agenda of educational policy is concerned, OB reflects some intrinsic problems in the understandings of those who write educational policy. As the case study illustrated they, and the Indian elementary education system as a whole, pay very little attention to one of its most important components - its teachers. The situation appears to be particularly problematic in Gujarat. It is known that the vast majority of elementary teachers will serve in multi-Standard schools in rural areas, but pre-service teacher training turns out teachers who are ill-equipped to deal with the classroom situations they face. At State level, the key elementary teacher training institution, the GCERT (Gujarat Council of Educational Research and Training) is widely known, and was illustrated through OB, to be dysfunctional. This is tolerated both by the State-level bureaucracy, of which the GCERT is a part, which appoints ex-District Education Officers to academic posts; and by the national level institution, the NCERT, which views it as a State-level problem. Teacher training in Gujarat State needs most urgent attention, and the outright failure still of any one of the thirteen sanctioned DIETs to be up and running appears to be a further indicator of the fact that no-one is prepared to take responsibility for a situation in which no quality improvement measures can take root.

In microcosm, the situation of teacher training reflects the malaise of the bureaucratic administration of education within a federal structure fraught with conflict. It fails to acknowledge that education systems are people systems, and from the inception of policy through to the grassroots, it largely lacks the vital element of care for those who work in its schools.

While planning documents repeatedly stress that UEE is a prime developmental objective, over the years the urgency of making elementary education a reality has dimmed and appears to have become subordinated to more pressing agendas, from which it is either excluded, or used as a tool. There are some hard questions to be asked about the role in policy implementation of all levels of government: for, viewed from
whichever perspective - developmental and social agendas, intrinsic or instrumental functions of education - elementary education in its current form is not serving the objectives which are set.

The case study illustrated that during implementation, decisions were made which were not rational in terms of ensuring that educational policy objectives were realised. At central level, they do however conform to a rationality which, in the name of nation-building, wishes to increase its intervention in a traditionally State preserve. This is legitimate, because of the concurrent status of elementary education under the constitution, and because of the continuing inability to achieve UEE which - in the world of 'appearance' of Plan documents - is a shared objective of national level importance. The centre attempts to coerce States by power strategies and financial incentives which they can ill afford to reject. At the 'explicit' level, OB was an attempt by MHRD to break through the apathy that seems to have descended over the development of elementary education and infuse a sense of urgency to what is very widely acknowledged to be a severe problem. But Gujarat chose to react to the underlying political implications of this move rather than the policy message, sensing a potential threat to its own legitimacy.

Reluctant to endorse the intervention, Gujarat State in this instance resisted by being unwilling actively to promote a scheme that in fact reflected its own stated priorities. Teachers and the whole process of education are neglected as the 'explicit' agenda - education - is caught up in, and falls prey to, disputes over an 'implicit' agenda - the nature of the state.

Such political sub-texts aside, the case study illustrated the unsuitability of bureaucracy as a framework for educational management. Administrators of education at all levels are used to working within the norms of a Plan framework, and have little experience of policy in any other form. An established modus operandi deriving from planning is the tendency to conceive of educational administration in terms of funding, and meeting targets for various schemes and programmes. These are the mechanisms by which education continues, and by which it remains relatively unaffected by the ephemeral nature of both politicians and administrators. To a greater or lesser extent, against this backdrop of continuity, policy is viewed as a political whim - a whim that is taken less and less seriously the greater the distance from the point where it emanates. These perceptions, combined with the nature of the implementing instrument, the bureaucracy, allow administrators to extract from policy only its specific associated
tasks, which do not conflict with the operating norms of the bureaucratic administration.

Rather than being understood as a direction for change, policy thus impacts only at a superficial level - in the case of OB the physical inputs to the system - rather than penetrating to its core issue: improving school quality, and the effect of doing so on the retention of children. There remains thus the tendency for poor quality government education to be widely accepted as the norm while those in positions of power adopt a mode of operating which subsumes efforts towards change and places bureaucratic procedures at a level of greater importance than their very raison d'etre: education.

There is almost no challenge to this, for a characteristic feature of realising education policy in India is the hermetic nature of the implementation process. The policy, once conceived, passes through a bureaucratic hierarchy which has very little public accountability, in the absence of a firmly established perception of public rights. The quality of government processes are not open to public scrutiny, nor can they be altered by public criticism. There is thus a lack of external pressure to enhance optimal functioning of the administration in fulfilment of explicitly stated aims. That it is hard to generate this pressure from within the hierarchy is inevitable, given the interference of 'implicit' agendas in the domain of realising the 'explicit' agenda. The authoritarian tactics resorted to can be illustrated at every level to be unsuccessful: from MHRD's difficulties in galvanising the GoG into action; the lack of control experienced by the GoG as a policy initiative feeds into the Panchayati Raj; the weakness of the DPEO's position at the district level; to the consequent lack of impetus at taluka level.

Nor can pressure on the administration as a whole be generated from without, since there are very few who speak the 'language of critique', and those who do are largely excluded from interaction in the process of implementing policy. The expansion of UEE has followed a strategy of supply rather than demand, and although there is now wide public demand for education, which is seen to be the means of access to improved social status, there is often little knowledge of what to demand; and when this is known, little control over the service provided by the education establishment. Political pressure is not exercised to ameliorate the administration's performance, since the relatively low priority of elementary education in developmental terms affords low political mileage. For local politicians, roads and pumps hold out more convincing electoral promises than increasing the budget for elementary education: they engage themselves at present in that sector only to the extent of using their influence to effect teacher transfer and stay orders.
How, then, might elementary education move forward? Chapter three suggested the need to promote policy dialogues in which implementors participate, in order to move towards 'social learning', and ultimately towards creating polices which fit with the environment in which they are to be implemented. If educational planning and policy-making in vigorous pursuit of UEE is to be taken seriously, such a modus operandi should now be attempted, however alien open policy dialogue may be to existing structures.

It might, for instance, occasion a much closer and more critical look at policy itself, perhaps adopting the methodology suggested in the final section of chapter three. If, as seems likely, policy is a compromise - an attempt to resolve many conflicting issues to do with the nature and international standing of the modern Indian state - education policy is about many things other than education. Should central or State/UT policymakers allow these 'implicit agendas' to continue to occupy such a prominent position that the intrinsic value of education is almost submerged?

The only way that States/UTs can stop education policy from being used by the central government as a lever for control in the federal polity is to reappropriate their own policy arena. It should not be acceptable to State/UT governments that they are expected to implement a scheme over whose form they have no say. The Secretariat needs to become aware that its increasing involvement in administration is a symptom of an erosion of its function. Since the Directorate exists for this purpose, the obvious way for the Secretariat to justify its existence is by fighting to improve the position of elementary education on the State-level policy agenda by amending the perception of it as an obligation; and if it concurs with the central view that education is the engine of development, to work to end the dislocation between the two sectors. However, as chapters two and five illustrated, any attempt to regain this initiative at the State level will lead to nothing unless it is accompanied by vigorous attempts both to find a way of bringing the Secretariat and Directorate into the close working relationship that is absent at present; and to discuss, with their elected leaders, a modality by which the State government can work effectively through Panchayati Raj institutions.

The weakness it perceives in States/UTs in the policy arena is not solved by MHRD taking over policy-making on their behalf. Passivity is a mask of resistance and needs to be recognised as an indication of potential conflict, rather than welcomed as tacit acceptance. MHRD, with its national-level institutions and international contacts, is well placed to work out ways of educating a cohort of managers at the State/UT level; and to synthesise a central overview and State/UT-level initiative. To promote
management, rather than administration, may allow a more dynamic approach to implementation that encourages initiative and responsibility and discourages adherence to norms which have very limited functional impact.

The 'explicit' agenda for education can only be nudged into prominence if all levels of government enter into dialogue, in which there is no place for anything other than discussion of how to arrive at, and maintain, a balance of the extrinsic and intrinsic values of education so that both individuals and the nation benefit. This is a more appropriate model of concurrency than one which perpetuates tension and power conflicts by formulating programmes in which political objectives take precedence, and quality improvements are left to a task-oriented, hierarchical bureaucracy, with no capacity for dealing with the abstract, to implement. Only then can the hidden agendas be dismissed, allowing elementary education to be a national priority in 'reality', and not solely in the world of policy 'appearance'.

Future research

It is appropriate to conclude this thesis with a brief consideration of some directions future research might take into issues raised here.

In schools such as Harsunda and Abrapura, where OB items are being used, it would be interesting to conduct a longitudinal study of the impact of TLE on classroom processes.

An area that has received little research attention is the issue of elementary teacher training in India. Operation Blackboard provides considerable evidence to suggest that this urgently needs thorough exploration, particularly the relationship between curriculum construction and school contexts. Given that, in the present economic climate, teachers will continue to be those who see teaching as a necessity rather than a vocation, a most pressing issue which should be included in such a study is to research possible ways of motivating them. In addition, if appointees to the GCERT are to continue to be ex-DEOs, attention must be paid to how they should be re-trained to become functional in their new position; and to the role of the GCERT itself in relation to State policy-making and implementation.

In interviews with key officials of both central and State governments, the shortage of substantive empirical research to back up anecdotal evidence of ills in the system was bemoaned. It would therefore be useful for further in-depth studies such as the present
one to be conducted into policy-related issues, in order that they may feed into the policy process. Policy-makers need, in particular, to have qualitative evidence to draw on, to add a depth to the quality of decision-making that is not possible with reference only to unreliable statistics designed as indicators of progress, rather than of process.

This study established that there are 'implicit' and 'explicit' rationales for education that played a significant part in implementation of OB. It would be interesting to return to policy-makers and discuss these notions with them, both to see if they are aware of their existence, and to probe more deeply their perceptions of how they resolve the resulting conflicts.

It would be rewarding to probe the social resonance of this Northern educational notion of 'child-centredness' and the extent to which it can be expected to succeed in a social context which often treats children as miniature adults from an early age. Some indication that child-centredness is a problematic notion for teachers was evident in their failure to understand why the educational process should be geared to the child. It seems likely that there may be deep-rooted sociological reasons why this could only be poorly explained to teachers and, indeed, teacher trainers: it may conflict with widely-held social values.

Following on from this, another research issue might be to trace more fully the evolution of policy ideas - notions such as 'quality' and 'efficiency' in the NPE 1986 for example - in attempts to isolate concepts that do not arise from within India, and why they move on to the Indian policy agenda.

A most interesting study would be a comparative analysis of the modalities adopted by the Indian state and by the Overseas Development Administration of the UK in the Indian State of Andhra Pradesh to upgrade elementary schools and encourage teachers to adopt more child-centred teaching approaches.
### National Five Year Development Plan Dates

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<td>Sixth</td>
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<tr>
<td>Seventh</td>
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Appendix 1.2

List of essential items in Operation Blackboard kit

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<tr>
<td>i</td>
<td>Syllabus</td>
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<td>ii</td>
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<td></td>
<td>Teachers' guides</td>
<td>iii</td>
</tr>
<tr>
<td>II</td>
<td>Classroom teaching materials</td>
<td>XIII</td>
</tr>
<tr>
<td>i</td>
<td>Maps - district State country</td>
<td>XIV</td>
</tr>
<tr>
<td>ii</td>
<td>Plastic globes</td>
<td>XV</td>
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<tr>
<td>iii</td>
<td>Educational charts</td>
<td>XVI</td>
</tr>
<tr>
<td>III</td>
<td>Play materials and toys</td>
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</tr>
<tr>
<td>i</td>
<td>Wisdom blocks</td>
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<tr>
<td>ii</td>
<td>Surface tension</td>
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<td>iii</td>
<td>Bird and animal puzzle</td>
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<td>iv</td>
<td>Animal world</td>
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<td>v</td>
<td>Balance and weights</td>
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<td>vi</td>
<td>Magnifying glasses</td>
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<td>vii</td>
<td>Magnets</td>
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<tr>
<td>viii</td>
<td>Measuring tape</td>
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</tr>
<tr>
<td>ix</td>
<td>Cleanliness, nutrition, language and number charts</td>
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</tr>
<tr>
<td>IV</td>
<td>Games equipment</td>
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</tr>
<tr>
<td>i</td>
<td>Skipping rope</td>
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</tr>
<tr>
<td>ii</td>
<td>Balls - football volleyball rubber balls</td>
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</tr>
<tr>
<td>iii</td>
<td>Air pump</td>
<td></td>
</tr>
<tr>
<td>iv</td>
<td>Ring</td>
<td></td>
</tr>
<tr>
<td>v</td>
<td>Swing rope with tyre</td>
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<tr>
<td>V</td>
<td>Primary Science kit</td>
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</tr>
<tr>
<td>VI</td>
<td>Two in one audio equipment</td>
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</tr>
<tr>
<td>VII</td>
<td>Books for library</td>
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<tr>
<td>i</td>
<td>Reference books - dictionaries encyclopaedia</td>
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</tr>
<tr>
<td>ii</td>
<td>Children's books (at least 200)</td>
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</tr>
<tr>
<td>iii</td>
<td>Magazine, journals and newspapers for teachers and children</td>
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<td>IX</td>
<td>School bell</td>
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<tr>
<td>X</td>
<td>Musical instruments</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dholak or tabla</td>
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</tr>
<tr>
<td></td>
<td>Harmonium</td>
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</tr>
<tr>
<td></td>
<td>Manjira</td>
<td></td>
</tr>
<tr>
<td>XI</td>
<td>Contingency money with teacher</td>
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</tbody>
</table>

Source: PoA [1986:22-23]
Appendix 1.3

Education for All by 2000: the 'ideal' Indian school system

This chart is a conceptualisation of the ideal Indian education system as described in the document [NIEPA 1990] presented by the Indian delegation to the 1990 World Conference on Education for All in Bangkok.

POLICY
Aiming to overcome problems of inequity inadequate existing facilities lack of systematic planning

EDUCATION FOR NATIONAL NEEDS
catalyst to bring about justice, dignity and nation-building - literate population - UEE

primary education gives:
knowledge > survival skils > improve quality of life attitudes > continuing education

national identity
national unity
inculcate constitutional values of egalitarianism democracy secularism

protection of environment
removal of social barriers
scientific temperament
observance of small family norm
inculcation of awareness of dignity of labour illiterate masses prevent other sectors from developing significantly

ADMINISTRATION
Reform teacher training institutions
National Evaluation Organisations
National Testing Scheme (upper levels)
Review role of involve NGOs
State Institute of Educational Planning
Set up District/State Task Force/National Facilitation Unit
Implement District Boards of Education for planning, management, monitoring
Equitable inputs over regional disparities
Target spending to 6% of GNP

PRACTICAL AIMS
Realistic targets for EFA (access, participation, achievement)
Clearly defined MLL with acceptable standards, content and process
Relevance to needs of working children
Campaign to make parents see the need for/value of education
Enrol more children - 70% in the formal system, and retain them until they are able to contribute to nation-building

ADMINISTRATION
Interaction opportunities
Newsletters
Fellowship schemes for research and further study
Develop curricular material (State)
Reinstate profession with dignity and self-respect
Reorientation programme
Action research
Academic support through

CONTENT
Pre-service training should provide skills, attitudes practical experience in rural areas

Theory/practice of learning languages and science

In content/methodology, teacher has a sound theoretical training so takes academic initiative
Ability to interact with the community

CLIMATE
Opportunities for learning should be continuous, lively, interactive
Exchange of ideas, views, and experience
Innovation and experimentation
Learner-centred
Activity-based
Democratic, participatory method to encourage questions
networking with local academic system and resource centres
DIETs to be responsible for INSET/orientation
Reserve 75% of places for women
Comprehensive, rational transfer posting policy
Commitment/empathy with poor and oppressed
Appreciation of the concept of MLL and ability to work towards their achievement
Ability to - design and administer tests to ensure progress
- identify learning situations outside schools, and integrate them with the local environment
Continuous evaluation and remedial teaching if necessary
Improved effectiveness

X Cruelty or abuse of pupils; absenteeism; unpunctuality; participation in factional X
X activities; malpractices; extortion, unbecoming public conduct; insufficient X
X attention to instructional responsibilities

TEACHER
Primary initiative in all academic matters
Good teacher with correct knowledge, skills and attitude
Model for students
Trained and committed professional

SCHOOL
Imparts skills and values necessary for survival/
 improvement in quality of life/continuing education
Provides an acceptable physical environment with learning facilities such as bbd and toilet facilities;
 drinking water, all-weather classrooms; science kits;
 minimal contingency funds for sport; cultural activities; games
Properly develops character of child (values/attitudes);
Environment of learning by doing; a place where children pursue education and learn
Part of the national system of learning

An EFFICIENT system is when there is full
Enrolment Retention Attendance Active participation

CHILDREN
'Centrality of child a matter or faith, not convenience'

RETAINED Kompetent in language/maths
AWARE of self and environment
Questioning and joyous
Creative, learning by doing
Learning relevant things, useful to life
Proceeding to secondary

DROPPED-OUT Wasted scarce resources
Detached
Cynical

WORKING Bonded child labour
Street children
Waged labourers
Family work

COMPUTER
Involved in preparing learning package
Useful resource for learning activities and physical help, eg. building funds, human resources

TAKING ACTION
Motivating non-participants to attend
Identifying eligible children
Helping with measures for universal access
Active participation in learning process
Appendix 3.1

Innovation strategies

1 research, development and diffusion model [Havelock 1969].
Effective for macro-scale, top-down introduction of innovations, especially where implementing personnel are lacking in knowledge or expertise. It follows a logical sequence: basic research by central team; field trials; planned mass dissemination; implementation by users. Users tend to be passive recipients and high centralisation means local variations are neglected.

2 social action/diffusion model
People are convinced of the value of the innovation via extension agencies and informal personal contacts. A 'natural' process but it can be unsystematic and slow.

3 participative problem-solving [Chin and Benne]
User-centred, 'bottom up' approach in which the user diagnoses the need and searches for solutions among alternatives. The best is selected and trialled, evaluated and if found effective, implemented.

4 planned linkage [Havelock]
Combines elements of 1, 2 and 3 through linkage procedures and agencies, who also provide feedback. Exploits local capabilities and plans activities dovetailing with private and public sector efforts.

5 power coercive [Chin and Benne]
Used by those who have power to enforce innovations and can be effective in getting through red tape in a traditional system. Fails to take into account individuals so can result only in superficial conformity and much resentment; may be effective if there is a severe time constraint.

6 open input
Flexible and pragmatic, employing whichever features of the above strategies that will facilitate. Effective for overcoming bureaucratic constraints but may need to be more firmly anchored for lasting effects.
Appendix 3.2

Adams and Chen: 12 propositions

[Adams and Chen 1981:267-278]

1 The initial acceptability of an innovation is a function of the relevant power that can be marshalled in its support. The greater the relative power, the greater the likelihood of acceptability.

2 The initial acceptability of an innovation is a function of the extent to which, as a change, it is seen to threaten the power of existing groups. The less the perceived threat, the greater the acceptance.

3 The initial acceptability of an innovation is a function of the extent to which the benefits expected to result are thought to be in excess of the costs entailed. The greater the benefits (relative to cost) the greater the likelihood of acceptance (and vice versa).

4 The initial acceptability of an innovation is a function of negotiation protocol. The greater the violation of protocol, the less likelihood of acceptability.

5 The initial acceptability of an innovation is a function of the rhetoric used. The more the rhetoric conveys the impression of difference between innovation and the status quo, the greater the likelihood of rejection.

6 The persistence of an innovation is a function of the innovation's credibility. The greater the gap between promise and performance, the less the credibility. The less the credibility, the less the likelihood of persistence.

7 Given an evaluation, the persistence of an innovation is a function of the outcome of the evaluation and the relevance of the evaluation. The more positive the assessment and the more relevant the evaluation to the decision-making function, the greater the likelihood of persistence.

8 The persistence of an innovation is a function of the availability of a critical mass of resources (plant, personnel and people). A critical mass deficiency results in failure.

9 The persistence of an innovation is a function of personnel stability - the greater the stability, the longer the persistence.

10 The persistence of an innovation is a function of its adaptability. The greater the adaptability, the greater the likelihood of persistence.

11 The amount of time taken in an innovation process is a function of the sequencing and coordinating of events: the more precise the coordination, the faster the process.

12 The amount and size of the education change possible is a function of the degree of flux existing both within the education system and the embedding society. The greater the flux, the greater the potential for change.
Appendix 3.3

Rationales in educational plans

By delineating all the rationales for education occurring in the seven Plan documents from 1950 - 1985, changing patterns of emphasis on 'social engineering' functions of education becomes apparent. These patterns were obtained by classifying rationales according to five categories, which arose from trying to establish each time what planners' views are of the role of education. While such categorisation can only be indicative rather than definitive (boundaries between categories are blurred; almost all rationales are in some way political or economical), this heuristic device indicates how policy documents can be re-examined in order to penetrate more deeply into their meanings and values.

The categories that emerged were: economic (econ); political (pol); developmental (devel); educational (edu); individual (indiv). Educational and individual are broadly social but this finer differentiation allows a clearer contrast. Economic and developmental largely overlap: most rationales will contribute in some way to Indian national development, since this is ultimately what policy is about. Their differentiation however allows one to see more specifically the role of all the educational rationales in the development and change which these Plans guide.

**RATIONALES**

**TYPE**

**First Five Year Plan:** 24 rationales

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<td>pol</td>
<td>devel</td>
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<td>2 development</td>
<td>econ</td>
<td>pol</td>
<td>devel</td>
</tr>
<tr>
<td>3 reconstruction</td>
<td>econ</td>
<td>pol</td>
<td>devel</td>
</tr>
<tr>
<td>4 equality of opportunity</td>
<td>pol</td>
<td></td>
<td></td>
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<tr>
<td>5 strengthen economic base</td>
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<td>pol</td>
<td>devel</td>
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<tr>
<td>6 train individual's sense</td>
<td>pol</td>
<td></td>
<td>edu</td>
</tr>
<tr>
<td>7 develop intellect</td>
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<td>indiv</td>
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<td>8 humanise emotions</td>
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<td>9 equip individual for efficient living</td>
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<td>10 participate in / serve social order</td>
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<td>pol</td>
<td></td>
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<tr>
<td>11 democracy</td>
<td>pol</td>
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<td>12 economic development</td>
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<td></td>
<td></td>
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<tr>
<td>13 social cohesion and solidarity</td>
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<td>pol</td>
<td>devel</td>
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<tr>
<td>14 stimulate growth of creative faculty</td>
<td>edu</td>
<td></td>
<td>indiv</td>
</tr>
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<td>15 increase capacity for enjoyment</td>
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<td>indiv</td>
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<tr>
<td>16 develop spirit of critical appreciation</td>
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<td>17 train individual to make adequate</td>
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<td>living</td>
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<tr>
<td>18 fill appropriate individual niche in life</td>
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<td></td>
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<td>19 raise national productivity</td>
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<td>20 maximise individual contribution to national income</td>
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<td>21 efficiency in productive work</td>
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<td>22 increased skill</td>
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<td>24 sense of discipline</td>
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**Total** | 13 | 8 | 5 | 8 | 7
### Second Five Year Plan: 13 rationales

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<td>democratise values/attitudes</td>
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<td>unity</td>
<td>pol</td>
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<td>7</td>
<td>cooperation</td>
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<td>8</td>
<td>spirit of endeavour</td>
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<td>edu</td>
</tr>
<tr>
<td>9</td>
<td>scientific temper of mind</td>
<td>econ</td>
<td>edu</td>
</tr>
<tr>
<td>10</td>
<td>economic development</td>
<td>econ</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>dignity in labour</td>
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<td>discipline in service</td>
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<td>individ</td>
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<td>13</td>
<td>adaptability</td>
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**Total**

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### Third Five Year Plan: 14 rationales

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<td>freedom</td>
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<td>4</td>
<td>social justice</td>
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<td>5</td>
<td>equal opportunity</td>
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<td>edu</td>
</tr>
<tr>
<td>6</td>
<td>common citizenship</td>
<td>pol</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>harness people's energies</td>
<td>econ</td>
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</tr>
<tr>
<td>8</td>
<td>human resources development</td>
<td>econ</td>
<td>devel</td>
</tr>
<tr>
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<td>natural resources development</td>
<td>econ</td>
<td>devel</td>
</tr>
<tr>
<td>10</td>
<td>progress</td>
<td>develop</td>
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<tr>
<td>11</td>
<td>skill and knowledge development</td>
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<td>creative outlook</td>
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<td>educ</td>
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<td>13</td>
<td>national unity</td>
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<td>pol</td>
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<tr>
<td>14</td>
<td>understanding of common interests and obligations</td>
<td>pol</td>
<td>edu</td>
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**Total**

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### Fourth Five Year Plan: 6 rationales

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<td>3</td>
<td>skilled manpower training</td>
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</tr>
<tr>
<td>4</td>
<td>development</td>
<td>pol</td>
</tr>
<tr>
<td>5</td>
<td>attitude development</td>
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**Total**

2 3 2 1
**Fifth Five Year Plan:** 8 rationales

| 1  | rural bias                          | econ | pol | devel | edu |
| 2  | scientific attitude                 | econ | pol |      |     |
| 3  | cultural content                   | econ | pol |      |     |
| 4  | eradication of illiteracy           | econ | pol |      |     |
| 5  | scientific attitude                 | econ | pol |      |     |
| 6  | reduce imbalances in regional      | econ | pol |      |     |
|    | development                          |      |     |      |     |
| 7  | improved ethos in system            |      |     |      |     |
| 8  | equalisation of educational opportunties |      |     |      |     |
|    | Total                                | 5    | 3   | 2    | 5   |

**Sixth Five Year Plan:** 35 rationales

<p>| 1  | human resource development         | econ | pol | devel |     |
| 2  | improved living patterns           | econ | pol |      | edu |
| 3  | social development                 | econ | pol |      |     |
| 4  | intellectual development           | econ | pol |      | indiv |
| 5  | emotional development              | econ | pol |      | indiv |
| 6  | help individuals to meet basic needs of daily life | econ | pol |      | indiv |
| 7  | acquisition of functional skills relevant to daily life | pol |      |      | indiv |
| 8  | prepare individuals for assuming role as responsible citizens | pol |      |      | indiv |
| 9  | development of scientific outlook  | econ | pol |      |     |
| 10 | awareness of rights and responsibilities | pol |      |      | indiv |
| 11 | consciousness of the processes of development | econ | pol |      |     |
| 12 | sensitisation to ethical, social, cultural values | pol |      |      | indiv |
| 13 | contribution to productive programmes in national development | econ | pol |      |     |
| 14 | equality of opportunity            | pol |     |      |     |
| 15 | means for self-fulfilment          |     |     |      | indiv |
| 16 | physical, intellectual and cultural development |     |     |      | indiv |
| 17 | capabilities for influencing social change |     |     |      |     |
| 18 | national integration               |     |     |      |     |
| 19 | secularism                         |     |     |      |     |
| 20 | democracy                          |     |     |      |     |
| 21 | dignity of labour                  | econ | pol |      |     |
| 22 | national development               | econ | pol |      |     |
| 23 | national integration               | pol |     |      |     |
| 24 | community development              | pol |     |      |     |
| 25 | humanistic outlook                 | pol |     |      |     |
| 26 | sense of brotherhood               | pol |     |      |     |
| 27 | commitment to ethical and cultural values | pol |     |      | indiv |
| 28 | inculcation of sense perceptions   |      |     |      |     |
| 29 | equalisation of educational opportunties |      |     |      |     |
| 30 | humanistic values                  |      |     |      |     |</p>
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**Seventh Five Year Plan: 26 rationales**

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Appendix 4.1

**Operation Blackboard interview schedules**

The questions given below were not necessarily asked in the order or exact form in which they appear here.

**Schedule One**

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<td>Name of school</td>
</tr>
<tr>
<td>1.2</td>
<td>No. of Standards</td>
</tr>
<tr>
<td>1.3</td>
<td>When was school established?</td>
</tr>
<tr>
<td>1.4</td>
<td>No. of children in Std 1/2/3/4 (m + f)</td>
</tr>
<tr>
<td>1.5</td>
<td>Name of teacher</td>
</tr>
<tr>
<td>1.6</td>
<td>Male/female age native place</td>
</tr>
<tr>
<td>1.7</td>
<td>Teaching qualifications</td>
</tr>
<tr>
<td>1.8</td>
<td>Teaching experience: length of service in total/this school</td>
</tr>
<tr>
<td>1.9</td>
<td>Which Standards do you teach?</td>
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<tr>
<td>1.10</td>
<td>Any other information</td>
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<table>
<thead>
<tr>
<th><strong>Training for NPE and OB</strong></th>
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</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Did you attend training for NPE 86 and/or OB? If so, when/where?</td>
</tr>
<tr>
<td>2.2</td>
<td>Which were the most important things you learned during NPE training?</td>
</tr>
<tr>
<td>2.3</td>
<td>Did you find the modules appropriate for your needs?</td>
</tr>
<tr>
<td>2.4</td>
<td>Did your OB training focus mostly on practical or theoretical information about using OB in the classroom?</td>
</tr>
<tr>
<td>2.5</td>
<td>Was an OB kit available at your training?</td>
</tr>
<tr>
<td>2.6</td>
<td>Were you helped in ways to use the OB items together with your regular lessons and textbooks?</td>
</tr>
<tr>
<td>2.7</td>
<td>Do you feel you would like more training in using OB items? For which things?</td>
</tr>
<tr>
<td>2.8</td>
<td>In general in which ways was this type of training helpful to you?</td>
</tr>
<tr>
<td>2.9</td>
<td>Has your training changed your teaching approach at all?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>OB package</strong></th>
<th></th>
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<tbody>
<tr>
<td>3.1</td>
<td>Before the OB items came, which teaching aids were available in your school? Who provided them?</td>
</tr>
<tr>
<td>3.2</td>
<td>When did you receive OB items? Did they all arrive at once?</td>
</tr>
<tr>
<td>3.3</td>
<td>How did the OB items get to your school?</td>
</tr>
<tr>
<td>3.4</td>
<td>How do you feel about the quality of the items?</td>
</tr>
<tr>
<td>3.5</td>
<td>Did you know that your school was under this scheme before the OB kit came?</td>
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<table>
<thead>
<tr>
<th><strong>OB and daily practice</strong> (go through items with teacher)</th>
<th></th>
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<tbody>
<tr>
<td>4.1</td>
<td>Which OB things do you use regularly? Why do you use those in particular?</td>
</tr>
<tr>
<td>4.2</td>
<td>Are there any items you don’t like using? Why?</td>
</tr>
<tr>
<td>4.3</td>
<td>Are there any items you feel you cannot use? Why?</td>
</tr>
<tr>
<td>4.4</td>
<td>If something gets broken, what happens?</td>
</tr>
<tr>
<td>4.5</td>
<td>Can you suggest any items which you would have liked to receive as part of the package, which were not included?</td>
</tr>
<tr>
<td>4.6</td>
<td>Do you feel that OB items cover the needs of upper and lower Standard children?</td>
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<tr>
<td>4.7</td>
<td>Which things do you tend to use with which Standards? Which things might you use differently with different Standards?</td>
</tr>
<tr>
<td>4.8</td>
<td>Do you find you use OB things more with some standards than others?</td>
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<tr>
<td>4.9</td>
<td>Any other information about OB and daily practice?</td>
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</table>
5 Process and content

5.1 Do you sometimes teach through play methods? Can you describe how?

5.2 Can you describe your understanding of a child-centred approach?

5.3 Do you find that a practical way to teach children?

5.4 In what sort of way has OB made a difference to your classroom?

5.5 What do you think is the most important thing for a child to learn in the first two years of school?

5.8 Is there anything you would like to change about the textbook, or anything concerning your job?

Finishing up

Literacy level of village
No. of inhabitants
Total children in village of school-going age: proportion of school attenders
Any other educational programmes in the village
Attendance register

Schedule Two

Sociological background

(Parts which had already been completed after the previous visit were not asked again).

Teacher
Name: Age: Caste: Religion: Place of birth:
Father/Mother's occupation/educational status:
Current residence: place facilities Reading material available/used:
Family:
Transport to school:
Educational qualifications: when SSC percentage
Type of training college/place:
Reason for entering teaching profession:
Income from teaching:
Job satisfaction:
Willing to change profession/to what:
Under bond:
Additional income: approx. how much/ source/ size of landholding

Students
Which difficulties do your students face with school?
How do you try and help them?
What do students usually go on to do?
How do you feel if a student drops out? What do you do about it?

Management and community
How often does the Sarpanch visit?
Do you try to involve the community with the school? How?
Has the DPEO ever been to your school?
How many times did the inspector come last year? Did you know he was coming?
What sort of remarks did he make?
Do you find his visits useful to you?
Appendix 4.2

Backwards mapping:
chronological sequence, place, level and research task

To give some sense of the scale of backwards mapping, this Appendix gives a chronological overview of the research process, with approximate timings, locations, and respondents by level, of over 100 interviews conducted during the year.

**Key**
Level refers to points in the implementation where the administration diverges, mapped backwards from school; *taluka*; district; State government; central government. Interviews with leading academics were conducted in other places which are also given below.
Cascade refers to the mapping of cascade training conducted for teacher orientation in the PMOST and PMOST-OB 10 day camps. Cascade 3 refers to resource people at the *taluka* level; Cascade 2 to key people at the State level; Cascade 1 to the central team at the National Council for Educational Research and Training (NCERT) in New Delhi.

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<td>January</td>
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<td>Centre</td>
<td>Identify officials (MHRD; NCERT)</td>
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<td>District</td>
<td>Orientation (admin)</td>
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<td>February</td>
<td>Baroda</td>
<td>District</td>
<td>Find accommodation</td>
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<td>Schools</td>
<td>Identify interpreter</td>
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## List of interviews conducted while researching OB

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Appendix 4.4

Networking: a possible approach to centre-State policy dialogue in India

(This short reflection on the relationship between backwards mapping, networking and policy dialogue was carried in Norrag News no. 13 December 1992, pp. 72-77)

Networking was an integral component of the research methodology I adopted in India last year for data collection for my doctoral thesis. Researching the implementation in Gujarat of an innovation from the 1986 National Policy on Education, I set out with a 'bottom up' methodology designed to lead me from teachers in schools in three case study locations 'upwards' via various tiers of administration through the State government to the central government in New Delhi. What I was aiming for was to probe, and later account for, the differences between the 'official version' and what, according to actors' perceptions, had 'really' happened. An important part of this strategy was to gather names - not of those in senior positions, but of any teacher trainers, academics or officials who were known to have impacted on the level below them.

Initially, this form of networking provided a firm anchor in the long corridors of the administration, since it gave me names to search out. These people in turn passed on names of others I should see. From the State level downwards, this had an important limitation, however: there was a tendency to adhere to hierarchical Indian bureaucratic norms by pushing me upwards rather than sideways. It was striking how names mentioned first were usually those of seniors, and it was not always easy to tease out names of others perhaps more appropriate to the enquiry. Although this name-giving was annotated with comments which were an important key to understanding how individuals in the implementation chain valued and viewed one another in their official capacities, there was clearly not an existing network of contacts and information exchange to tap into. Strikingly, the names of only two academics were mentioned in the course of many free-ranging discussions. Networking about education, or even administration, within the bureaucracy was not really done; and beyond - not done at all. Without it, there was a palpable lack of idea generation, no dialogue about policy, and a feeling of staleness as officials carried out their tasks.

In New Delhi, a networking consciousness absent in the State was apparent, and included academics and other non-bureaucrats. This rather underlined the lack of a similar pool of people to draw on at the State level and the tendency for New Delhi to monopolise talent. But it seemed to emphasise too a richer climate around the top of the implementation chain that wanes as policy moves away from the centre. There is a policy outcome: through networking at the top level, ideas are exchanged and consolidated; but New Delhi ideas germinate in a very different atmosphere from that found at State level. When fed into policy-making, they can result in programmes that have little empathy in very different conditions, but are passed downwards through the administration and are not really open to debate.

With no 'ideas forum' at the State level there is little with which to refute the centralising tendency built into the federal and bureaucratic structures. The State needs to come up with positive policy input, rather than adopting an attitude of passive resistance; but it must develop its own policy dialogue first. It is worth giving thought to whether, and how, the notion of networking might be introduced throughout the administrative hierarchy. In the long term it could rejuvenate State initiative and enhance the appropriacy of policy measures designed to increase the capacity of elementary schools to retain children.
Chronological sequence of events for OB

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<td>1985</td>
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<td>August</td>
<td>Challenge of Education</td>
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<td>November</td>
<td>Shillong seminar</td>
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<td>1986</td>
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<td>January</td>
<td>special NDC meeting to</td>
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<td>February</td>
<td>check NPE draft</td>
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<td>March</td>
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<td>May</td>
<td>NPE 1986</td>
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<td>working groups</td>
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<td>Programme of Action</td>
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<td>March</td>
<td>Note for the Cabinet</td>
<td>26</td>
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<td>April</td>
<td>conference of Edu Secys endorses broad parameters of OB scheme</td>
<td>25</td>
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<tr>
<td>May</td>
<td>first letter about unsatisfactory school environment, no TLE</td>
<td>26</td>
<td>GoG agrees to work out contingency money for schools by April '88</td>
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<tr>
<td>June</td>
<td>NCERT extra info for OB proforma</td>
<td>3</td>
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<td>July</td>
<td>NCERT follow-up letter</td>
<td>6</td>
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<tr>
<td>August</td>
<td>letter of OB to all Edu Secretaries</td>
<td>25</td>
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<tr>
<td>September</td>
<td>memo to NCERT to nominate member for Guj SLEC</td>
<td>5</td>
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<td>October</td>
<td>MHRD to try &amp; get special</td>
<td>10</td>
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<td></td>
<td>Initial project proposal placed before SLEC</td>
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<td>NREP rooms can go up from</td>
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<td>November</td>
<td>26 meeting MHRD/GoG Education Secretaries to discuss feasibility of</td>
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<td></td>
<td>initial project proposal</td>
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<td>December</td>
<td>3 seeks supplementary project proposal immediately Go-ahead for tenders</td>
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<td></td>
<td>to purchase</td>
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<td>23 release T/TLE funds</td>
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<td>1988</td>
<td>4 clarification of allowing GoG to go to 23% of blocks</td>
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<td>January</td>
<td>11 letter re ST/SC</td>
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<td>13 funds for extra OK</td>
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<td></td>
<td>21 MHRD informs AccGen of GoG targets</td>
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<td>31 reminder that funds are contingent on responsibilities -</td>
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<td>has GoG made contingency funds available?</td>
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<td>February</td>
<td>2 confirms release of funds &amp; use by 31.3 for TLE; reminder of</td>
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<td></td>
<td>specifications sent with letter of 25.9.87; request SG</td>
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<td></td>
<td>appoint Ts immediately</td>
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<td></td>
<td>5 sends specifications of items for maths kit</td>
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<td></td>
<td>23 MHRD informs AccGen</td>
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<td>Rs 167.70 lakh &gt; GoG</td>
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<td>29 sanctions T salary/TLE for SLEC-identified requirements</td>
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<tr>
<td>March</td>
<td>11 reqs assurance re buildings</td>
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<td>15 OK to go ahead with supp proposal but does not have SLEC approval</td>
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<td>or assurance</td>
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<td>16 requests assurance again</td>
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<td>21 MHRD decides that even without assurance GoG’s commitment is clear,</td>
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<td></td>
<td>it can go ahead</td>
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<td>1000 to 1500/year (assurance) GoG to make/submit special project</td>
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<td>19 SLEC mtg: specifies nos. according to to surveys</td>
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<td>21 minutes of SLEC sent on</td>
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<td></td>
<td>29 sends full list of blocks chosen</td>
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<td>15 SG approval superior to SLEC but will send assurance</td>
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<td>25 internal: DPEd allocates OB work as of 29/2</td>
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<td></td>
<td>29 sends supplementary proposal</td>
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<td></td>
<td>5 requests immediate clearance of supplementary proposal</td>
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<td></td>
<td>7 Edu Secy gives DPEdu verbal assurance, promises written</td>
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</table>
April

13 funds may be carried forward until end May but unused funds then not to be carried forward

15 letter reiterates 7 conditions of OB

May

10 letter requests QPR detailed reminder of details of OB to get it right; reqs response by end of May

19 confirms arrival NBT books

13 repeat req GoG auditors

June

15 admonishes States for tender purchase of books, not in spirit of scheme

16 intimation to States of revision of QPR format

17 repeats req of 15/4 of NBT books

17-18 conference of Directors of PEd re T salaries and item funds

July

10 req QPR + telegram

August

5 SIE informs DPEd about PMOST training

22 district grants sanctioned letter of specs issued

27 internal DPEd > GoG: T sanction/TLA completed by his office

September

20 submits 1987 QPR as of 30/6

October

31 Edu Secy visits Guj to check progress on OB/DIET schemes

Edu Secy writes review

November

December

2 OK small addition to GoG ph I proposal

21 submit QPR of 30/10 to all DPEOs: telling off for poor/slow imp of scheme repeats all instructions

23

1989

January

31 reminder that scheme depends on State provision of contingency funds and request that GoG furnish info

February

March

6 Ministerial letter to CM requesting improved action on OB as Gujarat is falling behind

GoG submits phase II MSB proposal for 445 schools

April

3 to all DPEOs: reiteration of specs to ensure quality as checks reveal not good enough
May

June
NIEPA workshop with State Secretaries re improved monitoring of OB implementation
25 letter re project planning

July
25 reqs breakdown of targets/actions from States

August
29 provides list of milestones for monitoring of OB implementation; reqs response by end August ref no response to 25/6

September

October
11 note re books to Dists; funds kept aside because of controversy now released

November

December

1990

January
11 T salary proposed

February
20 info re MB proposal

March
3 phi funds can be carried forward until 31.3.90
refuse to sanction GoG phase III because of inadequate info about funds for building or progress on other 2 phases
22 sanction for ph II MSB
30 proposal for 2101 schools
31 salary proposals sanctd

April

May
3 reqs sourcewise availy of construction funds, latest position of ph 1
5 < letter received

June

July

August

September
11 letter to GoG commenting on extremely slow progress on building work after 3 years of scheme
October 10 review meeting GoI and GoG re DIETs and OB

November

December

1991
January
4 Reqs source of building funds for Phase III from GoG before can sanction
5 reminder telegram
12 telegram to GoG MHRD can't process T salary because no QPR
31 ph III another reminder telegram

February
6 meeting re modifications to the scheme of OB and use of JRY for building construction

March
30 responsibility for OB room construction passes to Dept Rural Development

April

May

June
10 time limit for ph III implementation extended to 31.3.92

July

August
12 Ph III can't be considered because no info; send + QPR (0 since 31.3.90)
16 ref to 3.5.90 + teleg reminders 4.1; 17.1; 31.1.91

September
11 funds sanctioned as SG's budget, DRD participation and modified JRY promise better construction possibilities

October
4 reqs copies of orders re filling of all T posts; urgent so ph III can be processed
8 internal GoG to Edu Directorate: unclear which budget to be used for rooms pls attend to it
23 All ph I T posts filled reqs sanctions of 694 rooms
24 repeat request

November
12 repeat request;
Meeting of Edu Secretary MHRD/GoG: MHRD great dissatisfaction
26 repeat request

December
17 repeat request
Appendix 6.1

Module 16c

Operation Blackboard

You are aware that the universalisation of elementary education has been one of the most important goals of educational development in our country. Provision of free and compulsory education to all children till they complete the age of 14 years is a Directive Principle of our Constitution. It is part of the Minimum Needs Programme as well as the 30-point programme, 1986. The NPE 1986 has also given unqualified priority to universal elementary education.

The Policy has outlined the concept of a national system of education. It lays emphasis on elimination of disparities in the educational system and on improvement in the quality of school environment so that all children, irrespective of their socio-economic background have access to education of comparable quality upto a given level. The Programme of Action (PoA) has recommended measures for improvement in the quality of education through reform of the content and process of education, laying down minimum levels of learning, provision of additional teachers and improvement in school facilities.

Objectives

On the completion of the module you will be able to:
- understand the concept and implementation strategies of the scheme 'Operation Blackboard'
- know the role of Central/State Governments in implementing the scheme
- understand the role of the local community in making the scheme effective
- appreciate the role you can play in making it a success

Learning Activities

Operation Blackboard and Its Components

As you are already aware, the National Policy on Education - 1986 and Programme of Action have recommended a number of schemes for the quantitative and qualitative improvement of primary education. One of these has been symbolically termed 'Operation Blackboard' (OB) which aims at a substantial improvement in facilities in primary education. Operation Blackboard lays down the minimum levels of facilities to be provided in all primary schools which have so far been established and it also prescribes the minimum level of funding for all primary schools to be opened in future.

There are three components of Operation Blackboard:
1. Provision of at least two reasonably large rooms that are usable in all weathers, with deep veranda along with separate toilet facilities for boys and girls.
2. Provision of at least two teachers, as far as possible one of them a woman, in every primary school.

Activity Sheet No. 1

You are teaching in a primary school or some of your colleagues are primary school teachers. Bearing in mind the working conditions and existing school environment, list the essential teaching learning materials needed to make teaching more effective and interesting.

Collect Collate Discuss

Implementation

We all know that in spite of the constitutional directives and various efforts made during the past four decades, it has not been possible to achieve the target of universalisation of elementary education. A number of factors have led to this failure. Some of the major ones are lack of proper school buildings, an insufficient number of teachers in schools and lack of teaching learning material. The scheme of Operation Blackboard aims at providing these to each primary school.
As it is not possible to provide these facilities to all schools at the same time, owing to financial constraints, the implementation has been phased out over a period of three years. During 1987-88 only 20% of community development blocks and municipal areas in all States/UTs are being covered; another 30% blocks/municipal areas will be covered during 1988-89; and the remaining 50% during 1989-90.

The coverage of Operation Blackboard has to be extended to all primary schools run by the government, local bodies, Panchayat raj institutions.

For the collection of information with regard to the requirements of school buildings a second teacher in single teacher schools and essential materials, the States/UTs have been asked to conduct surveys of existing facilities according to a proforma especially designed by NCERT for this purpose. Most States/UTs have initiated work in this regard.

**Role of Central and State Governments in Implementation of Operation Blackboard**

For the effective implementation of the NPE 1986, the Government of India has undertaken a greater responsibility especially in relation to schemes aimed at the qualitative improvement of education. For the implementation of Operation Blackboard too, responsibility is being shared by the Central and State Governments.

(1) **Construction of buildings:** Funds for construction of buildings have to be arranged by State Governments from the schemes for which funds have already been provided by the Government of India. States have been asked to plan the use of funds provided by the Eighth Finance Commission for construction of school buildings. A decision at the highest level has also been taken to give high priority to the construction of primary school buildings by the judicious allocation of funds provided to States under the National Rural Employment Programme.

The following clarifications have been made to the States regarding the construction of school buildings:

(a) Each of the rooms to be constructed should be 30 square meters in area and the depth of the verandah should be approximately 9-10 feet. Even if there are two rooms in existence at present whose area is less than the recommended area, new rooms should be constructed.

(b) Separate toilets for boys and girls must form a part of construction activity. Toilets should be so constructed that they inculcate desired toilet habits among children.

(c) The design of the building should provide scope for expansion. Every effort should be made to utilise local materials to keep the cost low. The buildings should be adequate without being ostentatious, and should merge with the environment. It should also be ensured that there is built-in space for storage of equipment. Well-plastered blackboards should also form part of the structure itself in the rooms, as well as at both ends of the verandah.

The role of the local community has been defined in the scheme as follows:

(a) Necessary land for construction of school buildings, including land for games and sports has to be provided by the local community.

(b) The local community, preferably Village Education Committees, have to give a formal undertaking that they will accept responsibility for repair and maintenance of the building.

(c) The local community has also to accept responsibility for an appropriate fencing around the school compound.

**Activity Sheet No. 2**

You are aware that merely defining the schemes does not bring about desired results. As a school teacher, what steps would you initiate to get the maximum and continuous cooperation of the local community in implementing this scheme?

Collect Collate Discuss

(2) **Provision of a Second Teacher in Single-Teacher Schools:** Though efforts have been made over the past years to reduce the number of single-teacher schools, yet there is a large number of schools in the country which are being managed by single teachers. Under Operation Blackboard the State/UTs have been asked to appoint a second teacher in all single-teacher schools. The Government of India will give
For implementation of this component:

- the State Government has to give a categorical assurance that all new primary schools to be opened will be provided with two teachers.
- to the extent possible, all new teachers to be appointed will be women. It is advisable for every school to have at least one woman teacher. In case of any difficulties in rural areas, the second teacher may also be male, but a corresponding increase in the number of women teachers should be made in urban areas in other localities.
- spatial considerations need to be borne in mind in the appointment of teachers. If trained teachers belonging to remote areas are available, they should be given preference without disturbing the broad policy regarding the appointment of teachers.
- In cases where persons trained 2-3 years prior to the appointment are appointed they should be provided with a suitable refresher course (approximately one month's duration). Necessary preparations for this purpose should be made immediately. Materials prepared by NCERT for a massive teacher training programme should also supplement other sources.

**Activity Sheet No. 3**

During this training period, you have been acquainted with the new content and processes of primary education. List the areas and activities of the training refresher courses that should be organised for newly-appointed teachers.

**Collect Collate Discuss**

(3) **Minimum Essential Learning Materials:** The minimum essential materials in a primary school, that should hold good for all schools throughout the country, have been spelt out and the list is given at the end. The States/UTs may make some departure from this, provided they give sufficient justification for it, and it does not lead to any increase in cost. Funds for purchase of these materials will be provided by the Central Government on a 100% basis up to the end of the Seventh Five-Year Plan. The liability thereafter will be transferred to the State Government.

With reference to the implementation of this component, the following guidelines have been developed for the States/UTs:

(a) The material purchased under Operation Blackboard should be of good quality. Norms and specifications in respect of each item are being worked out by NCERT. Meanwhile, the State Governments may work out their own specifications, which can be used for purchase of materials during 1987-88.

(b) MHRT in collaboration with NCERT and the Bureau of Indian Standards has taken steps to work out unit costs of standard quality material which may be applicable in practically all parts of the country. By and large, central assistance under the scheme will be restricted to the unit cost, and the state governments will be expected to adjust their estimates within these limits.

(c) Work experience programmes in upper primary schools and secondary/higher secondary schools should be modified to manufacture as many items, required under Operation Blackboard as possible. Even polytechnics and ITIs should be encouraged to set up manufacturing units as envisaged under the 'earn-while-you-learn' project.

(d) The responsibility for replenishment of materials will have to be borne by the State governments or local bodies. Funds for this will have to be provided in a systematic manner from the beginning of the Eighth Five-Year Plan.

(e) Teachers will need to be oriented to build an atmosphere in which they make proper use of the material provided and also improvise instructional material on their own initiative. This component may be incorporated in all programmes of pre-service and in-service teacher education programmes.

(f) SCERTs/SIEs should also develop simple booklets to facilitate the proper use of material.
You have examined the list of essential materials to be provided to the single teacher schools under this scheme. List the ways in which you will ensure the maximum benefit to the teacher and children from this material. Collect Collate Discuss

Conclusion

After reading this module you have come to know that OB is a centrally-assisted scheme. No separate funds have been provided under it for the construction of primary school buildings. In rural areas it has to form a part of NREP, RLEG and other special area development schemes such as Tribal Sub-Plans, Hill Areas Development Programme, Border Area Development Programmes, etc. Till the end of the Seventh Five-Year Plan, the Central Government has undertaken the responsibility of funds on a 100% basis for the appointment of a second teacher in single teacher schools and for the purchase of essential equipment. This responsibility will be transferred to State governments after that. The present responsibilities for the States also include:

- provision of contingency @ Rs. 500 per annum to every primary school
- provision of land and fencing of schools
- an undertaking regarding repair and maintenance of school buildings
- an assurance that in future all sanctions of primary school teachers and equipment will be provided at least at the level envisaged under Operation Blackboard.
- provision of funds for replenishment of equipment.

The state governments will also have to take steps for detailed micro-planning for the universal enrolment and retention at the elementary stage which is the basic objective of Operation Blackboard. Measures will also need to be taken to involve teachers and the local community, not only in planning and implementation of Operation Blackboard, but also to create an upsurge for the universalisation of elementary education. It may also require a strengthening of the administrative structure.

(There follows a list of the essential facilities at the primary stage - see Appendix 1.2)
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