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BOOK REVIEWS

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Managing Education for Rural Development: Fitting the Task to the Needs[1]

Qutub Khan*

Abstract

This is an attempt to provide a representative sample of situations, problems and strategies related to the impact of education (formal and non-formal) on rural development both in terms of economic and social dimensions and the extent of 'integration' in the planning and management of rural development, between different development sectors as well as between higher and lower levels of the delivery systems to analyse the various kinds of problems of co-ordination and mutual reinforcement which may eventually exist within the educational field itself in particular, between the school and different non-formal programmes, and in brief to examine with great caution what can - and what cannot - be expected from education, and seek to identify the conditions in which specific educational programmes achieve results in the rural context. Rural development extends considerably beyond agricultural growth and the increasing diversification of education takes it far outside the confines of the school.

Introduction

'Quality of life' issues loom ever larger on the global landscape. Solutions are needed for many environmental problems that beset humanity. Population growth continues to exacerbate economic, social world. These issues are inseparably linked with education. The challenge posed to education in all these areas is not only to impart appropriate and environmental problems, particularly in the poorest part of the knowledge, attitudes and skills, but also to develop behaviour, which leads to action.

The last three decades have witnessed profound changes in the social, political, economic and cultural forces which, in turn, have helped to shape the

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educational process in almost all the developing countries. Consequently, education systems are being subjected to a plethora of reforms, innovations and remedial measures in an attempt to make them more viable and responsive to changing needs and demands of society. Given this type of changing environment in education, many issues have emerged and many problems have been faced and have to be resolved. Some of these issues are common to institutions, no matter where they are. Others are specific to particular countries or regions and have to be resolved within their own context.

Today, 113 million children the worldwide are out-of-school and rates of repetition and dropout are far too high; gender inequalities continue to seriously affect access and achievement; the existence of 880 million illiterate adults remains a high blight on individual growth and social development; and the quality of teaching and learning in all types and at all levels of education often fails to meet expectations and even modest standards are difficult to sustain. Meanwhile traditional fields of competence are being subjected to powerful changes, such as the impact of new information and communication technologies that demand innovative and imaginative responses. These general trends and issues are important in themselves, yet they become imperatives when viewed and analyzed exclusively in terms of rural setting and context.

Major Problems in Rural Education

The period from 1960 to 1985 witnessed tremendous developments in rural education in general and in higher agricultural education in particular. The developed countries enjoyed a period of rapid growth in the 1960s, both in terms of the number of institutions and students. This reached a peak in the 1970s and began to decline in some instances in the 1980s. Many developing countries, on the other hand, were not far behind in these trends. As considerable advances have been made particularly since 1990, many issues in rural education have emerged and many problems are being faced and have to be resolved. Most active educational experts would agree that rural education in the Third World is facing crisis and should be accorded top priority for economic, social and ethical reasons.

Although considerable progress has been made in provision of educational opportunities in rural areas, the state of the art review of education in rural areas, however, reveals a host of problem areas of which the following are of particular interest:

- **Political commitment and the planning aspects of rural education;**
- **Administrative and organizational problems and, in particular, issues of community participation;**
- **The learning needs - the kinds of learning which should be associated with the concept of basic education in rural areas. (How and by whom**

are rural learning needs determined? In what ways do they relate to basic human needs, occupational requirements, and other concerns of socio-economic development? Is it possible to distinguish learning needs common to all from the specific needs of particular groups of learners? What are the roles played by formal and non-formal education in meeting rural learning needs, and how have these roles been allocated? etc.);

- **Issues of equity, efficiency and cost of rural education. (What is the reality of school administration at the local level? What types of relationships of school administration do exist with higher echelons? What are the constraints faced in improving the quality of teaching-learning processes and obtaining the cooperation of the local community? How much does it cost to parents to provide basic education to their wards? etc.);**
- **Esteem and interest currently accorded to distance education; and**
- **Contribution of education to rural employment, income-generation, and community development.**

Further, while the evidence unearthed is rather limited, two important observations for further research stand out clearly: first, the process of assessing and structuring learning needs can provide an operational link between educational planning and other aspects of rural development; and second, the integration of education with the development goals and projects of rural communities is a key factor in increasing the relevance of education.

The starting point in the planning and management of formal and non-formal education within integrated rural development is a frequently observed paradox: on the one hand, development planners and practitioners firmly concur that integrated rural development is incomplete and doomed to failure without an in-built education and training component; on the other hand, school education almost everywhere resists attempts to align it with the rural environment, and to bring it under the purview of the so called integrated rural development programmes. At the same time, its links with other educational and training activities of the non-formal variety seem frequently ill-coordinated or non-existent. Yet, in almost all developing countries, a diversified educational field has emerged, involving a variety of institutions and offering a broad spectrum of formal and/or non-formal education and training activities. How these are or could be mutually integrated, and how they are able to reinforce other non-traditional aspects of rural development, are issues of critical importance.

Education for Rural Development - The Hard Realities

In terms of overall development, almost all rural economies are characterized by the prevalence of subsistence agriculture sector and permanent food deficit. If the

national average is any indication, income per capita in real terms barely keeps pace with population growth and per capita food production either declines or at best remains stagnant. Frequent natural disasters continue to pose threats to the survival problem. In order to maintain their families, a substantial part of the male labour force is forced to migrate seasonally or for longer periods. Many of the brightest and the most ambitious youth leave for yet another reason - that of furthering their education in towns and cities. The rural areas, in general, offer the educated nothing to read, and little reason to write.

Furthermore, the transfer of wealth from rural to urban environments and the transition of, farmers from subsistence to commercial agriculture render the situation complex and disturbing. Other internal and external factors feature in this confusing perspective. Internally, the problem may be attributed to poor agricultural yields, inefficient farming techniques, unstructured marketing systems and impractical and unbalanced government policies and practices adopted in rural areas. Externally, the economic recession and unfair laws and restrictions on imports and exports complicate the picture.

The educational system, as part of this larger context of economic under-development and stagnation, also features as a state of profound crisis. One symptom is the irrelevance of curricula and teaching methods. Schools rely primarily on how to read and write, although the written word has virtually no place in village life. Many relapse into illiteracy shortly after leaving school. In some cases, emphasis is placed on teaching English from Grade Three or Four, though most teachers themselves cannot speak or read English. What is true for English is equally true for other subjects, which are memorized only to be regurgitated in examinations.

The latter cast a powerful spell over the whole educational system: formal education does meet the short-term needs of various well-to-do and elite groups in society by enabling their children to enrol abroad and gain professional qualifications necessary to find white collar, lucrative and well-paid jobs; but at the same time, it provides a much larger group with illusion that they have only to obtain certain paper qualifications and they will be able to break out from the cycle of penury and insecurity.

But the most serious problem is not found at the level of overall orientations or ideologies. It is squarely a problem of disheartening inefficiency. The UNESCO-UNICEF (1995) survey of primary schools found, for example, pupils' attendance in rural schools considerably low, averaging not more than 50 to 60 per cent throughout the school year. Girls and women, as well as certain ethnic minorities, particularly in hard-to-reach areas, participate only rarely in educational programmes. There is a very high rate of dropout - say, 50 pupils in Grade One, 15 in Grade Two, and six or seven pupils in Grades Three, Four and Five. Most village teachers tend to take on teaching as a second job. About 25 to 30 per cent of them are actually absent on any day. They are often required to

perform non-teaching functions such as participation in national census, household surveys, polling and at times as sub-ordinates or security officers of locally elected village leaders and politicians. They hardly find time to prepare lessons; even trained teachers do not generally seem to use any other method than reading from textbook. School buildings are usually in poor condition, without furniture and any amenities. The only educational materials seen are textbooks. All too often, the school is built in an isolated place far from the village. Most schools are hardly open for number of days, stipulated officially. There is very little community participation in the affairs of the school, except for initial construction of the building. Visits by the district supervisor are few.

This desolate situation of rural schools is mirrored, in global terms, by minimal proportions of educational budgets devoted to rural primary schools and adult education. The teaching of adults, in particular, receives only scant attention and, that too, through non-governmental organizations.

This dismal picture seems, from the very outset, to be disheartening, but at the same time the sheer physical presence of educational institutions and personnel throughout most of the rural areas makes them a unique tool of development. Empirical evidence reveals that an increasing number of villages in a majority of developing countries are now within relatively easy access of a school, and teachers actually live in a significant proportion in villages. There are at least ten to fifteen times as many schools as there are hospitals and health posts, and probably at least ten times as many teachers residing in villages as all other government workers combined. If each of this huge cadre of teachers is given training in only one development skill, surely there could be an immediate impact on rural development.

One might also observe the fact that many development problems are due, in large part, to a lack of attention being paid to development-oriented education. Some of the most serious problems confronting the rural areas at present do not, in fact, require any significant physical inputs, but only awareness amongst the peasants that the problems exist, and a desire to solve them. For instance, if compost pits are made, more of better quality manure could be produced. If latrines are built and used, intestinal problems could be reduced significantly. If orchards and vegetables are planted, nutritional standards could improve. And if for every tree cut down, two are planted, the problem of fuel scarcities and soil erosion could be solved.

Based on these two premises and for the realization of tangible outcomes, base-line research of rural communities is a pre-requisite:

- **What do the rural people learn traditionally, and how?**
- **What knowledge, attitudes and practices exist among the villagers?**
- **What do teachers actually do, and what are they capable of doing?**

- **What is the precise location and number of schools, teachers and pupils in each administrative district?**

Rural Development - The Concept

There is no unique or a universally accepted definition of rural development. In fact, development economists, politicians, educators and anthropologists have their own views depending on the issues which they wish to address and touch upon and as such the concept has given rise to various schools of thought and of development practice since 1950s. The differences of opinion not only reflect special national contexts, but also often a subjective view of what should be the priorities and strategies of development in general. Undoubtedly, the concept is both complex and vast and today it comprises a wide arena of macro- and micro-level approaches that are guided by a variety of objectives and strategies.

The first of these is related to "production-oriented approach" to rural development. Within this approach, the principal goal of rural development is the promotion of agricultural production as it forms the corner-stone for survival of majority of peasants. The underlying premise of this approach is the delivery of modern and more effective packages of inputs and services related to agriculture. Other components of the package include labour-saving devices, chemical fertilizers and pesticides, extended irrigation facilities and provision of agricultural (rural) credit along with warehousing and marketing facilities. The setting up of agricultural extension and training services provides a necessary complement to this strategy of delivering know-how in agriculture from above.

The radical critique argues that the approach pays much too little attention to the 'political economy' of rural and agricultural development. Wherever practiced, the approach has further exacerbated the problems of inequality in an already iniquitous structure of rural society. In addition, the approach relies heavily on the supply and diffusion of innovative factor inputs and technologies, which are often alien to the indigenous agricultural traits. Both the medium and the message in this process entail problems.

The second approach is known to be the "rural development for poverty alleviation*' which relies primarily on mitigating the negative effects on the most vulnerable sections of the rural society and underscores non-economic welfare aspects. These welfare aspects generally include a family's minimum requirements in terms of nutrition, housing and clothing; also included is access to vital services such as provision of safe drinking water, sanitary installations, transport, health and educational provision, and an adequately remunerated job for every person capable and willing to work; and finally, satisfaction of basic needs to include people's participation in decision-making processes concerning their lives, means of subsistence, and personal liberty (International Labour Organization, 1976).

This approach, like the former approach, also entails several criticisms. Operationally, the resulting benefits of rural development hardly reach the rural poor. The failure is in-built and pre-ordained. It creates a political mass of better-off farmers and money-lenders to ward off the eventual mobilization of the more numerous rural poor. Within this approach the rural poor have been cast in the role of recipients rather than active participants. It is also argued that there is frequently a missing link between alleviation of poverty and meeting basic needs, on the one hand, and sustained development, on the other.

The third approach relies on "project-based development". Within this approach, a great many projects generally sponsored by external development agencies are implemented in an isolated fashion in a given rural development area either by the concerned national ministry or non-governmental organization (NGO). As such, they tend to reflect the philosophy, convictions, interests and constraints of their spiritual and financial sponsors. Their number sometimes is so large and varied in scope that it becomes highly difficult to identify visible linkages as most of them are drawn on the wisdom of that time and at the same time found alongside more recent 'new style' projects. All of them aspire to help rural development, yet the approach followed behind each of them may be vastlv different. It is true that integrated rural development projects have a tendency of denying too easily the existence of conflicts and divergent group interests in rural society. They negate conflicts rather than trying to resolve them. Moreover, the approach is ad-hoc in nature. The price, which these projects pay for their survival and even success, is such that they cannot be replicated on a wider scale.

Finally, the approach of "long-term rural transformation" provides the centre-piece rather than the periphery of a nation's development strategy, and long-term rural transformation, not piece-meal improvements, is the principal objective. Within this approach, de-linking the rural areas from the exploitative chain that ties them to the modern urban sector is seen as the very key to overall development. One of the serious shortcomings of this approach is its heavy reliance on top-down bureaucratic planning and administration from the centre of 'delivering' development. Only those few countries, which have put in place non-coercive and un-bureaucratic forms of planning from below with heavy reliance on participation and education, have succeeded in realizing long-term rural transformation. It is perhaps this approach which appears to be the most appropriate one within the context of recent trend in globalization and in a world characterized by massive glut in information and communication technology.

Education and Rural Development - Integration Issues

Integration figures probably one of the most frequently talked about subjects among educational planners, policy-makers and administrators of our time. Till recently, the concept occupied prominent place in educational reform schemes of curriculum design and teaching methods. For instance, educators used to talk of

'integrated' social sciences or natural sciences where disciplines such as economics, geography, political science, chemistry, physics, etc. were closely linked. Certain practical themes such as productive work, community relationships, or the quality of the natural environment, more often than not provided the focal points for such integration. There has been a shift in emphasis during recent years. In a handful of developing countries attempts are now being made in implementing an environment-oriented curriculum, which integrates both natural and social sciences and is reinforced by indoor teaching, outdoor demonstration, and field practice (Khan, Qutub, and Chatterjee, B., 1999). Educators recognise that integration of education, along with other factors, is an essential ingredient of the rural production function and as such should be linked with these factors not only in its contents, but also in quantity, time and space. If these linkages are not perceived and established systematically and coherently, integration is likely to cede 'dis-economies' or decreasing rate of return. In any exercise of integrating education with other socio-economic factors for rural transformation, the following questions need to be probed well in advance:

- **Is the integration of rural development efforts an administrative task that requires structural changes 'from above', or should it be seen as a collective responsibility based on initiative from below?**
- **At what point, in the process of designing, implementing and evaluating rural development projects, should integration enter the picture?**
- **Is integration possible when the objectives of different agencies and of their projects are prima facie not consistent?**
- **How to pursue integration in the face of divergent interest groups, communal power structures and frequent unwillingness to share common information?**

These questions imply that problems of integration need to be examined at different levels, none of which is independent of the others.

For instance, India's experience of early post-independence period in integrated rural development is well documented and widely acclaimed. The pilot project in integrated rural development, one of its kind, took-off in Etawah District of Uttar Pradesh. An outstanding feature of this project was efforts in linking of a multi-purpose extension agent in the village with sectoral specialists up the line in a coordinated team. Another equally innovative feature was the concept of community self-help to overcome commonly defined problems; the government role confined as a catalyst providing limited resources to initiate the development process. This early experience provided the basis for Community Development Movement, which, through the Block Development Office, sought to ensure organizational integration at a point in actual reach of the rural dwellers.

Within the gamut of this initiative, administrative decentralization was often considered as conducive for integration. Experience, however, suggests that what has happened or has been happening under the banner of decentralization is often limited to a delegation of administrative routines, to a mere 'de-centralization' which never transcends inter-departmental jurisdictions. On the other hand, certain impromptu forms of coordination at the district or community level are, at times, generally facilitated by administrative decentralization and by a minimum of autonomy being available to local government officials. Even where a central blueprint promulgates integration at all levels, in reality it does hardly ever occur.

Another critical and vital issue is the "community participation" in rural development. The subject matter has drawn considerable attention of planners and policy-makers and in recent years has become a topic of much discussion, research and experimentation. It is observed that in most systems of rural development, organizational mechanisms for participation of the rural people do, in reality, exist but they do not seem to be deployed effectively. They are often in-operative. Interactions between elected leaders and grass-root memberships are poor. Whether it is the ministry of education, health or agriculture, or other administrative structures of the government, all of them seem to be unsuccessful in winning the interest and participation of the rural people. Sometimes, this is attributed to relative isolation of schools where parents would hardly like to travel a distance which may stretch as long as 10 to 20 kilometers. Community participation in these circumstances remains a somewhat abstract proposition.

Rural development institutions and programmes in general can elicit participation only if they respond to the felt needs of the community. These are best articulated by the people themselves. Yet, the rural people are given little opportunity to participate even on the level of need-identification. Hence, there is often little correspondence and contact between the advice provided and needs expressed by them.

The available evidence on community participation provokes three types of questions:

- **Are the classical participative mechanisms such as cooperatives or agricultural extension effective and appropriate?**
- **Is the call for more active community participation based on a sufficient understanding of socio-cultural patterns, attitudes and behaviour in particular rural milieus?**
- **Can participation be limited to its instrumental value of ensuring a better implementation of development activities that were decided upon at higher levels?**

Questions such as these should not be viewed and responded in isolation, and independently, with each other. They need to be examined in coherence and in an

interrelated manner. If there is some doubt today about the capacity of cooperatives, extension services, or local forms of self-government conceived as part of the community development movement, to mobilize and organize community participation, this may well be due to the inappropriateness of these particular mechanisms in a rural milieu that was ill-prepared from the outset to accommodate them. In many cases, their dual function of extending the outreach of certain government services, on the one hand, and providing a forum for community participation, on the other, may have entailed conflicts.

It is, therefore, necessary to study the social and cultural features of the rural environment in much greater depth, and beyond the immediate, operational requirements of any specific development project. The way in which rural communities traditionally discuss problems of common concern, and reach decisions acceptable to a majority, should be an important aspect of any enquiry on rural development; moreover, the study should not be conducted in isolation, but as part of a comprehensive analysis that considers the rural communities as unique social, cultural and economic identities. This type of analysis must find a middle ground between the superficial project-feasibility study that takes just a few weeks and anthropological research that may extend over years (Cremer, MaximeA. etal. 1984).

Community participation should be geared to the entire process of identifying, planning, implementing and evaluating rural development activities rather than serving as a handy device to mobilize additional resources and seeing projects through the difficulties of implementation. This point, whilst generally conceded in theory, is more often than not lost in practice. The reason is that need-identification and planning of particular projects involve a certain control over allocation of public resources, and that evaluation may raise questions of accountability. Where governments are explicitly or tacitly determined not to share power with the rural population, the broadening of community participation is bound to be a slow process. It is futile, on the other hand, to expect voluntary and committed participation in situations where the people do not identify themselves with rural development activities, or with the institutions set up to implement them.

Education and Rural Development - The Constraints

There are a variety of situations in which rural people learn - some more organized, some more useful and some more rewarding than others. A whole spectrum of educational facilities now characterizes the rural scene. The best-known attempt to structure this diversified field is that of Coombs and Ahmed (1973) - formal, informal and non-formal[2].

Formal education refers to **intentionally organized full-time learning events with regular fixed duration and schedule, structured hierarchically with chronological succession of levels and grades, admission requirements, and**

formal registration, *catering mainly* **to population of 5 to 25 years** *(leading from the primary to tertiary level) which are* **held within established educational institutions,** *and* **using pre-determined pedagogical organization, contents, methods and teaching learning materials.**

Informal learning is generally intentional but unorganized and unstructured **learning events that occur in the family, the work place, and in the daily life of every person, on self-directed, family-directed or socially directed basis.** *In other words, informal learning is a life-long process by which every person acquires and accumulates knowledge, skills, attitudes and insights from daily living experiences at home, at workplace or in social interaction.*

Non-formal education, on the other hand, refers to **intentionally organized learning events catering essentially to persons not currently participating in formal education, which do not fulfil one or more of the underlined conditions above.** *It includes, for example, adult literacy programmes, education programmes for out of school children and youth, occupational skill training, farmers' extension programmes, instruction in family planning methods and many others.*

While these diversified fields of education have gained wide recognition and currency, the distinction between formal and non-formal education is frequently overdrawn. Learning organized outside the school is not necessarily less 'formal' in pedagogical form, in the definition of its contents, in choosing the target groups, or in sponsorship and institutional arrangements. At the same time, informal education is by no means always as intangible and removed from the world of planning as is generally alleged; in the rural context, particularly, organizers of vocational training programmes could learn a great deal from the way in which knowledge of traditional trades are acquired from peers and elders; the informal education accorded by contacts with seed and fertilizer markets, or with the markets and prices for agricultural products may well be one of the most important sources of learning for the peasant farmer. This seemingly elusive field of informal education cannot be ignored.

All this clearly suggests the limitations of drawing distinct demarcations that divide formal education in schools from non-formal and informal education. In fact, these are different but innate structures of the education field. It would be more appropriate and meaningful to consider the diversified educational field as a whole and without prejudice, so as to take stock of its component parts, of their specific features, and of the linkages between them. While following this holistic and integrated approach, one should always bear in mind several questions of an immense practical nature:

- **What, in a given rural area, for instance, are the different institutions and programmes other than the formal school, which have educational and**

training components in the broad sense, and which have actual and potential effects on rural development processes?

- **Up to what extent is the integration between different modes of delivering education services realized?**

Several rural development projects in the developing countries point to the serious lack of coordination among various forms of education, such as, the schools, the community learning and skill training centres, and the national literacy campaigns. This calls for better coordination of these programmes with the educational services organized by the ministries of agriculture, health and social services, e.g. the agricultural extension service, family planning, HIV/AIDS preventive education, and skill training for improved health, hygiene, sanitation, etc.

Then, there is also the problem of vertical integration. It is not uncommon to trace little coordination between education and training programmes directed at the target population of a certain rural development projects, programmes for the operational field staff who have to deliver these projects, and finally, those which are directed at higher level personnel in charge of planning, implementing and evaluating the whole venture.

Problems in integration are not only confined to vertical and horizontal linkages. Integration of education programmes should be seen squarely, both in terms of coherence of time and space. The target groups and individual who participate in these programmes should be veracious in acknowledging the skills and knowledge they have acquired, and on that basis, should design education and training programmes for meeting their felt needs.

It is difficult to postulate in theory the effects of education on rural development. It is equally difficult to demonstrate these effects in practice. These difficulties could be attributed partly to the concept of rural development itself and partly to the strategies through which it can be realized. Chatterjee and Khan (1997) in their study on the impact of non-formal education in rural communities in the Asia-Pacific region suggest: "It is always possible to level the charge that the impact said to have been achieved is attributable, in whole or in part, to causes or factors other than the adult education programmes. Such a charge can never be completely rebutted. Nor is it necessary to do so. What needs to be emphasized, and also to be conclusively proved, is that the adult education programmes do one or more of the following three things: (a) trigger off the impact; (b) sustain and nurture it; and or (c) are primarily responsible for the extent of the impact" (Chatterjee, B. and Khan Qutub 1997).

Further, the quality of education programmes designed for rural areas, as suggested earlier, itself may vary. Undoubtedly, well-conceived and well-executed initiatives do lead to sustainable impacts; but where programmes have lacked commitment or have been haphazardly carried out, hardly any perceptible

gains have been achieved. This argument has to be conceded. Yet, the riposte lies in the argument itself. In order to achieve enduring, demonstrable impacts, education programmes in rural areas need to be executed with:

- **Careful preparation and planning;**
- **Full involvement of NGOs, community leaders, volunteers, officials, parents and participants;**
- **Full cooperation of the community at large;**
- **Constant validation, consolidation and reinforcement at each stage;**
- **Consistent monitoring and evaluation; and**
- **Continuous linking of formal and non-formal education with life improvement skills.**

Education of rural people, more perhaps than any other activity, plays a crucial role in releasing the energy and creativity and enabling them to meet the complex challenges of the world around them. The future of our rural people and their communities rests above all on people and on their potential. For all people are learners throughout their lives. It is widely observed that rural people, quite often than not, are endowed with a plethora of collective and individual experiences as well as abilities. What they need, and must be provided with, is the voice and opportunity to build on experiences, to construct themselves intellectually and physically and to develop both themselves and their communities. The opportunity to learn enriches human life and allows men and women to unleash the forces of creativity and determination that so often lies dormant within them.

Any attempt in measuring the effects of education on rural development should therefore view, first, education as a means for gaining knowledge, transforming attitudes and skill development. Undoubtedly, education renders a person capable of contributing to development in one or more of the following ways: the acquired knowledge in reading and writing enables and stimulates a person to receive and convey messages and information relating to individual and community development; the attitudes imparted may lead to greater motivation to participate in development processes and to motivate others to do the same; the communication skills and group discipline inherent in education may foster a spirit of cooperation. In addition, education generates a variety of skills which individuals can deploy in their day-to-day lives as well for enhancing their earnings.

Impact of education on rural development is also viewed in terms of statistical relationships between the variable 'education' and other economic, social and political variables representing factors which either contribute to rural development or are said to represent development directly. The relationships, at times, are distinctly shown between indicators of social and economic achievements (e.g. improved economic and social status, better housing.

enhanced income) and indicators of modernization (e.g. diversified sources of income and patterns of consumption, increased interest in the education of children, more active participation and involvement in community affairs, etc.).

Formal school systems in developing countries, dissociated from the realities of rural life, have expanded massively and taken up ever-increasing shares of national resources. However, their quality has remained poor and their contribution to rural development often questionable. In fact, there is sufficient evidence to suggest that the type of education which is imparted in primary and secondary schools has often been counter-productive to rural development; it is implicated in the exodus of talent from the rural areas; it orients students towards the small modern sector which is concentrated in the cities and already hard-pressed to absorb the influx of young labour force entrants; its curricula and structures are patterned on traditional approaches and models, and ignore the real learning needs of the rural poor. It has similarly been argued that many non-formal programmes do not more than 'cool out' the aspirations of rural people for upward social and occupational mobility (Khan Qutub (1999) and Block, J.C., and Papagiannis, G.J. 1983).

Some of these assertions are no doubt well founded. What they imply is the need to pin-point those constraints which diminish the potential of education as a dynamic force of rural development. A review of literature highlights a lack of integration as perhaps the principal impediment preventing education from playing a determinant role in rural development. However, the importance of other constraints should not be overlooked at the expense of integration. There are other obstacles which are equally important in many developing countries.

Deeply ingrained power structures and communal divides are the other salient features of rural areas in many developing countries. For those who promote and maintain such structures, as the school system, precisely because of its selectivity, urban bias and irrelevance to rural life, work perfectly well. In the presence of vested interests such as these, it would be an exercise in vain to try and reduce the problems of rural education to the technical dimension of better integration and coordination.

Another well-known barrier is the delivery system of education. Ironically, attempts at integrating rural schools more imaginatively in their environment, have often made the teachers' task more complicated, burdened with an increasing number of extra-curricular tasks. The teachers, as a result, tend to become unmotivated, overworked and increasingly ill-qualified. Absenteeism amongst teachers as well as amongst students runs high.

These, together with other administrative and infra-structural barriers, are some of the critical constraints impinging on the impact and contribution of education in rural development. These hard realities, characterizing the rural education scenario, tend to underscore the point that lack of integration is only

one of the impediments in the way of enhancing education's contribution in rural development.

Several research evidences, taken together, present education's contribution in rural development. The findings of these studies, however, are not confined to formal schooling only but more importantly to non-formal adult learning programmes and activities. For instance, the Four-Nation Impact Study (Chatterjee, B. and Khan, Qutub 1997), based on exclusive field research in India, Nepal, the Philippines and Thailand, is a powerful and positive reinforcement of the view that adult education benefits can be seen, heard, documented and, in many instances, even measured. The study reviews, both in qualitative and quantitative terms, the impact of ongoing programmes of adult education on:

- **Educational practices;**
- **Social and behavioural aspects;**
- **Skill development and economic prospects;**
- **Peoples' participation and communisation;**
- **Health and hygiene**
- **Self-belief; self-confidence and self-esteem;**
- **Gender equity and women's empowerment;**
- **Awareness of larger national and global issues such as preservation of the environment, freedom from religious bigotry, etc.**

Change in Attitudes and Practices

If there is one sphere in which education contributes to most significantly, it is the sphere of change in attitudes and practices. Having attended school not only makes a person aware of what non-formal training programmes are readily available, but also imparts the necessary initiative and self-confidence to register in such programmes. This clearly suggests that there is an important association and linkage between schooling and non-formal learning. Modern agricultural practices, such as soil testing, use of high-yielding varieties of seeds and fertilizers, application of modern farm techniques and methods of pest control, have been adopted by 80 to 100 per cent peasant farmers with some form of formal and/or non-formal schooling. Among the peasant farmers, who neither had formal schooling nor non-formal training, adoption rates are found to be dismally lower. As a sidelight to this, one may also find an important bearing of the level of school education on reinforcing significantly the effect of agricultural extension programmes. However, several studies suggest that new agricultural practices, which education and training programmes seek to convey, must meet several conditions to be acceptable to peasant farmers. They must be 'neutral with respect to scale' so that they can be equally applied and used by all

disregarding the big or small size of their holdings; they should economize not in terms of labour and man-hours but in those factors which are not abundantly available (scarcest in supply) from the viewpoint of the peasant farmers; they should, furthermore, not be so much geared towards increasing average yields but try to reduce risks. In short, they should allow them to maintain and develop their traditional portfolios rather than forcing them into specialized farming of single crop. But the adoption of any new education and training programme and its subsequent success will, to a large extent, depend on peasants' expectations and estimates of economic returns (profits) and viability of the practice as well.

The effects of education are not only in the sphere of adoption of a new agricultural practice. Non-formal education and training programmes tend to generate self-employment wherever the training provided is supported by non-educational follow-up measures. As far as rural credit is concerned, it is sometimes difficult to obtain, yet it is the educated who know how to use the credit opportunities which are available more successfully: the level of schooling and access to credit are found to be significantly correlated.

> **"Where the programmes of adult education have gone beyond the transaction of merely literacy skills, where they have served to enhance productivity as well as knowledge and powers of reasoning, learning and adapting to development requirements, they have had direct repercussions on economic activity. The acquisition of literacy along with elements of skill development enables the worker, the farmer and the wage-earner alike to enhance their earning capacities" (Chatterjee, B. and Khan, Qutub 1997).**

Another effect of education in the area of economic practices is on occupational diversification. Rural areas where adult literacy rates are relatively high tend to offer a variety of options for occupations and correspondingly several avenues for income generation. Generally, the educated adults practise agricultural pursuits together with small commerce, services or an independent profession. These additional activities supplement agriculture as a source of income. Proximity to urban centres and quality of agricultural land do contribute to this diversification of the economic base. However, it should be noted that without education, rural people are less likely to venture into new economic activities.

Effect of education on attitudes and practices related less to economic activities, such as social interaction and communization seem to be a mixed blessing. School education is undoubtedly one of the major mobilizing factors associated with rural migration. The migration of the educated rural poor to lucrative cities and towns depletes the rural communities of their most enterprising and innovative members. This may also be attributed, perhaps to greater extent, to the shortcomings of the rural education system itself. In many

instances, the system of school education is so organized that higher levels of education are only available progressively in larger urban centres. Even more important than this is the content of education offered by the rural schools. Having a centrally prescribed curriculum, the rural schools hardly offer any knowledge and skills concerning agriculture, modes of rural life and its enormous potential of innovativeness and entrepreneurship. Thus, an increasing number of children after schooling tend to opt not to become farmers.

Migration from rural to urban areas has adverse effects on agricultural productivity, yet its positive side effects need to be recognized as well. Most migrants who leave their rural communities contribute significantly to their families by way of sending regular remittances. The return of migrants to their home communities seems to exert a very positive influence. For instance, "the combination of primary school education with experience outside the home region, particularly on commercially operated plantations, seems to increase readiness to absorb innovations"(Bude, U. 1985).

The role of education in rural exodus is partly offset by other more beneficial effects. It helps in improving the communication skills as a result of participation in non-formal adult education programmes and activities. Participants become daily readers, mainly of pamphlets and materials related to farming, while others enjoy writing business or personal letters. Perhaps more importantly, education tends to encourage participation in grass-root level organizations.

Adult learning exerts significant impact on children's education. Children who live in an illiterate environment tend very rapidly to forget what they learn at school and to relapse into illiteracy. By contrast, the incidence of dropping out is less frequent and knowledge is retained longer by those who had the opportunity to read and maintain their acquired store of knowledge. Adult education ensures that each new generation is born of better-educated parents, thereby producina significant improvement from one generation to the next. In general, education of married women generates considerable progress in pre-school abilities of their children as well as improving the efficacy of schooling by reducing absenteeism and dropout rates.

From the viewpoint of attitudinal changes towards the education of children, educated parents strongly demonstrate positive attitude towards education of their children particularly, that of girls. While both neo-literates and illiterates consider that education is necessary for boys and girls, the aspirations as well as the interests they take in the education of their children is found to be much higher among neo-literates.

Adult education programme contributes in a significant way to better enrolment of children in schools. In fact, at every possible occasion they demonstrate and send out clear message to government to provide better access to superior quality of educational services. They actively encourage younger

members to study and are always keen on acquiring more and more education and training.

One of the great strengths of adult education in rural areas has been the involvement of women. More than two-third participants in these programmes are women. These programmes provide, illiterate adult women, who have been denied access to formal schooling with a great opportunity for reading, writing, increasing awareness levels and skill training. Literacy and adult education campaigns actively promote gender equity and seek to empower them as to decision-making about themselves, their families and their communities.

Participation of women in these programmes opens several opportunities for neo-literate women to step out of the household and involve themselves in some enterprise or in a new vocation. For instance, The Dumka Campaign in India clearly demonstrates how adult education could help women take charge of their lives. Within this programme women formed a group called Jaago Behna (Awake Sister) which tries to sensitize women to the need for collective action against social evils. These women have also set up the Didi Bank (Sister Bank) which promotes the habit of thrift and savings. Here women also learn to maintain hand pumps, thereby breaking their dependence for repair on mechanics from outside the village. Adult education programmes contribute to a reduction in expenditure on social gaffes and an increased desire to satisfy genuine social needs.

The effects of education on health and hygiene are indeed most significant. Raising the levels of educational attainment and literacy leads to a demonstrable decline in fertility and infant mortality rates. Enhanced functional literacy levels bring about an attitudinal change towards traditionally entrenched ideas and the desired number of children. Family planning is ineffectual where women are illiterate; but it works well where they can read and write.

While definite conclusions about the role of education in rural development will require a much more solid research base, the available evidences do suggests two final remarks.

The first is a paradox. In the rural areas of most developing countries, education is an extremely poorly delivered public service. On the other hand, its potential for reaching the rural masses is much more enhanced than what is currently realized and is greater than that of most other government networks. It has institutions and personnel within convenient reach of the large majority of rural people and it is the only network whose personnel actually live in the villages they are supposed to serve. From a planning and management point of view, its potential for promoting rural development is unique.

The second remark refers to the need for more systematic reinforcement between formal, non-formal and informal education. Evidence of the beneficial effects of such reinforcement, even where systematic planning and coordination are absent, is undeniable. The strengths of education's role in rural development.

therefore, demand that the various components of the diversified educational field be more purposefully interlinked.

Basic Education[3]: The Need for Linkages

The process of educational diversification has apparently several overlapping dimensions. The most remarkable one consists of diversification in the institutional base: far from being a monopoly of the Ministry of Education, education and training in the rural context come today under an ever-increasing variety of institutional sponsorships. The domain involves not only public and private institutions or modes, but also centralized and decentralized ones, including programmes created entirely by local initiative. What, then, is the meaning of linkages in an institutionally diversified educational setting? Organizational coordination, resource sharing and information exchange - these are the modalities which should be considered seriously in any exercise of linking various forms of learning. School education and literacy programmes could, for instance, do much more to inform learners of the non-formal skill training opportunities which exist; resource persons could be shared between schools, skill training programmes and functional literacy classes much more extensively; where attendance in one kind of programme opens up access to another, learners should be guided to take advantage of this opportunity.

Another dimension of diversification is that of delivery modes. The conventional approach that involves a school building, one teacher per class, a fixed curriculum, and groups of students in full-time attendance is not the only way of delivering education. There are many interesting examples of using distance education in rural areas; there are experimental schools where students learn part of the time at home, with the help of self-study modules; there are special 'learning posts' for school dropouts who may meet in a village house in the evenings to study in small non-formal groups; churches, mosques and temples may be used to provide rural children with an educational foundation. What would be the sense of establishing linkages between such diversified educational delivery modes? Viewed within this context, linkages do not mean to stand for strict mathematical equations. On the contrary, linkages should mean 'mutual recognition'. There is every likelihood that delivery of education, irrespective of the mode followed, may yield negative outcomes when the parity of esteem is absent and/or not fully ensured. Instead of recognizing the advantage of much broader, diversified educational opportunities, there is an unfortunate tendency for each institution or programme to lay sole claim to relevance and quality.

Educational diversification also occurs at the level of contents. Even within the formal school itself, there is a move away from prevailing uniform curricula. While a common core remains, the types of subjects taught, demonstrated, and practised in school vary between urban and rural areas, pastoral and agricultural

regions, hill districts and coastal plains. The diversification of contents goes, of course, much farther as between schools and literacy programmes, or non-formal skill training programmes, although each of these components supposedly forms an integral part of basic education. Not only is the primary school ill suited to teach pre-vocational subjects or practical arts, but the much praised 'functionality' of literacy programmes should not be an excuse for agricultural work or political mobilization carried on in the guise of literacy training. Establishing linkages in the contents of various components of "basic education" and skill training offered by traditional artisans in rural areas means, in other words, seeking complementarity rather than competition.

Fitting the Task to the Needs

An attempt is made herein to draw some important lessons for planning, research and policy formulation in education for rural development. Evidently, the first lesson is that for education to play a more active and positive role in rural development, research and planning must move much closer together. Planners of educational programmes, formal and non-formal, cannot deny and refute the usefulness and importance of research altogether, but, as the available evidence suggests, do not usually consider it as an integral part of the whole planning process. Similarly, researchers generally bear in mind the planners' concerns, but do not actively enough find out ways and means to test and modify their hypotheses by putting them into practice. The traditional lines of divide and control between research, planning, design of projects, implementation and evaluation still continue to dominate and are seen as inviolable.

Many unresolved problems concerning the role of education in rural development require research and planning to interact more imaginatively. This renewed approach should dovetail every action and put earlier premises into question by generating new knowledge which, in turn, gives rise to revision and re-planning. Strict compartmentalization between planning and research issues should be fully discouraged and avoided. They are part of one and the same challenge.

The first issue, as discussed earlier, relates to rural development. Within this context, research on rural development must not start with any a priori notion of what constitutes rural development and how it is best attained. All conceptual differences are inevitably ideological in nature. In other words, the researchers should endeavour to understand the subjective, complex and often cdnflicting reality which emerges from the rural people's own perception of their lives rather than giving the rural reality a normative sense of direction, or building on policy declarations of what should be.

In terms of research methods, this implies a call for more participatory research. This, in turn, means involvement of the peasantry in spelling out what they consider as development. Research in education should, "therefore.

endeavour to explore what rural people themselves desire in terms of content, goals, and sources of learning. A critical review should be taken at the way in which the 'learning needs', underlying school curricula and certain non-formal programmes, have been determined. In most cases, they infer by well-meaning experts from outside. As a result education provided is dysfunctional or ineffective as regards rural development. Strictly speaking, these findings pronounce a verdict not on the potential of education, but on ill-chosen methods of ascertaining learning needs[4].

The concept of rural development reflects varying shades of meaning attached to it in different countries. Comparative research which correlates, for example, years of schooling with agricultural yields per acre, adoption of family planning, membership of village cooperatives and associations, and similar indicators thought to represent rural development across several countries, ignores these differences.

These conceptual weaknesses of quantitative international comparisons are compounded by problems of data validity, reliability and timeliness. To minimize these, researchers are frequently forced to retreat to very crude levels of measurement. Thus, it is necessary that the quantitative micro-research should be complemented by qualitative research in any attempt to understand precisely the complex notion of rural development.

The participatory element in research needs an organizational mould. Some of the participatory mechanisms designed for rural development, such as rural cooperatives, farmers' credit schemes, etc. have shown alarming and distressing failures in not yielding the desired results. A possible reason might be the rigidity to and extremely high degree of centralization and sectoralization in the delivery system for rural development. Decentralization in planning and management is, therefore, needed because it facilitates popular participation, greater flexibility, shorter implementation chains, better communication, etc.

The issue of decentralization is closely associated with that of inter-sectoral planning. The exuberance and ambiance of sectoral agencies at the village level, each of them limited to one or the other aspects of rural development, tends to discourage popular participation as much or more than the absence of decentralization. A rural development ministry functioning side by side with the classical sectoral ministries is a highly incompatible solution. Equally, inter-sectoral planning for rural development is needed not just at the point of delivery: but throughout the administrative echelons and especially at the national level.

The varying notions of rural development, as observed earlier, have led to disarray and problems in integration of the delivery system for rural development. The issue of integration, in recent years, continues to elude educational researchers and has caused considerable anxiety. What makes for integration, and what upsets it, follows no easy formula. It is, therefore, necessary that the concept of integration should be studied not in the abstract, but

as a concrete process, as the forms and conditions which vary from one national context to another.

This suggests, at the same time, a lesson as to the methods of research to be used. If integration can best be understood as a process, it is only natural to resort to action research in studying it. For action research is in itself a learning process. No one can deny the fact that action research is far more meaningful and fruitful than desk-research or empirical studies based on pre-decided or fixed research design in dealing with problems of integration in rural development. The high costs associated with, action research are more than warranted by the ability to trace the integration problems and development impact of innovative educational projects, and modify their design in the process.

Integrated rural development projects should be designed and planned as learning processes. The choice of project activities, their mix and timing, are to occur in an open-ended and tentative planning sequence; organizational structures may change as the rural people gradually take interest and assume responsibility; the borderline between the project and its environment should not be rigidly defined; in fact, a significant part of the project activities and resources may be devoted to understanding the rural world outside the project itself.

As regards the research on the impact of education on rural development is concerned, it should not expect simple answers. This can entail a long list of topics of equal importance. Simple answers are not possible as the notion of 'effects' is itself a complex one.

First, there is a need to distinguish clearly the effects on the individual need and effects on the community, or on the rural sector at large. In no case, attempts should be made to draw inferences and generalizations for aggregate effects merely on the basis of summation of individual effects. This may be misleading and may certainly turn out to be far from reality. Another consideration is the time horizon as it may yield different outcomes depending on the short-, medium- or long-term nature of a given education programme. It would also be useful to examine not only the intended effects but also the un-intentional ones.

Multivariate analysis is the most commonly used statistical device to assess the effects of education. It has both its strengths and weaknesses and hence should be carefully used. Much research should be carried out to acquire a better understanding as to how certain types of education attain or fail to attain their learning objectives, and eventually produce effects on rural development. The agenda for research in education for rural development is not a simple one; it is long and complicated. Nevertheless, the following questions need to be adequately probed and answered:

- **Can it be shown that programmes in which learning needs and programme contents are decided through a participatory approach retain learners more effectively?**

- Can the difficulties of certain adult education and/or literacy programmes be blamed, in part, on the wrong balance between teaching of literacy and numeracy, on the one hand, and functional literacy, skill know-how and income-generation activities, on the other?
- Can the non-attractiveness of certain non-formal skill-training programmes be attributed to over-emphasis on the skill component at the expense of attitude building and transmission of knowledge?
- Are rural primary schools which teach agriculture through a science-based approach more successful than others which use vocational training approach for the same purpose?

In summary, a lot of ground needs to be covered in developing planning methods appropriate to evolving broader educational reality in rural areas. There are two preliminary steps of particular importance. First, planners should assist the rural population, group by group, in articulating their learning needs. Secondly, information needs to be gathered and exchanged so as to make the variety of available educational opportunities which are more transparent, and better suited to what the rural people want to learn.

For educational planners groomed in the technical aspects of plan formulation at the central level, these tasks imply a significant change in outlook. The evidence suggests that education 'planned' in conventional ways tends to be dysfunctional to rural development. There is need in planning today to take a fresh look at the social and political question of how learning needs can best be determined and met, and to break away from the bureaucratic routine of internalizing, manipulating and transforming information into quantitative plan targets.

Notes

1. The choice and presentation of the facts and the opinions, expressed therein, are the responsibility of the author and do not necessarily reflect the views of UNESCO and do not commit the Organization
2. A Maze of terms of definitions has been used in recent years to describe courses which have no face-to-face contact between instructor and leaner in a group setting: correspondence education, correspondence study, home study, independent study, external studies, distance education and teaching at a distance. These forms of studies now occupy an important place in the context of education in rural and hard-to reach remote areas (particularly at secondary and post-secondary levels of education); they do not form an integral part of the current discourse and need to be examined at lengths.
3. The term 'basic education' is used here more widely and hence is not limited to primary schooling alone. It includes early childhood care and pre-school education; the primary school; literacy programmes for youth and adult along with the necessary reinforcement through post-literacy activities; and non-formal skill training programmes in so far as they are geared to basic economic activities and welfare problems in the immediate environment of the learner. See. Ahmed, Manzoor, (1985)

"Planning Issues in Basic Education: Need for Testing a New Paradigm", in Educational Planning in the Context of Current Development Problems-II, *Paris, HEP* and *Framework for Action,* Education for A11, Jomtien 1990.

4. Coombs draws attention to the "serious imbalances and lack of integration between agronomic research and related social science research, both at the level of formulating national policies and plans and at the level of formulating national policies and plans at the level of farmers". Using the field observations of the International Council for Educational Development and Carl Eicher's research (1970), he points to the curious fact that "biological research in African agriculture is now located in Africa. Most of the related social science research.... is still carried on by itinerant scholars from western Europe and North America..." (Coombs and Ahmed, 1974). Coombs (1985) also emphasizes the importance of creating research capabilities as one of the special needs of developing countries. It is not merely a question of transferring technology (see also Sen, A.K. 1998) from developed to developing countries "by flooding them with short-term technical assistance experts" since "many of the technologies have proved inappropriate at the receiving end".

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Learning Outcomes and School Cost-Effectiveness in Mexico: The PARE Program*

Gladys Lopez Acevedo**

Abstract

The past research findings indicated that most of the differences in student learning were due to socio-economic factors and therefore, the effect of direct educational interventions to reduce learning inequality was very limited. However, this study shows that learning achievement could increase through appropriately designed and reasonably well-implemented interventions, particularly in rural and indigenous schools. Aside from increasing the student's cognitive achievements while at school, the PARE program seems to increase the probability that the student will continue in school. In areas where its design was fully implemented, PARE was able to increase test scores of the average student to a considerable percentage.

Introduction

To closely understand the qualitative dimension of basic education, it is necessary to analyze student learning outcomes and school effectiveness. What factors influence them? How responsive is student learning to these factors? What impact can learning improvement interventions have? Questions such as these are in focus.

Empirical studies of student learning achievement in Mexico being scarce, interest regarding its determinants and the impact of interventions to improve it is increasing. In January 1995, the Ministry of Education presented the Programa de Desarrollo Educativo 1995-2000 (PED), which contains a series of targets and general guidelines in order to improve the coverage, efficiency and equity of

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the Mexican educational system. In fact, the PED recognizes the importance of research and evaluation in its strategy to improve quality of education. In view of this policy, the Ministry of Education has collected databases that can be useful for this purpose. These include Carrera Magisterial, PARE, and TIMSS (Third International Mathematics and Science Study) databases among others.

Due to data constraints, a comprehensive and in-depth analysis of th? learning achievement issues in Mexico may not be possible. The analysis, therefore, should be regarded as an exploratory one. However, though there has been very little study in Mexico that examined this issue, there are many international studies that looked at this question. An excellent summary of this literature can be found in Fuller and Clarke (1994), and Hanushek (1995).

The early studies on learning outcomes showed that the student's socio-economic and cultural background predominantly determines differences in test scores. These led to the conclusion that there was little that government can do by way of direct educational policy and government interventions to improve learning outcomes. More recent results and experience, however, indicate that school factors do matter and that they can play a more critical role than previously thought. Moreover, "education production function" studies indicate that the magnitude of production inputs varies substantially. Some inputs have larger marginal effects than others do and, in some places, the effects of some of the factors are not statistically significantly different from zero, while in others the same factors have shown substantial impact.

Table 1 summarizes the various educational inputs that have been empirically analyzed, the number of studies reviewed and the "confirmation percentage" for each of the inputs. Confirmation percentage is defined as the proportion of the reviewed studies showing positive and significant relationship between the specific input and test scores. At the primary level, it is clear that class instructional time, school library, textbooks, and class frequency of homework have the highest confirmation rates at 73.1 - 88.9 per cent. On the other hand, teacher's salary level and teacher pupil ratio have the lowest confirmation rates at 36.4 and 34.6 per cent. More recent studies also tend to stress the effectiveness of improving of physical facilities. Relating the cost of these inputs to their marginal effects on test scores, available estimates further show that in fact textbooks and other educational materials along with improvement of physical facilities have much higher cost-effectiveness than increased teacher salary, years of experience and teacher pupil ratio.

TABLE 1

Confirmation Percentages of Various Educational Inputs Sorted by Direct Importance to Teacher Utility

	Number of Studies	*Positive and Significant Relation*	*Confirmation Percentage*
Primary Schools			
Teacher's salary level	11	4	36.4
School teacher pupil ratio	26	9	34.6
Teacher's years of schooling	18	9	50.0
Teacher's experience	23	13	56.5
Class instructional time	17	15	88.2
Class frequently homework	11	9	81.8
School library	18	16	88.9
School textbooks	26	19	73.1
Secondary Schools			
Teacher's salary level	11	2	18.2
School teacher pupil ratio	22	2	9.1
Teacher's experience	12	1	8.3
Class instructional time	16	12	75.0
School textbooks 13	7	53.8	

Source: Fuller and Clarke (1994).

Several lessons might be drawn from these studies. First, given the above-mentioned differential effects, it is not surprising that differences in aggregate education budget do not appear to have a tight association with learning outcomes. It all depends on how budgets are allocated and used. Second, in the absence of local information about the relative effectiveness of inputs, improving availability of text books, workbooks, educational materials, school library, and physical facilities would be a prudent choice over other inputs such as increasing teacher student ratio, teacher salary, and experience - especially if schools have a shortage of the previous type of inputs. Nevertheless, in view of the findings that the relative impact and cost of particular inputs depends on the local conditions of schools and their student, it is important to collect local information about the issue.

Beyond the above issues, there is a need to understand the structures and processes needed to establish a motivating and enabling environment to ensure that highly cost-effective inputs and interventions are indeed chosen. It becomes also extremely important to think carefully about the appropriate program design and implementation strategy. Some empirical analyses of learning outcomes based on local data and experience regarding the impact of Programa para Abatir

el Rezago Educativo (PARE) are presented here, in respect of the PARE Program database; the impact of the PARE program on learning and achievement; the cost-effectiveness of the PARE program; and the concluding remarks.

PARE Background

The objective of Programa para Abatir el Rezago Educativo (PARE), (1992¬ 1997) was to assist the Government of Mexico in improving the quality and efficiency of primary education, focusing on four Mexican states (Oaxaca, Guerrero, Chiapas and Hidalgo) with the highest incidence of poverty and low education indicators. This, being of the highest priority within the Government's Education Modernization Program, would be achieved through; (i) reducing the high repetition and dropout rates; (ii) raising the level of cognitive achievement of children; and (iii) strengthening management of the primary education system, including program design and implementation, monitoring and evaluation of the system. The program consisted of giving schools additional resources (components) like libraries, better distribution of textbooks, academic material, training aid to teachers and principals, increased official supervision of teachers and construction and repair of schools.

From its inception, its performance was monitored through statistical comparisons between the target, or *experimental,* **population (schools in the states of Chiapas, Guerrero, Hidalgo and Oaxaca) and a** *control* **group formed by students in comparable schools in the state of Michoacan which falls outside the scope of the program. Special surveys were conducted yearly between 1992 and 1995. In addition, all students were given standardized achievement tests in Spanish and Mathematics. PARE also provided the resources to evaluate the success of this program. To this end, two studies were conducted for two different research institutions. One study was made by the C.E.E. mainly through quantitative variables on school, parents, community, teachers, inputs, supervisors, socio-economic and academic background, and the other by the D.I.E (Departamento de Investigaciones Educativas), through qualitative variables. These databases were developed to evaluate the effects of PARE (Programa para Abatir el Rezago Educativo) on student achievement.**

During the program, several tests on Mathematics and Spanish were applied to the students in three consecutive years, when they were in the fourth, fifth and sixth grades. The scores of these tests give the outcome or output variables and, at the same time, allow us to use a value-added estimation. The C.E.E. staff also evaluated school directives and school characteristics. Students' parents and teachers answered a survey at the same time.

The C.E.E. sample consists of students from 198 schools randomly chosen from four different types of schools: URBAN, RURAL, CONAFE[1] and NATIVE[2] from five different states. The participation of each school type, relative to the total, is shown in Table 2.

TABLE 2
Number of Schools by Type and State, 1992

State	*Urban*	*Rural*	*Native*	*CONAFE*	*Total*
Chiapas	6	13	14	5	38
Guerrero	4	14	12	4	34
Hidalgo	3	11	12	8	34
Oaxaca	7	17	15	12	51
Michoacan	7	15	10	9	41
Total	**27**	**71**	**64**	**44**	**198**

Source: PARE's database.

Impact of the PARE Program on Learning and Achievement

Control and the Experimental Groups

The literature generated by the PARE points toward a mixed conclusion about the impact of the programme.3 This was partly due to incomplete and faulty implementation, especially in urban areas. By design, the program intended to provide a number of simultaneous actions (components), which together would impact on educational outcomes. For pedagogical reasons the total was to be greater than the sum of the parts. The actions were to affect the behaviour of students, parents, teachers, principals and supervisors; they were to provide the target schools with supplies, didactic materials and physical infrastructure. In fact, however, only a sub-set of schools benefited systematically from all actions what will be called from now on components 1358.

To assess the probable impact of the PARE program, consider a number of experiments based on the following question: What would have been the program's historical performance if it had been implemented as envisaged without faults or delays. We construct counterfactual experiments based only on those schools which received all of the main components of the program. Before going into the analysis, it is important to mention that the information available posed important constraints for building a panel data set.

Table 3 shows the distribution of students by school type in the sample. Our analysis will focus on schools located in rural and native communities, the two most disadvantaged groups in the population with the lowest educational attainment, poorest test performance and highest incidence of school desertion.

At the margin, the supplemental actions provided by the program should have the greatest impact amongst this population. Table 4 shows the resulting samples for analysis considering that we concentrate our attention on a sub-set of these schools - those which benefited integrally from the program.

TABLE 3
Distribution of Students by School Type, 1992

	Chiapas	*Guerrero*	*Hidalgo*	*Oaxaca*	*Sub-Total Experi-mental*	*Michoacan: Control*	*Total*
Urban	398	107	257	357	1119	361	1480
Rural	200	**202**	175	239	816	208	1024
Native	197	114	122	259	692	205	897
Community	19	11	29	59	118	27	145
Total	**814**	**434**	**583**	**914**	2745	**801**	3546

Source: PARE's database

TABLE 4
Students Included in the Analysis, 1992

	Native and Rural. With comp. 1358	*Native and Rural. With comp. 1358 and other*	*Sub-total included in the analysis*	*Native and Rural. With some components*	*Urban and Community Schools*	*Sub-total excluded from the analysis*	*Total*
Experimental	585	624	1209	299	1237	1536	2745
Control	0	0	413	0	388	388	801
Total	585	624	1622	299	1625	1924	3546
Of which: Native			769				
Rural			853				

Source: PARE's database.

We measure performance by the students' score obtained in the tests applied at the beginning of the 4th grade - before the program began - and at the conclusion of the 6th grade, when the program was already in its third year of implementation. The tests were designed and applied by the *Direccion General*

de Evaluation **(DGE) of the** *Secretaria de Educacion.* **Notice that in the opinion of both the DGE and the CEE, which conducted the impact evaluation of the program, the Spanish test provides a superior metric. Students' performance in mathematics was very low.**

Measured by their scores in Spanish, the performance of students in the experimental group of schools is significantly better both in the rural and the native sub-samples. As shown in Table 5, **before the program, students in native schools in the experimental group were markedly disadvantaged with respect to their peers in the control group. The program eliminated this difference. Students in rural schools were undifferentiated before the program; with the program, those in the experimental group showed significantly higher scores. The percentage change in performance is, on average, three times as large for students in the experimental group. However, in urban areas a retrocession in student's performance was observed probably because bad implementation or wrong components.**

TABLE 5
Student's Change in Performance, 1994

	Before (1992)		*After (1994)*		*Difference*	
	Students	*Average test score*	*Students*	*Average test score*	*Total*	*Percentage*
Native						
Experimental	564	14.6	356	29.1	13.9	95.3
Control	205	23.2	125	26.8	4.1	17.2
Total - t/test	769	16.9	481	28.5	11.4	67.3
Rural						
Experimental	645	20.7	421	32.9	11.6	56.0
Control	208	20.1	128	29.7	8.2	40.6
Total - t/test	853	20.5	549	32.1	10.8	52.5
Urban						
Experimental	337	26.9	238	39.7	12.0	44.5
Control	361	26.9	221	44.3	15.9	59.3
Total-t/test	698	26.9	459	41.9	13.9	516

Source: Own calculations based on PARE's database.
Note: Difference respect to control group.

Regression analysis of the impact of the PARE program on learning and achievement

The results of the impact of the PARE intervention on students' scores controlling for supply and demand indicators are shown in Tables 6 through 8.

The indicators, constructed through principal components analysis, include:

- **Family's cultural capital: index based on parents' schooling, reading habits, television and radio programs listened, and number of books at home;**
- **Teacher performance: index based on teacher's attendance and other practices;**
- **Quality of school director: variables indicating favourable school conditions for teaching and learning, such as qualification of principal, his knowledge update, and the distribution of students in the classroom.**
- **Supervision quality: a composite indicator based on frequency of supervisor visits, duration, occupations of people interviewed, and themes discussed; and**
- **Parents' participation: a measure of parents' attitudes to teachers' attendance, participation in school activities, and relevance of parents' school association.**

Table 6 shows a simple ordinary linear square model that captures only about 6% of the variance in the difference of scores (between 4th and 6th grades) amongst students in rural schools and 12% amongst students in native schools. No doubt this reflects an inadequate specification of the model, be it in its functional form or inclusion of relevant explanatory factors. To the extent that the measured test scores fail to capture the true level of performance in the sample, much of the influence of variables such as parental background, the quality of teaching, etc. is lost in the model. The point to note, however, is that, even so, the explanatory variables behave as expected.4 More importantly, the coefficient of the experimental variable is large and significant. The PARE program has a large positive impact on student achievement in this counterfactual experiment by all means in the scenarios and specifications.

The impact is larger for the native schools, a result that is consistent with the orientation of the program. As reported in Table 6, the marginal contribution of each explanatory variable is measured in terms of standard deviations of the dependent variable; i.e., of the percentage change in performance between 4th and 6th grades. This is in order to control for possible demand driven effects and hence simplify the analysis. For the average student at native schools, attendance at a school fully served by the program would, on average, increase the percentage change by 25%. The comparable percentage change for students attending rural schools is half as large. The variables of school "supply" (the performance of teachers, principals and supervisors) are partly an *outcome* of the

program. Thus, the program, at its *maximum* effect estimated with the results of Table 6, could increase the performance of the average student by one-half of the standard deviation of the percentage change in test scores for the respective sub-sample.

TABLE 6
Student's Change in Performance, 1992 and 1994

	Native		*Rural*	
	Beta coefficient	*t-value*	*Beta ' coefficient*	*t-value*
Control	0.245348	4.698a	0.11465	2.695a
Teacher's performance 6th grade	-0.002794	-0.060	0.074814	1.691c
Teacher' Performance 5th grade	-0.004594	-0.102	0.107404	2.485a
Director's Quality	0.171017	3.709a	0.138362	3.040a
Supervision Quality	0.121867	2.302b	0.013111	0.283
Parents' Participation	0.072675	1.565c	-0.133568	-3.048a
Child's Past Academic Record	0.043542	0.984	0.061537	1.441d
R2-adjusted		0.12097		0.06234
F		10.437a		6.205a
N	480		548	
Student's self-esteem at 5* grade	-0.088019	-2.032b	-0.044318	-1.039
Availability and quality of urban infrastructure	-0.166759	-3.120a	0.006836	0.153
Memorandum item:				
Maximum total contribution of PARE programme	0.530844		0.448341	

a- Significant at the 1% level or more; b- Significant at the 5% level or more
c- Significant at the 10% level or more; d- Significant at the 20% level or more
Dependent variable: Difference in normalized test scores between 4th and 6''' grade
Source: Own calculations based on PARE's database.

It should be noted that the variables measuring the characteristics of students, parents, school personnel and facilities are all numerical indices constructed by C.E.E. analysts. Some indices aggregate answers to as many as a dozen questions in the original survey. The model in Table 6 is a simple, parsimonious representation. In particular, it could be argued that if the characteristics of the demand (family and community background, parental attitude towards and involvement in schooling, academic history, self-esteem, etc.) were adequately measured, the additional effect of the PARE program would be smaller, even insignificant. Alternatively, if the characteristics of the supply (teachers, principals and supervisors background, performance, attitudes, assiduity, pay,

etc., as well characteristics of the school infrastructure and availability of textbooks, supplies, etc.) were captured more precisely, the impact of the program could be larger. The data allows us to do better than the simple model of Table 6; and to make use of the available information without introducing damaging, multicollinearity in the results we constructed two sets of principal (orthogonal) components measuring respectively the characteristics of the demand and supply of schooling.

Table 7 shows the results of the model built on this more complex structure captured through the two principal components. *The results are very similar to those of Table 6. In fact, the impact of the program is greater and more significant. The factor capturing the conditions of supply is also significant and large, especially in the case of schools serving native communities.*

An objection may be raised, nonetheless, about the measure of performance. What if small differences in test score are very imperfect measures of relative capabilities and/or achievements? To try to get around this issue, we perform a final experiment on the test scores. We stratify the samples in two sub-samples each: those of students with performance above and below their respective medians. These results are shown in Table 8. Once again the estimates are consistent. The program has a positive and significant impact, and especially so for the native population.

TABLE 7
Student's Change in Performance, 1994

	Native		*Rural*	
	Beta coefficient	*t-value*	*Beta coefficient*	*t-value*
Control	0.273609	6.210a	0.127214	3.000a
Factor-Characteristics of community and family	-0009075	-0.205	-0.161033	-3.815a
Factor - Characteristics of school and system	0.201875	4.664a	0.074449	1.754c
R2-adjusted		0.12376		0.035
F		23.599a		7.713a
N	480		548	
Memorandum item:				
Maximum total contribution of PARE programme	0.475484		0.201663	

a- Significant at the 1% level or more; b- Significant at the 5% level or more
c- Significant at the 10% level or more; d- Significant at the 20% level or more
Dependent variable: Difference in normalized test scores between 4th and 6th grade
Source: Own calculations based on PARE's database.

TABLE 8
Student's Change in Performance, 1994
Dependent Variable: Probability of Testing Above the Median in 6th Grade

	Co-efficient	*Std. Error*	*Statistic*	*Prob.*
Native Schools				
Constant	-0.991	0.217	-4.572	0.0%
Control	1.272	0.246	5.162	0.0%
Factor-Characteristics of community and family	0.054	0.103	0.528	59.8%
Factor-Characteristics of school and system	0.630	0.104	6.056	0.0%
N		481		
Log likelihood		-295.562		
F-statistic	15.024			0.0%
Chi-square	60.095			0.0%
Obs with Dep=l	237			
Obs with Dep=0	244			
Ex-ante probability	49%			
Estimated probability (at means)	49%			
Estimated probability with PARE (control)	27%			
PARE contribution - percentage gain probability		45%		
Rural Schools				
Constant	-0.396	0.183	-2.161	3.1%
Control	0.495	0.209	2.372	1.8%
Factor - Characteristics of community and family	-0.233	0.086	-2.713	0.7%
Factor - Characteristics of school and system	0.107	0.083	1.279	20.1%
N		549		
Log likelihood		-374073		
F-statistic	3.112			1.5%
Chi-square	12.448			1.4%
Obs with Dep=l	271			
Obs with Dep=0	278			
Ex-ante probability	49%			
Estimated probability (at means)	49%			
Estimated probability without PARE (control)	40%			
PARE contribution - percentage gain . probability		19%		

Source: Own calculations.

TABLE 8(a)
Probability of Being in School in the 6<" Grade, 1994
(Being at School in the 4th Grade)

	Co-efficient	*Std. Error*	*Statistic*	*Prob.*
Native Schools				
Constant	0.499	0.148	3.379	0.001
Control	0.115	0.174	0.660	0.510
Factor-Characteristics of community and family	0.125	0.078	1.599	0.110
Factor-Characteristics of school and system	-0.067	0.076	-0.876	0.381
N	769			
Log likelihood	-500.106			
F-statistic	15.597			0.000
Chi-square	62.386			0.000
Obs withDep=l	493			
Obs with Dep=0	276			
Ex-ante probability	64%			
Estimated probability (at means)	64%			
Estimated probability with PARE (control)	62%			
PARE contribution - percentage gain probability		3%		
Rural Schools				
Constant	0.496	0.144	3.441	0.1%
Control	0.271	0.168	1.613	10.7%
Factor - Characteristics of community and family	0.184	0.076	2.419	1.6%
Factor - Characteristics of school and system	0.121	0.075	1.617	10.6%
N	825			
Log likelihood	-519.618			
F-statistic	23.752			0.0%
Chi-square	95.010			0.0%
Obs with Dep=l	549			
Obs with Dep=0	276			
Ex-ante probability	67%			
Estimated probability (at means)	67%			
Estimated probability without PARE (control)	62%			
PARE contribution - percentage gain probability		7%		

Source: Own calculations.

Table 9 summarizes the results on test scores. The PARE program - when adequate and fully implemented - could cause an increase in performance for the average student in the range of 19 to 38% amongst rural students. For native students, the percentage change could be much larger, anywhere from 45 to 90%. If consideration is taken of the factors affecting supply, such as the performance of teachers, principals and supervisors, on the plausible assumption that this performance is in part a product of the program, the total impact could be even larger.

TABLE 9
Marginal Contribution of Belonging to the Experimental Group, 1994

		Mean of Dependent		*Estimated Coefficient*	*Marginal Contribution*
	Group	*Variable*	*Unit*	*Experimental*	*Experimental*
Table 6	Rural	10.778	Gain in scores	4.043	0.375
	Native	11.356	Gain in scores	9.998	0.880
Table 7	Rural	10.778	Gain in scores	3.644	0.338
	Native	11.356	Gain in scores	10.259	0.903
Table 8	Rural	0.494	Probability	0.495	0.190
	Native	0.493	Probability	1.272	0.450
Table 8a	Rural	0.670	Probability	0.271	0.070
	Native	0.640	Probability	0.115	0.030

Source: Own calculations.
Note: For Tables 6 and 7, the percentage gained to the mean. For Table 8, the percentage gained to the initial probability of success, estimated at the means of the independent variables.

Aside from increasing the student's cognitive achievements while at school the PARE program also increases the probability that the student will continue in school. **The two outcomes are probably linked: children who perform better are more motivated to continue and their parents may be more inclined to allow them to continue in school. This is clearly the case for rural students, as shown in Table 10. The probability of school desertion is 20% lower amongst students supported by the program, and the effect is just as large for the broader group of students who benefited from only a partial application of the program.** *Surprisingly, however, the result does not seem to hold for the native population.* **One-third of the native students who received the full program from 4th grade onward abandoned the** *school before completing* **the 6th grade. Their probability of desertion was 12%** *greater* **than that of the comparable control group.**

This result deserves more analysis. An intriguing possibility is that high-achieving students in native communities move to rural schools where they are immersed in a Spanish-speaking environment. On the other hand, a multivariate analysis (controlling for "supply" and "demand" variables) of the probability that the student was in school in the 6*h grade (given that she had been at school in the 4* grade) indicates that the program had a positive impact on both rural and native schools, (see Table 8a). The percentage change in probability is small, however, and specially so for the native population (a mere 3 per cent increase).

TABLE 10
Desertion Percentage of Students Who Quit School by the End of the 6*h Grade, 1994

	*Complete Programme**		*Partial Programme*	
	Native	*Rural*	*Native*	*Rural*
Experimental	32.9%	28.4%	36.2%	31.1%
Control	29.4%	35.7%	36.0%	38.5%
Difference	11.7%	-20.5%	0.7%	-19.2%
N	698	809	841	1006

Source: Own calculations based on PARE's database.
*** Students in school that received all PARE components simultaneously.**

Due to the lack of adequate and sufficient number of instruments, we could not sort out the intriguing findings posed by the sign or significance of some of the variables. No doubt, in all the models the experimental variable was significant and positive.

Cost-effectiveness of the PARE Program

Costs in the PARE program

It is very difficult to estimate the true costs of the PARE program. The program, financed by CONAFE, is not independent of actions taken by SEP in its usual activities of funding and supervising basic education, as explained earlier. It could be, for example, that teachers in a school benefiting from the PARE program become more motivated and assiduous simply because they perceive the threat (or reward) of closer supervision by the educational authorities. The costs of the PARE program, as reported by the C.E.E. are shown in Table 11. Expenditure on native schools was nearly 60% higher compared to rural schools and 786% higher in respect of urban schools.5 The largest cost items were

infrastructure and materials. Expenditure on teacher training and wage incentives accounted for less than 14 % of total spending.

As shown in Tables 11 and 12, the PARE program increased the average per pupil cost of education by 38% in native schools, by 24% in rural schools and by 4 % in urban schools. A simple comparison between the percentage change in average test scores and the cost of the supplementary pedagogical actions under the PARE program - for the sub-set of schools that received all of the actions and implemented them accordingly - suggests that the program was well implemented for the native population. Here, we observe a 42% in average scores versus the 38% increase in cost, an elasticity of 11% (Table 13). *However, the ratio is negative for the rural and urban population; the increase in cost is greater than the percentage change in performance.* **In particular, for urban areas the elasticity was - 445%, which may imply that the implementation of the PARE program was bad in this sector of the population.6**

TABLE 11
Per pupil Expenditure, 1994

	*All Schools**	*PARE***			*Cost Increase*		
		Native	*Rural*	*Urban*	*Native*	*Rural*	*Urban*
Chiapas	1983	605.7	338.1	210.7	30.5%	17.0%	10.6%
Guerrero	2253	749.1	764.2	62.8	33.2%	33.9%	2.8%
Hidalgo	2143	1127	636.8	51.0	52.6%	29.7%	2.4%
Oaxaca	1770	624.1	229.7	23.8	35.3%	13.0%	1.3%
Average	2037	776.4	492.2	87.1	38.1%	24.2%	4.3%

Source: PARE's database.
* Unit cost for primary schools in native communities, SEP.
*• See Table 12.

Instead of using the observed outcomes as reported in Table 13, we could use the simulated outcomes as reported in Table 9. The results are better. Considering the *maximum* **estimated impact for the native population (a** *maximum* **percentage change in performance of 90% estimated in Table 6) the benefit/cost elasticity is 137:100. The equivalent ratio for the rural population (with a maximum change in performance of 38% estimated in Table 7) is 58:100.**

TABLE 12
Per Pupil Costs PARE Program, 1994

	Bilingual Text	*Library*	*Store*	*Training*	*Infra-structure*	*Supplementary Compensation to Teachers*	*Audiovisual Equipment and Material*	*School Supervision*	*School Materials*	*Total*
Per pupil expenditure - Indigenous Schools										
Chiapas	21.5	3.5	2.0	45.6	215.2	0.0	111.3	47.0	159.5	605.7
Guerrero	20.2	3.2	4.1	50.1	282.1	45.8	101.1	103.2	139.4	749.1
Hidalgo	25.2	7.4	3.3	62.0	635.2	123.4	78.3	82.3	109.8	1126.7
Oaxaca	9.2	4.6	3.5	50.3	279.7	52.8	139.3	29.2	55.6	624.1
Average cost	19.0	4.7	3.2	52.0	353.1	55.5	107.5	65.4	116.1	776.4
Per pupil expenditure - Rural Schools										
Chiapas	0.0	7.3	3.2	32.7	32.6	21.2	136.4	39.4	65.4	338.1
Guerrero	0.0	4.8	6.4	40.8	333.0	4.0	97.9	139.9	137.5	764.2
Hidalgo	0.0	10.6	4.1	58.7	302.4	16.8	93.6	62.4	88.2	636.8
Oaxaca	0.0	6.1	4.4	42.9	0.0	0.0	94.2	46.5	35.7	229.7
Average cost	0.0	7.2	4.5	43.8	167.0	10.5	105.5	72.1	81.7	492.2
Per pupil expenditure - Urban Schools										
Chiapas	0.0	5.0	4.0	48.1	0.0	0.0	-	20.1	133.5	210.7
Guerrero	0.0	1.6	1.0	27.3	0.0	0.0	-	9.8	23.1	62.8
Hidalgo	0.0	1.4	0.6	28.3	0.0	0.0	-	13.4	7.3	51.0
Oaxaca	0.0	0.8	0.3	16.4	0.0	0.0	-	5.8	0.6	23.8
Average cost	0.0	2.2	1.5	30.0	0.0	0.0	-	12.3	41.1	87.1

TABLE 13
P A R E Program: Cost Elasticity, 1994

	Average gain in test score					
	Experimental	*Control*	*Difference*	*Percentage gain**	*Increase in cost***	*Ratio*
Native	13.9025	4.1	9.8	42.3%	38.11%	11.02%
Rural	11.5746	8.2	3.4	17.0%	24.16%	-29.67%
Urban	11.9755	15.9	-4.0	-14.7%	4.27%	-445.00%

Source: Own calculations.
* With respect to base year - control group; see Table 5; ** See Tables 11 and 12.

Cost-effectiveness estimates in the PARE program

The previous analysis looks at the impact of PARE interventions as it was implemented on average, without limiting the assessment to cases where the program was fully implemented as envisioned. Specifically, the present analysis seeks to directly relate the monetary value of the PARE assistance actually received by schools regardless of the amount originally planned for them.

As explained earlier, ordinary least squares regression was initially used to estimate the relationship. *However, the results show a "perverse" negative relationship between PARE expenditure per student and learning outcomes, strongly indicating that schools that were lagging behind in learning achievement were systematically being targeted for more assistance.* Consequently, a two-stage least squares methodology was used, where the monetary value of PARE assistance per student was modelled as a function of school characteristics and a dummy variable for being in the experimental group or not. This dummy variable is used to identify the learning achievement equation.

The results, which are presented in Table 14, reveal that on average PARE assistance has had a significant positive effect on learning outcome in Spanish. Moreover, they show significant positive fixed effects for the quality of school management, supervision and teachers. The surprising result is that parental participation has a significant negative coefficient. Considering the importance that education reformers attached to this factor, further analysis is called for by this unexpected finding. A possible explanation for this "perverse" finding is that the disadvantaged schools are forced to mobilize parents for additional resources. Or, it might be that when children perform badly, their parents take a more proactive role in student learning.

participation has a significant negative coefficient. Considering the importance that education reformers attached to this factor, further analysis is called for by this unexpected finding. A possible explanation for this "perverse" finding is that the disadvantaged schools are forced to mobilize parents for additional resources. Or, it might be that when children perform badly, their parents take a more proactive role in student learning.

The elasticity estimates appear reasonable. There are several things worth noting here. First, a 10 per cent improvement in staff performance and quality as well as the family's cultural capital is associated with about one to two per cent increase in test score. Second, a ten per cent increase in per student expenditure that is devoted to finance to PARE program activities would likely raise Spanish learning achievement by about 3.3 per cent. This is roughly half the above-mentioned full implementation cost-effectiveness estimate of PARE. Third, being in rural area reduces learning achievement by 31 per cent. If a student is in a rural and native school, his score is about 75 per cent less than that of others.

Concluding Remarks

Exploratory analysis suggests the following ideas. First, students in rural and native schools are way behind others, at least in Spanish, even when school quality and family's cultural capital are taken into account. Second, this disadvantage could be overcome to some extent by providing those schools with PARE-type assistance, focusing on improvement in physical facilities, books and materials, teacher performance incentive, school management and supervision and teacher training. The cost-effectiveness estimates suggest that, despite their imperfection, a 30 per cent deficit in test score among rural students can be overcome by roughly doubling the amount of resources per student allocated to those schools to finance the above-mentioned activities. On this point, it is plausible to think that less resources would be needed if school improvement programs were implemented more efficiently and fully.

These conclusions need further verification. It is not clear to what extent these results are applicable beyond the five states under study. Furthermore, due to the limited sample of urban schools, separate analysis of urban children could not be done reasonably well. Finally, further analysis of school effectiveness and parental participation is required.

TABLE 14
Determinants of Sixth Grade Spanish Test Score: PARE, 1994

	Co-efficient	*t-value*	*Mean*	*Std. Dev.*	*Elasticity*	*Average Spending Elasticity*
Child's part Academic Record	-0.6850	'-1.6850	70.8100	19.6400	-0.3470	
Per student cost of PARE assistance	0.0055	2.0810	165.9700	364.3400	0.0320	0.0000185
Score in 4[th] Grade	0.2518	9.9160	22.6800	11.5000	0.2000	
Family's Cultural Capital	0.1052	3.9550	53.5900	18.2300	0.1970	
Teacher's performance 5[th] Grade	0.0953	2.3990	51.8600	7.6100	0.1730	
Teacher's Performance 6[th] Grade	0.1266	2.9340	42.8300	5.4200	0.1900	
Director's Quality	0.0928	2.2020	52.2700	7.0500	0.1700	
Supervision Quality	0.0472	2.7690	63.8900	18.3500	0.1050	
Parent's Participation	-0.0626	-2.8090	35.3400	12.2300	-0.0770	
DUMMY for Rural	-8.8827	-9.0870	0.3000	" 0.4600	-0.3110	
DUMMY for Native		-8.8540	0.2600	0.4400	-0.4350	
(Constant)	12.4228					
Adjusted R Squares	23.0799	4.7220				
F		0.2565				
N=2114		67.2897				

Dependent variable: 6[th] Grade Spanish test score
Estimation method: two-stage least squares

Source: Own calculations.

Variables' Definitions

NAME	*DESCRIPTION*	*CONSTRUCTION*	*SCALE*
SCORE IN 6th GRADE	**ESPANOL6:** Scores obtained in the examination of Spanish in 6th grade.	Scores. The examination has six parts, reading comprehension, use of graphics, writing, language interpretation, literature and writing expression. The grade is given by the percentages of correct answers.	0-100
SCORE IN 4th GRADE	**ESPANOL4:** Scores obtained in the examination of Spanish in **4th** grade.	Scores. The examination has six parts, reading comprehension, use of graphics, writing, language interpretation, literature and writing expression. The grade is given by the percentages of correct answers.	0-100
DIFFERENCE IN NORMALIZED TEST SCORES BETWEEN 6* AND 4th GRADE	**DIFESP46:** Difference between test scores obtained in examination of Spanish in **6th** and	Scores.	0-100
FAMILY EDUCATION BACKGROUND	**CCFAM:** Quantitative indicator of family's cultural capital.	Includes average parents' schooling, lecture habits, television and radio programs and number of books in the house.	0-100
FAMILY ECONOMIC BACKGROUND	**NVIDA:** Family's standard of living index.	Housing quality, purchasing power: transportation services and goods, number of household members.	0-100
TEACHER PERFORMANCE (6th grade)	**DESEMP6:** Quantitative indicator of the teacher performance in 6th grade.	Academic considerations in the improvement of quality of education such as school objectives, teacher's practices in evaluation, attendance, etc.	0-100

TEACHER PERFORMANCE (5th grade)	**DESEMP5:** Quantitative indicator of the teacher performance in **6**th grade.	Academic considerations in the improvement of quality of education such as school objectives, teacher's practices in evaluation, attendance, etc.	0-100
DIRECTOR'S QUALITY	**DC_ACA_1:** Quantitative indicator of director's quality.	Favorable conditions for academic activities, teaching and learning processes. Directors' qualifications and actualization. Distribution of students in the classrooms.	0-100
SUPERVISION QUALITY	**CALI_S_1:** Quantitative indicator of supervision's quality.	Includes annual frequency of visits, duration, occupations of interviewed people and themes discussed.	0-100
PARENTS' PARTICIPATION	**APF6:** Quantitative indicator of parents' participation in the school process.	This indicator weighs the attitudes of parents with respect to teachers' attendance, parents' participation in school activities and relevance of parents associations in the school.	0-100
UNIT COST	**Unit cost per pupil**	Presents the fixed unit cost per pupil.	
CHILD'S PART ACADEMIC RECORD	**HIST_ESC:** Index of historical academic record of the student.	Total years in pre-school, total repetition and dropout years.	0-100
DUMMY FOR RURAL	**DUMMYR**	Dummy variable: If DUMMYR = 1 then the observation is of rural areas. DUMMYR = 0 for other cases.	0 & 1
DUMMY FOR NATIVE	**DUMMYI**	Dummy variable: If DUMMYR = 1 then the observation is of native areas. DUMMYR = 0 for other cases.	0 & 1

FACTOR - CHARACTERISTICS OF COMMUNITY AND FAMILY	**FAC1J4**	It is a compound index constructed by principal components method. It includes the characteristics of the demand such as family and community background, parental attitude towards and involvement in schooling, academic history, self-esteem, etc.
FACTOR- CHARACTERISTICS OF SCHOOL AND SYSTEM	**FAC1_15**	It is a compound index constructed by principal components method. It includes the characteristics of the supply such as teachers, principals and supervisors background, performance, attitudes, assiduity, pay, etc., as well as characteristics of the school infrastructure and availability of textbooks, supplies, etc.
STUDENT'S SELF-ESTEEM, 5tli GRADE	**SI MISMO**	Student self-esteem index. Student's perception of his own school performance, of his own goals, of other peoples-opinion, and if he thinks that his success depends on himself.

Notes

1. CONAFE stands for Consejo Nacional de Fomento Educativo.
2. The Native school refers to schools offering services to populations whose mother tongue is not Spanish.
3. The PARE program has generated a voluminous literature produced mainly by the *Direccion General de Evaluacion* of the *Secretaria de Educacion Publico* and by the *Centro de Estudios Educativos A.C* (CEE). The CEE was chosen by the executing agency of the PARE program (the *Consejo Nacional de Fomento Educativo,* CONAFE) to monitor and evaluate the program. Its conclusions were summarised in the document "Determinacion del Impacto del PARE en el Aprovechamiento y la Retencion Escolares," Tercer Informe, Tomo IV. Mexico, D.F., March 1996. After an extensive analysis of the data the report concludes (my translation) on page 21: "... the variable PARE [a dichotomous variable identifying schools which had access to the program] had a significant impact in only two of the estimated equations. They are, first, the equation referring to performance in

mathematics in urban schools of the states' capitals; second, the equation for performance in Spanish in rural schools closer to the states' capitals. ... only for schools in these two sub-samples did students achieve performance levels greater than those in comparable schools which remained outside the PARE program."

4. Three observations may be pertinent. First, for students attending native schools it seems that self-esteem, measured at 5th grade and residence in a community with greater access to public services is *negatively* correlated with performance. One plausible explanation is due to the conflictual character of native education: Students that are positively self-selected may have a greater resentment in attending special schools. Second, and for the same group, while the performance of teachers does not seem to alter significantly the performance of students, the performance of principals and supervisors does. This result may be due to the generally poor quality of teaching in native schools. Finally, it is puzzling to note that, in the rural sub-sample, parental involvement *diminishes* students' performance. One possible reason for this is the possibility that parental involvement increases as the quality of the school diminishes. Parents act only when the problems are large and apparent.
5. The percentages are obtained as follows: the difference in cost increase between native and rural areas (and native and urban areas) is divided by the cost increase in rural (urban) strata.
6. Regression analysis was used to test for this hypothesis controlling for placement effects. The results support the initial hypothesis.

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Quality of Indian Tribal Literacy

Rabindranath Mukhopadhyay*
Sudeshna Ghosh**

Abstract

Primary education, despite its being a crucial variable for the development of human resources of any nation, is yet to receive its due importance in India. This position is explained, using 1991 Census figures, by analyzing the poor quality of literacy in general and more precarious position of tribal literacy in particular in the country. It has been demonstrated with the help of sub-aggregate data that, there is a wide spread divergence across states in literacy both for the general population and the tribal population, between rural and urban areas as also between sexes. Poor accessibility to primary schools and high incidence of child labour have been demonstrated as two factors responsible particularly for the very poor quality of tribal literacy. An attempt is made to demonstrate how to make efficient use of limited resources for the most vulnerable section of the society of the worst performing states.

Introduction

Primary education is one of the crucial explanatory factors for the differences in achievement levels between the matured industrialized nations and the developing countries (World Bank, 1998). The government has always stressed upon the universalisation of primary education since independence. But still more than half (almost 57 per cent) of the Indian population is illiterate according to 1991 Indian Census. It is more alarming for the tribal communities: almost 73 per cent of them are illiterate. There is no denying that the situation demands immediate attention in identifying the most vulnerable sections of the community and make sincere efforts to improve their lot by eradicating the factors responsible. This requires implementation of well-designed plans.

In 1991 maximum concentration of illiteracy (almost 67 per cent) is noticed in Uttar Pradesh and Rajasthan, while Kerala has been able to eradicate illiteracy to the extent of 78 per cent. The level of illiteracy among the rural people has gone down from 81 per cent in 1961 to almost 55 per cent in 1991. In the case of

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urban people, illiteracy is reduced from the level of 53 per cent in 1961 to almost 23 per cent in 1991. Among the tribal communities, maximum illiteracy (83 per cent) is noticed in Andhra Pradesh while minimum (63 per cent) is reported from Maharashtra. Therefore, much of the Indian literacy scenario is bound to gain if attention is given simply to improve the level of literacy among the tribal communities. No doubt, among the different communities, it is the tribal communities that witness maximum incidence of illiteracy. Thus, with limited resources, maximum attention should be concentrated towards eradication of illiteracy among tribal communities. But in the literature, unfortunately not much attention seems to have been drawn to this neglected aspect of Indian literacy. Prakash (1993) refers to the various aspects of rural education in India from a bigger perspective of educational administration but nowhere does it deal with the problems of tribal education in India exclusively.

This study examines the literacy scenario and its quality exclusively for the tribal communities. First, it will compare the current literacy level between the tribal population and the general population. Next, it will explore to identify the influence of the factors likely to be responsible for the low level of literacy for the tribal communities as also for all the communities together. Finally, it will make some policy analysis to identify core areas where attention should be paid immediately in order to improve the quality of primary education for tribal students; consistent with additional resources available for the purpose, however small that may be.

Objectives, Methodology and Database

The first objective is to examine the current quality of Indian tribal literacy. It is. therefore, a cross-section analysis, the period of reference being 1991. For such a purpose, it is necessary to compare the literacy scenario of the tribal community with that of the general community. To make the objective meaningful, it is necessary to make the said comparison at disaggregate levels as far as possible - rural & urban and male & female, separately for both the communities, across states.

The next objective is to identify the crucial factors responsible for poor position of the tribal literacy. Among other things, the present exercise will make an attempt to establish two factors responsible for the current situation: (1) poor or inadequate accessibility of the tribal children to primary schools; and (2) high incidence of child labour within the tribal communities. If the primary schools are located within the habitation, it is easy for the parents to send the kids to the schools; this is particularly so for the rural areas where physical accessibility (mainly roads) is poor. Similarly, if more number of children are sent to wage markets instead of schools, the literacy level is bound to be poor. Therefore, attempts will have to be initiated to eradicate these two factors, as far as possible, to improve the literacy level.

The third and final objective is to suggest some ways so that the task of eradicating these two responsible factors is feasible. None of the above two factors has anything to do with the tribal community in isolation. That means, more primary schools are to be established, particularly in rural areas and parents will have to be motivated to send their wards more to schools instead of to labour markets. This task of motivation becomes easy if it is possible to augment the income levels of the parents through the availability of more income generating activities, particularly in rural areas. Successful implementation of both the tasks requires more resources to be utilized for the purpose. But there are severe constraints on the availability of resources at the command of the government Hence some policy "prescriptions have been designed to do the needful.

Instead of considering all the 26 Indian states and union territories, the present exercise concentrates only on those states which have a concentration of 5 per cent or more of Indian tribal population; there are eight such major states which can together explain almost 84 per cent of the total Indian tribal population. Maximum concentration of tribal population is found to be in Madhya Pradesh (23 per cent) while minimum is reported to be in West Bengal (6 per cent), as per 1991 Census (Table 1; col. 8)

Among these eight major tribal states, when progress in literacy is to be compared between tribal population and general (i.e., tribal + non-tribal) population, first, it is made at the aggregate level (i.e., rural plus urban, both the sexes together); next, the same comparison is repeated at the sub-aggregate level - rural and urban; and finally, more refined comparison is carried out at a further disaggregated level - male and female, separately for total, rural and urban population, each again independently for general and tribal population. For each such comparison, the variable concerned is the literacy rate for the effective population (i.e. population aged seven and above). A person who can both read and write with understanding in any language is said to be a literate. Literacy rate is defined as number of literates above the age of seven as a proportion to population above the age of seven. The necessary population figures, both at aggregate and disaggregate levels, are available from different publications of the Registrar General, Indian Census Operations, 1991.

Accessibility to primary schools is designed to be established as a responsible factor for poor literacy. This is because of the fact that more close the primary schools are to the locality, it is easier for the parents to send the kids to the schools; this is especially for the rural areas where general road conditions are poor. Rao and Kulkarni (1999) have demonstrated, using N C E R T (1997) educational survey data, that relative disparity in access to primary schools is still higher for scheduled caste and scheduled tribe population. Classified information on percentage of people benefited by schools located within habitation and away from habitation, separately for the general population and the tribal population of the rural areas of all the states are made available for the year 1986 by the Fifth

All-India Educational Survey of the NCERT. The literacy position in 1991 is likely to be influenced by the distribution of schools in 1986, since impact of utilization of primary schools on the level of literacy is likely to take a few years time. The closeness of the association between the facility (primary schools) provided and utilized and its influence on the outcome (literacy) has been captured by the Spearman's rank correlation coefficient (Bhattacharyya and Johnson, 1977) between these two attributes. In literacy rates, the states are ranked in a descending order. Regarding location of schools, two classified data are considered: (1) schools within the habitation; and (2) schools more than two kilometers away from the habitation. Therefore, for the same attribute - location of schools, states are ranked in a descending order with respect to first classification and in an ascending order with respect to the second classification. This is because of the fact that more the number of schools within the location is expected to lead to higher level of literacy; whereas more the number of schools away from the location is likely to have no or less impact on literacy; and finally, states with more number of schools within habitation are likely to have less number of schools away from habitation.

Incidence of child labour is designed to be another factor responsible for poor literacy. Childhood is believed to be the ideal time to make them literate. So, at this tender age, if the children are sent to work fields instead of schools, they will grow illiterate and it will have a long run adverse impact on human resource development. Percentages of rural child labourers within the age group jof 5 to 11 years not attending schools have been estimated for both the general population and the tribal population living in rural areas of all the concerned states for the year 1981; the necessary data have been made available from the Social and Cultural Tables of the Census, 1981. The lower the incidence of child labour in 1981, the higher is the expected literacy in 1991. It may be noted that literacy figures have been considered for the population aged seven and above Therefore, children in the age group of 5 to 11 years in the year 1981 will be in the proper age group relevant for counting literates in the year 1991. As usual, the closeness of these two attributes has been captured by the Spearman's coefficient of rank correlation. The states are arranged in a descending order in literacy rates and in an ascending order in child labour not going to schools. This is because of the fact that lesser the incidence of child labour in a state, the higher is its rank in this attribute and simultaneously, the level of literacy is expected to be higher in the concerned state which means, it will get higher rank in literacy ordering.

Factors, other than these two, likely to be responsible for poor literacy (like incidence of illiteracy among the parents, lack of awareness of the parents to make their wards literate, incidence of poverty, etc.) could not be considered for the present exercise due lack of availability of proper data. The most significant omission may be cited as examination of the role of poverty in explaining poor

literacy. An unsuccessful attempt was made to explain the phenomenon with the figures of Head Count Ratio for 1986 (latest year for which the data are available, Dubey and Gangopadhyay, 1998); possibly the year of reference being a distant one, the results turn out to be irrelevant.

Findings

(1) Current Literacy Scenario

It has been noticed that urban literacy is at a relatively much better position compared to its rural counterpart. Decomposition of the literacy data by sex and simple observation of comparison between the respective rural and urban counterparts will also easily lead to the same nature of result. Accordingly, the current analysis will concentrate more on rural literacy than on urban one. As a follow-up, henceforth, urban literacy will not be discussed in as detail as with rural literacy, but for smooth understanding, both urban and rural figures have been reported simultaneously in all the necessary tables.

Total Literacy: **The following observations are noteworthy when comparison between the tribal population and the general population is confined at the aggregate level as shown in Table 1; cols. *2* & 3.**

At the All-India level, literacy rate is much lower for the tribal population (about 30 per cent) compared to that of general population (about 52 per cent). The state of Maharashtra represents the highest level of literacy, both for the general and the tribal population but with a significant gap between the two - about 65 per cent for the former and about 37 per cent for the later; Gujarat is a close second for both the cases. Bihar reports the lowest level of literacy rates for the general population (about 38 per cent; also true for Rajasthan); while for tribal population, Rajasthan is a close second (almost 19 per cent) to minimum literacy rate (about 17 per cent) recorded for Andhra Pradesh.

It thus follows that in literacy, both the groups - general population and tribal population - perform in the same fashion: states which are better are better for both the groups and similarly states which are poor are poor for both the groups. Again both for the better performing states and for the poor performing states, the divergence in the level of performance between the said two groups is substantial: everywhere tribal population is at a much disadvantageous position compared to that of the general population. Both these characteristics are true in general.

Thus, it can be said that (a) there are wide variations across states in the literacy levels both for the general and the tribal population; and (b) tribal population, in general, are substantially much more illiterate both in absolute and relative senses.

Rural Literacy: **The observations that follow from comparison of literacy between general and tribal population located in the rural areas are noted in Table 2; cols. 2 & 3**

TABLE 1
Percentage Distribution of Literacy Rates by Social Groups, by Sex and by Major Tribal States; India; 1991

India/States	*Persons*		*Males*		*Females*		*Tribal Population*
	Tribal	*General*	*Tribal*	*General*	*Tribal*	*General*	*(All India %age)*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
All India	29.60	52.21	40.65	64.13	18.19	39.29	67758380(100.00)
Andhra Pradesh	17.16	44.09	25.25	55.13	8.68	32.72	4199481 (6.2)
Bihar	26.78	38.48	38.40	52.49	14.75	22.89	6616914(9.77)
Gujarat	36.45	61.29	48.25	73.13	24.20	48.64	6161775 (9.09)
Madhya Pradesh	21.54	44.20	32.16	58.42	10.73	28.85	15399034 (22.73)
Maharastra	36.79	64.87	49.09	76.56	24.03	52.32	7318281 (10.80)
Orissa	22.31	49.09	34.44	63.09	10.21	34.68	7032214(10.38)
Rajasthan	19.44	38.55	33.29	54.99	4.42	20.44	5474881 (8.08)
West Bengal	27.28	57.70	40.07	67.81	14.98	46.56	3808760 (5.62)

Source: (1) Census of India (1991), Primary Census Abstract: ST Population; (2) Occasional paper No. 4 of 1993; (3) Census of India (1991), Primary Census Abstract: General population.

More than half of the rural population and about three-fourth of rural tribal people are still illiterate; about 45 per cent and about 27 per cent are the literacy rate figures for the two groups respectively at the all-India level. The maximum literacy is noticed across states, both for the rural population in general and for the rural tribal population in Gujarat (about 53 per cent and 35 per cent respectively) and Maharashtra (about 56 per cent and about 33 per cent respectively). Rajasthan is the worst performing state with about 30 per cent of rural population being literate; while literacy among rural tribal population is minimum for Andhra Pradesh (about 15 per cent).

It thus follows that in case of rural literacy, patterns of performance of the states are same when compared between general population and tribal population i.e., when literacy is high, it is high for both the sections and so for poor performing states. Again, for both the better performing states and the poor performing states, the gap in the literacy level between the general population and the tribal population is substantial.

TABLE 2

Percentage Distribution of Literacy Rates by Social Groups, by Location, by Sex and by Major Tribal States; India; 1991

India/States	Rural						Urban					
	Persons		Males		Females		Persons		Males		Females	
	Tribal	General	Tribal	General	Tribal	General	Tribal	General	Tribal	General	Tribal	General
1	2	3	4	5	6	7	8	9	10	11	12	13
All India	27.38	44.69	38.45	57.87	16.02	20.62	56.60	73.08	66.56	81.09	45.66	64.05
Andhra Pradesh	15.44	35.74	23.26	47.28	7.29	23.92	37.48	66.35	48.18	75.87	25.65	56.41
Bihar	24.80	[illegible]	36.46	48.31	12.78	17.95	52.28	67.89	62.53	77.72	40.98	55.94
Gujarat	35.21	53.09	47.06	66.84	22.96	38.65	50.32	76.54	61.21	84.56	38.42	67.70
Madhya Pradesh	20.33	35.87	30.80	51.04	9.74	19.73	44.68	70.81	56.82	81.32	30.96	58.92
Maharastra	32.67	55.52	45.05	69.74	19.96	40.96	64.58	79.20	75.40	86.41	52.61	70.87
Orissa	21.29	45.46	33.38	60.00	9.30	30.79	40.85	71.99	52.91	81.21	27.73	61.18
Rajasthan	18.20	30.37	31.74	47.64	3.64	11.59	44.50	65.33	62.19	78.50	21.85	50.24
West Bengal	26.95	50.50	39.37	62.05	14.08	38.12	42.53	75.27	52.05	81.19	31.76	68.25

Source: (1) Census of India (1991), Primary Census Abstract: ST Population; (2) Occasional Paper No. 4 of 1993:

Therefore, when rural literacy is compared with total literacy for both the sections of the population, a broad similarity is witnessed in the behaviour across states: there is a broad homogeneity in the pattern of literacy - states where literacy levels are higher, it is true for both total literacy and rural literacy; and this is true for both the general population and the tribal population. Similar is the case for the states where literacy level is low.

Urban Literacy: **Comparative performance of urban literacy between the general community and the tribal community can best be observed from a close look at the figures of the Table 2; cols. 8 & 9. When urban literacy is compared with both rural literacy (Table 2) and total literacy (Table 1), the following opinions emerge:**

The level of literacy for the total population, both in the case of general population and the tribal population, is influenced to a great extent by the urban literacy. Thus, rural literacy for both segments of the population is alarmingly low. Homogeneity in the variation of literacy across states, for both segments of the population, as witnessed in the total literacy and the rural literacy, is not followed by the urban literacy. Thus again, what it follows is that across states variation is to be reduced by improving the level of rural literacy. Maharashtra and Gujarat are the only two states maintaining consistently high level of literacy, separately for rural and urban (and as a consequence for total) segments of both general population and tribal population. Finally, Andhra Pradesh, Bihar and Rajasthan are the three states performing at the bottom level of literacy, almost consistently (Bihar is inconsistent), across both the segments of population, separately for rural and urban population (and as a consequence for total population).

(2) Sex Discrepancy in Literacy

Apart from the rural-urban discrepancy, performance of literacy, if diagnosed along the line of male-female division, will provide further insight towards the identity of the more vulnerable sections of the society. Following the above trend, it will be done separately first for the total population, then for the rural population and finally for the urban population, each time comparing the case of general community with tribal community (Tables 1 & 2).

Total Literacy: General vs. Tribal and Male vs. Female: **(Table 1; cols. 4 to 7): While about 64 per cent of the males of the general community are literate, it is only about 41 per cent for the tribal males; similar figures for the female counterparts are about 39 per cent and only about 18 per cent respectively; this is all-India position for the year 1991. In examining variation across states in male literacy, the maximum and minimum figures observed for the general community are about 77 per cent (Maharashtra) (Gujarat being a close second with 73 per cent) and about 52 per cent (Bihar) (with Rajasthan and Andhra Pradesh as close neighbours with common figure of about 55 per cent); the corresponding figures**

for the tribal males are about 49 per cent (Maharashtra) (with Gujarat being close second with about 48 per cent) and about 25 per cent (Andhra Pradesh) respectively. In case of female literacy, the nature of variation across states is witnessed from the range of maximum value of about 52 per cent (Maharashtra) (Gujarat is a close second with about 49 per cent) and minimum value of about 20 per cent (Rajasthan) (Bihar being a close neighbour with about 23 per cent) for the general community; corresponding figures for the tribal females are maximum about 24 per cent (both Gujarat and Maharashtra) and minimum about only 4 per cent (Rajasthan).

Thus, it is witnessed that in spite of wide variations across states, the following features in general are true: (a) Levels of literacy for the tribal people are much low compared to that of the general population, separately both for male and female; (b) Female illiteracy is much rampant compared to male illiteracy both for the tribal community and the general community; and (c) In the absolute scale, female literacy in the tribal community is simply aweful.

Rural Literacy: General vs. Tribal and Male vs. Female: **(Table 2; cols. 4 to 7): At the all-India level about 58 per cent of males and only about 21 per cent of females are literate within the general community; while corresponding figures for the tribal community are about 38 per cent and about only 16 per cent respectively. As usual there are wide variations across states: while for the general community male literacy varies between about 47 per cent (Andhra Pradesh)(Bihar and Rajasthan being close neighbour with 48 per cent) and about 70 per cent (Maharashtra)(Gujarat being close one with 67 per cent), variation for the female literacy is confined between about 12 per cent (Rajasthan)(Bihar close one with 18 per cent) and about 41 per cent (Maharashtra)(Gujarat being close neighbour with about 39 per cent). In case of tribal population, male literacy varies between minimum of about 23 per cent (Andhra Pradesh) and maximum of about 47 per cent (GujaratXMaharastra, a close follower with about 45 per cent); while the said variation in female literacy is confined between the minimum of about only 4 per cent (Rajasthan) and maximum of about 23 per cent (Gujarat) (Maharashtra being a close neighbour with about 20 per cent).**

Therefore, in case of rural literacy: (a) it is the male literacy which influences total literacy substantially, both for the general and tribal communities; (b) literacy level is in general much higher separately for both these sexes for the general community compared to that of the tribal community; and (c) both in absolute and relative scales, female literacy is much worse than male literacy for both the communities and more so for the tribal community.

Urban Literacy: General vs. Tribal and Male vs. Female: **The analysis of sex disparity in the arena of literacy will be complete after consideration of the urban scenario. From a close observation of the relevant figures (Table 2; cols. 10 to 13), the following points may be highlighted:**

Across states, variation in urban literacy is significantly pronounced for the tribai males as also females. Within the urban locations, literacy is at a much higher level, both for the males and females, among the people of the general communities compared that of the tribal communities. Uniformly, for both the communities, female literacy is at a much lower level compared to that of the males.

Hence, from the analysis of sex disparity in literacy between tribal communities and general communities across states, the following findings are revealed:

Tribal literacy is at a significant lower level compared to general literacy, uniformly for every segment of the population. Across states, variation in literacy is prevalent for all segments of the population for both the communities, uniformly more among females compared to males. Rural literacy is at a much lower level compared to its urban counterpart, both for male and female population of both the communities. Accordingly, across states variation is more prominent within the females than within the males - a feature true for both the communities. Finally every variety of variation across states, i.e., rural variation or urban variation or total variation (which is sum of the previous two) is more influenced by variation among females than that among males - uniformly true for both the communities.

It is now amply established that there exist wide disparities in the level of literacy between the tribal literacy and the general literacy across states both between rural and urban segments and between male and female groups. The immediate task of the present exercise is to demonstrate the possible factors identified as responsible for the poor quality of literacy in general and poor tribal literacy in particular. The next and concluding task is to suggest some policy measures to make an immediate improvement in the quality of tribal literacy.

Explanatory Analysis

Various factors like lack of awareness, illiteracy among the parents, poor infrastructure (both physical and human) facilities, large scale incidence of poverty etc. are usually cited as possible factors making the progress in literacy a retarded one. The present exercise has made an attempt to identify two such factors responsible for poor performance in literacy, particularly tribal literacy.

Infrastructure (Physical): **It does not require any explanation to understand that for increasing the number of students, it will be easier to attend primary schools if the schools are located within the locality or very close to the locality. This facility is particularly more effective for the rural population since localities in rural areas are relatively far stretched from one another compared to their urban counterparts and further, roads and communication are relatively less developed there. Therefore, in the simplest way, it could be said that more the number of schools within the locality, more is the literacy expected, particularly**

in rural areas. Such a behavioural relation is examined in Table 3 which reveals as below:

When the relation is observed at the all-India level, it is noted that the percentage of rural population enjoying the facility of schools within the habitation is relatively less for the tribal population compared to general population; accordingly, literacy rate is also relatively low for the tribal population compared to general population. In the case of variation across states in comparison to all-India position, the present causality relation, in general, is found to be true more specifically for the tribal population than for the general population. However, there are exceptions to such a relation. Relatively more numbers of exceptions are revealed in case of general population. Accordingly, when the causality is examined through the rank correlation coefficient between these two attributes, it is observed that (a) for both the groups of population, the coefficient is positive; and (b) in case of tribal population, it is as high as 0.59, while for the general population it is only 0.26. For the tribal community, the value of rank correlation increases to 0.78 if Rajasthan is excluded and further increases to 1.0 when both Rajasthan and Bihar are excluded. Side by side, when literacy is connected with school facilities located more than two kilometers away from the habitation, the correlation coefficients in both the. cases, as expected, (a) are positive; and (b) as high as 0.83 for the tribal population and 0.69 for the general population'. This means that lesser the number of schools more than two kilometers away from the location, lesser the difficulty faced by the children in attending primary schools and accordingly higher the level of literacy. It is important to note that rank orderings for the two cases are in reverse direction (explained in section 2). Accordingly, the rank correlation coefficients between the level of literacy and the nature of location of the schools will have to be compared judiciously between the two cases.

Therefore, from the above observations it is clear that more schools are necessary to be located within the habitation for the rural people to raise the level of rural literacy; this facility is more vigorously required for the rural tribal people.

Household Behaviour. **A major hindrance to steady progress in literacy, particularly rural literacy, is believed to be the high incidence of child labour. How far this causality is true, is examined through the rank correlation coefficient between child labour not going to schools and the corresponding level of literacy both for the general community and the tribal community inhabited in rural areas of the concerned states. The revealed results (Tables 3 & 4) are discussed below:**

TABLE 3

Percentage Distribution of Persons Benefited with Primary Schools and of Literacy by Social Groups and by Major Tribal States; India (Rural)

	Population benefited with schools (1986)				*Literacy Rates (1991)*	
	Within habitation		*More than 2km away*			
India/States	*Tribal*	*General*	*Tribal*	*General*	*Tribal*	*General*
l	*2*	*3*	*4*	*5*	*6*	*7*
India	72.18	80.38	*5*	1.49	27.38	44.69
Andhra Pradesh	63.63 (7)	93.29(2)	11.3(8)	1.05(5)	15.44(8)	35.74 (6)
Bihar	58.87 (8)	78.53 (7)	3.1(3)	0.79(4)	24.8 (4)	33.83 (7)
Gujarat	95.4 (1)	97.83 (1)	0.67(1)	0.2(1)	35.21 (1)	53.09 (2)
Madhya Pradesh	66.01(6)	81.51(5)	5.3 (6)	2.66 (6)	20.33 (6)	35.87 (5)
Maharashtra	80.52 (2)	92.42 (3)	4.09 (4)	0.66 (3)	32.67 (2)	55.52 (1)
Orissa	66.35 (5)	77.08 (8)	8.12(7)	2.7(7)	21.29(5)	45.46 (4)
Rajasthan	77.97 (3)	86.84 (4)	5.06(5)	3.32 (8)	18.9(7)	30.37 (8)
West Bengal	75.1(4)	79.71(6)	1.86(2)	0.52 (2)	26.95 (3)	50.5 (3)

Sources: (1) Fifth All-India Educational Survey; NCERT; (2) Census (1991) Primary Census Abstract, ST Population; (3) Occasional Paper No. 4, 1993

Note: Values within parenthesis indicate the respective ranking of the states.

TABLE 4

Percentage Distribution of Child Labourers Not Attending Schools and of Literacy by Social Groups and by Major Tribal States; India (Rural)

India/States	*Child Labour Not Attending Schools*		*Literacy Rate*	
	Tribal	*General*	*Tribal*	*General*
1	*2*	*3*	*4*	*5*
India	7.8	*2.9*	27.38	44.69
Andhra Pradesh	8.9 (8)	6.6(1)	15.44 (8)	35.74 (6)
Bihar	4.8 (5)	1.8(6)	24.8 (4)	33.83 (7)
Gujarat	1.9(1)	2.4 (5)	32.67 (1)	53.09 (2)
Madhya Pradesh	8.2 (7)	4.7 (2)	35.21 (6)	35.87 (5)
Maharashtra	4.2 (3)	4-7 (2)	20.33 (2)	55.52 (1)
Orissa	6.8 (6)	3.4 (3)	21.29 (5)	45.46 (4)
Rajasthan	4.3 (4)	3.2 (4)	18.2 (7)	30.37 (8)
West Bengal	2.5 (2)	1 (7)	26.95 (3)	50.5 (3)

Sources: (1) Census (1981) Social & Cultural Tables; (2) Census (1991) Primary Census Abstract, ST Population; (3) Occasional Paper no. 4, 1993.

Note: Figures within parenthesis indicate the respective rank of the states.

The rank correlation coefficients between the said two attributes are found to be -0.04 and 0.83 for the general community and the tribal community respectively; the later value increases to 0.964 when observations of Rajasthan are dropped. This means that even in rural areas for the general communities, the low level of literacy has nothing to do with the incidence of child labour; possibly it is affected by some other non-economic factors. But illiteracy among the tribal communities of the rural areas is due to a large extent of high incidence of child labour. It thus leads to an assertive conclusion that for improvement in rural tribal literacy, incidence of child labour has to be controlled as far as possible and forthwith.

Non-Welfarist Policy Analysis

In the preceding section two factors, among others, have been identified as responsible for the poor quality of rural literacy, in general and tribal literacy, in particular; their roles have also been adequately analysed. It is now thus necessary to suggest some ways to make an improvement in the present situation as early as possible. Two suggestions directly follow from the discussion of the previous section: (a) more schools will have to be started within the localities of the rural tribal communities, if not for the rural non-tribal communities; and (b) suitable arrangements will have to be made so that either more number of child labourers go to primary schools or it is not difficult to motivate the parents to send their wards to schools instead of to wage market. The best way to implement the later one is to make an improvement in the level of earning of the parents; this will be a general fall-out of the overall upliftment of the level of the rural economy. As a specific feature of the programme of literacy improvement, some mechanism of providing some incentive, either in cash or in kind, for some selected section of communities, may be introduced so that the income of the parents are augmented and children are not forced by the parents to go to the labour market when they are more required to go to schools; motivating parents to send their wards to schools will then be relatively easy. To implement both the above mentioned or either of the suggestions, it will be necessary to make additional resource allocation for education by the government; and this may be a difficult task since both the central government and the state governments have severe constraints on their overall budget and as a result allocation for education may not be possible to be increased according to requirement. Therefore, the present exercise demonstrates how to make the best use of limited budgetary allocation for education for the purpose of improvement in rural literacy by making fruitful utilisation of the said two suggestions.

It is, therefore, assumed that both the central and state governments have only a limited capacity to augment the budgetary support for primary education. This additional resource is inadequate for utilisation by the entire population of any single state, not to talk of the entire country. Thus, for best utilization of this

limited amount of additional resources, a few selected segments of population will have to be identified as the target beneficiary groups; this analysis of policy planning will explain the process of identification.

Policy Formulation for the Central Government: **It is suggested that whatever additional resources the central government can allocate for primary education, should not be allowed to get equally divided between all the states. Similarly, the limited additional resources are better not to be utilized by all sections of the population. Thus, the task of selection and identification for the central government is two fold: (1) instead of all the states, only a few selected states will be the beneficiary; and (2) of these selected states, instead of the entire population, only a few selected sections of the population will be the beneficiary. The exercise of identification of the beneficiary states and beneficiary groups of population can be suitably carried out with the help of the following formulation[2]:**

$$K = S\text{—}fi\text{=}yk, \quad \text{where} \quad k, = \text{—}f \quad \text{with} \quad H = Y \text{«},$$

where / is the literacy rate of the *th* state for any specific social group of population, «, is the population of the said group for the *th* state and m is the number of states considered (for the present case *m* is equal to eight). This formulation has to be repeated separately for every concerned social group of population. For every state, four such groups of people are of concern: (a) rural tribal male population; (b) rural tribal female population; (c) rural non-tribal male population; and (d) rural non-tribal female population. Therefore, for every concerned group of population, let /, = -^x1OO be the composite index of group literacy for the *th* state. It will represent respective percentage share of group literacy of the *th* state in the group specific aggregate literacy taking all the eight major tribal states together. Here, for any specific social group, aggregate literacy (which may otherwise may be called as group specific aggregate literacy) is the weighted average of the literacy rates of the concerned states where the weights are the population figures of the respective states, covering all the eight major tribal states together. The utility of this formulation is that lower values of this index will represent precarious positions of the concerned states for the concerned group of population as regards the literacy matters and attract immediate attention of the authority concerned. Thus, when the formulation is repeated over all the concerned groups of population separately, lower values of the index will identify states drawing immediate attention of the government for the specific groups of population. Hence, this mechanism will ensure efficient distribution of limited resources for improvement in literacy.

Policy Formulation for the State Governments: **Here, the concern of the government is to utilize the limited amount of resources for the weakest-in-literacy group of population within its own state. The same formulation can be applied here with minor changes: previously the aggregation was over the states, while here it will be over groups; i.e., the value of *m* here will be 4, since only four groups of population are of concern. The lower values of the index will identify the most vulnerable sections of the population as regards literacy for the concerned state matters; therefore, it is these groups that deserve immediate attention of the concerned state government.**

TABLE 5
All-India Distribution of Social Groups-specific Composite Rural Literacy, Determined by Index I, by States and by Sex; 1991

	Value of Index I			
	Rural Tribal		*Rural Non-Tribal*	
States	*Male*	*Female*	*Male*	*Female*
1	*2*	*3*	*4*	*5*
Andhra Pradesh	4.9	4.37	12.08	13.54
Bihar	12.14	12.23	18.63	12.83
Gujarat	14.74	20.61	8.46	10.87
Madhya Pradesh	23.78	22.04	11.49	9.63
Maharastra	15.57	19.91	16.59	21.74
Orissa	12.04	10.01	7.71	9.28
Rajasthan	9.05	2.87	8.6	2.15
West Bengal	7.78	7.96	16.44	19.96

This analysis of policy approach has been carried out for the current exercise and the results are reported in Tables 5 and 6.

The observations that follow from Table 5 are reported below:

- **For uplifting literacy of the rural tribal male community, Andhra Pradesh deserves top priority, followed by West Bengal and Rajasthan;**
- **In case of bringing improvement in tribal female literacy, it is Rajasthan which draws immediate attention, followed by Andhra Pradesh and West Bengal.**
- **For ushering an improvement in literacy for the rural non-tribal male communities, attention should first go to Orissa followed by Gujarat and Rajasthan; and finally**

- **When it is the turn for demonstrating an improvement in literacy for the rural non-tribal female communities, it is Rajasthan which deserves top priority followed by Orissa and Madhya Pradesh.**

The above observations point out what should be the arrangement of priorities of the central government as far as improvement in rural literacy is concerned.

When it is necessary to arrange priorities for the respective state governments, it is necessary to refer to the observations of the Table 6. There it comes out uniquely and almost unequivocally that whatever limited resources are available at the disposal of the state governments, they should be allocated for improvement in the literacy levels of the rural tribal female communities followed by their male counterparts. Rajasthan is the only State, which has to bear additional responsibility of uplifting literacy of the rural non-tribal female population with almost equal priority.

TABLE 6
All-India Distribution of State-specific Composite Rural Literacy, Determined by Index I, by Social Groups and by Sex; 1991

	Value of Index I			
	Rural Tribal		*Rural Non- Tribal*	
States	*Male*	*Female*	*Male*	*Female*
1	*2*	*3*	*4*	*5*
Andhra Pradesh	2.43	0.67	64.55	32.35
Bihar	2.98	2.96	71.81	22.25
Gujarat	9.24	4.35	55.28	31.13
Madhya Pradesh	12.07	3.67	61.51	22.75
Maharastra	5.23	2.18	58.48	34.11
Orissa	8.6	2.45	57.61	31.34
Rajashan	7.69	7.69	75.38	9.23
West Bengal	2.3	6.39	14.15	77.16

Conclusion

The present exercise has demonstrated, with the support of secondary data, that even after fifty years of Indian independence, distribution of literacy of Indian population is not at all an encouraging one. When this distribution is decomposed in terms of both the administrative states and the social groups, the situation can be described as pretty bad. It has been possible to demonstrate that, among other factors, the following two are responsible for poor quality of tribal literacy: (1) poor distribution of primary schools within the rural tribal habitation; and (2) high incidence of child labour within the rural tribal communities. Three states

viz., Andhra Pradesh, Bihar and Rajasthan have come out as worst performing states in tribal literacy, considering both male and female population. On the other hand, Gujarat and Maharashtra are the only two states, which have consistently performed well in literacy for both the sexes of both tribal and non-tribal communities located in both rural and urban areas. Finally, as a suggestion towards improvement in quality of tribal literacy, with limited amount of resources at the disposal of both the central and the state governments, it is observed that: (1) all the state governments need to take earnest measures to uplift the literacy of the rural tribal female communities if not of any other communities; and (2) as far as rural tribal communities are concerned, the central government should pay special attention to the states of Andhra Pradesh and Rajasthan without any differentiation between sexes.

Notes

1. Unlike the preceding case, the value of correlation coefficient dose not change much when apparently disturbing observations are dropped: for the tribal population, the correlation coefficient is 0.85 excluding Rajasthan only and it is 0.88 when both Rajasthan and Bihar are dropped.
2. For any partitioning of the population into sub-groups with respect to a characteristic say, age, sex, race, region etc., the overall literacy rate can be written as the weighted average of sub-group literacy rates. Thus, if the population is divided into k sub-groups, then $L = \sum_{i=1}^{k} l_i \times \frac{n_i}{n}$

   where L = overall literacy rate, l_i = literacy rate of sub-group i,

   n_i = population size of sub-group i and $\sum_{i=1}^{k} n_i = n$ = overall population size.

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Class Origin-Destination Relationship and Education

B.C.Mehta*
Kranti Kapoor"

Abstract

An attempt is made here to assess the extent to which education policy has succeeded in ensuring inter-generation class mobility. Seven models of societies are characterised by different patterns of relationship between origin class, education and destination class. Two methods are used to test these models. Results show that though there is considerable improvement in education level achieved by almost all classes in India, the upper classes have gained much more than the lower classes. Though class origin is still the dominant factor determining class destination, there is considerable inter-generational mobility made possible by education. There is strong tendency towards class reproduction society with a welcome but relatively weak corrective role of education. The school system in India has a strong class bias too. The education policy will have to shift emphasis from expansion of education to ensuring equal access to quality school and higher education for all sections of the society. This cannot be achieved by leaving education to market forces; governments at all levels have to play a more active role for promoting class neutral educational institutions in order to ensure that the deprived sections get best education so that they do not feel handicapped in the labour market because of illiteracy and low and worthless education. Thus education is hypothesised to mediate between class of origin and class of destination of citizens.

Models of Social Mobility and Role of Education

Poverty eradication and equity considerations require that people from lower social and economic positions move upward to higher social and economic positions. A liberal system should ensure inter-generational upward mobility from the lower classes. In a rigid class society, the class

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structure of the society will reproduce itself from generation to generation. Education also helps in this class reproduction. However, in the modern times, such systems are unsuited not only to the rapid development of the society but also to the interests of the ruling elite. Rapid economic development requires that opportunities for mobility be available to all segments of the society.

Ever since the industrial revolution, upward mobility requires knowledge, scientific temper and skill formation. Education is key to all these. As a consequence, the relationship that the more highly educated and skilled persons generally get better opportunities and earn more income than others has got worldwide acceptance (Fields 1980, WDR 1991: 56-57). The productivity and income raising effect on education is confirmed in case of India bv recent studies by Foster and Rosenzweig (1995 and 1996) and Rosenzweig (1995) '. Thus, education has an important influence on the dynamics of the class structure of the society. Education in general, and university education in particular, gains an overriding importance in determining the future stratification of the society (Bell 1973)[2]. It is because of this fact that all liberal societies try to provide for equal access to education to all segments of population and develop a system which rewards individuals on merit so acquired. Thus, education becomes an instrument for promoting social mobility. The aim is to establish a 'Meritocracy'.

However, in a class society, propelled by the market, the all powerful elite and dominant classes would not permit the establishment of this 'Meritocracy'. They will try to manipulate the education and the labour markets to serve their own purpose. Hence, the society can at best move towards a 'Neo-Liberal society' in which education provides an alternative route to higher positions to all sections of the population.[3] The rigidity of the class system is reduced to some extent.

Even this may be practically impossible. In a stratified society, all sections neither feel need for nor can afford and achieve equally efficient education. It is a well-established fact that social and cultural backgrounds affect the demand for education and educational choices and attainments of children at all stages. (Bourdieu and Passeron 1977, Boudon 1974, p. 83, Bourdieu 1977, pp. 492-93, Jonsson 1987, pp. 229-42, Jonsson 1990, pp. 139-73, Ribar 1993, Manski et al. 1992, Mayer 1994. Buch and Buch 1982, Sivakumar 1982, Thapan 1988, Subrahmanyam 1984, Govinda and Varghese 1992, p. 19, Kapoor 1995 and Kapoor and Mehta 1997 report similar results for India).

A relatively powerful and growing private sector in school education serves the needs of the elite and enables them to gain disproportionate access to university education. The more and better-educated persons get better job opportunities in both sectors i.e. public and private sector. There

is, thus, a strong correspondence between the quality of educational provision and social class structure. The mass of the population, therefore, remains severely disadvantaged (Carnoy and Levin 1985, Camoy 1975, Mangalagiri 1990). Again, in a class society, even after acquiring required education, the weaker sections have to face discrimination in the labour market. Hence, social position can also not be linked monotonously with education. Besides education, innate ability, luck and chance, post-education investment, and above all, class origin count much in social and economic achievement. (Jencks et al. 1972, pp. 181; 1979, Datcher 1982, Corcoran et al. 1992, Hill and Duncan 1987). Evidence to the contrary to the effect that the importance of background factors on occupational attainment is fairly moderate also exists. (Erikson 1987, p. 58; Duncan, Featherman and Duncan 1972, p. 43, Featherman and Hauser 1978, p. 235; Sewell and Hauser 1975)

Thus, more evidence is required to answer the question: Has state intervention in the education market in India made education to act as a 'social-lift' (Sorokin 1927, Thurow 1975) or education still helps class reproduction? Is schooling system as prevailing in India less discriminatory than the labour market and is, thus, a strong equaliser? (Fields 1980a, 1980b; Jonsson 1989) The truth, perhaps, lies somewhere between the two extremes i.e., education mediates between class of origin and class of destination, though only partially. This question assumes significance in the context of the structural changes taking place in India, which would make the emerging labour demand to be more intensive in education and skills. Hence an inappropriate education policy may become an increasingly powerful constraint on economic growth and equity. We, therefore, test the mediating role of education in social transformation by testing the alternative models with Indian data.

The models range from class society models to equal opportunity models (Jonsson 1989). The extreme model of class society is when education does not matter in the labour market, the society is either a 'Low class society' or an 'Aristocracy' in both of which class position is entirely inherited or ascribed. There is no importance of education in achieving social position. Education is not a part of human capital. However, in Aristocracy, people from top classes go in for high education; it adds to their glamour and prestige and also enables them to enjoy life more fully. Education is a pure consumption good. Social mobility is very low.

At the other extreme of class society models is the 'Unequal Opportunity Society' model. Class reproduction in this model is entirely routed through education; there is no direct inheritance or transmission determined by origin. However, education is entirely class based. This is post-industrial class reproduction meritocracy as defined by Blau and

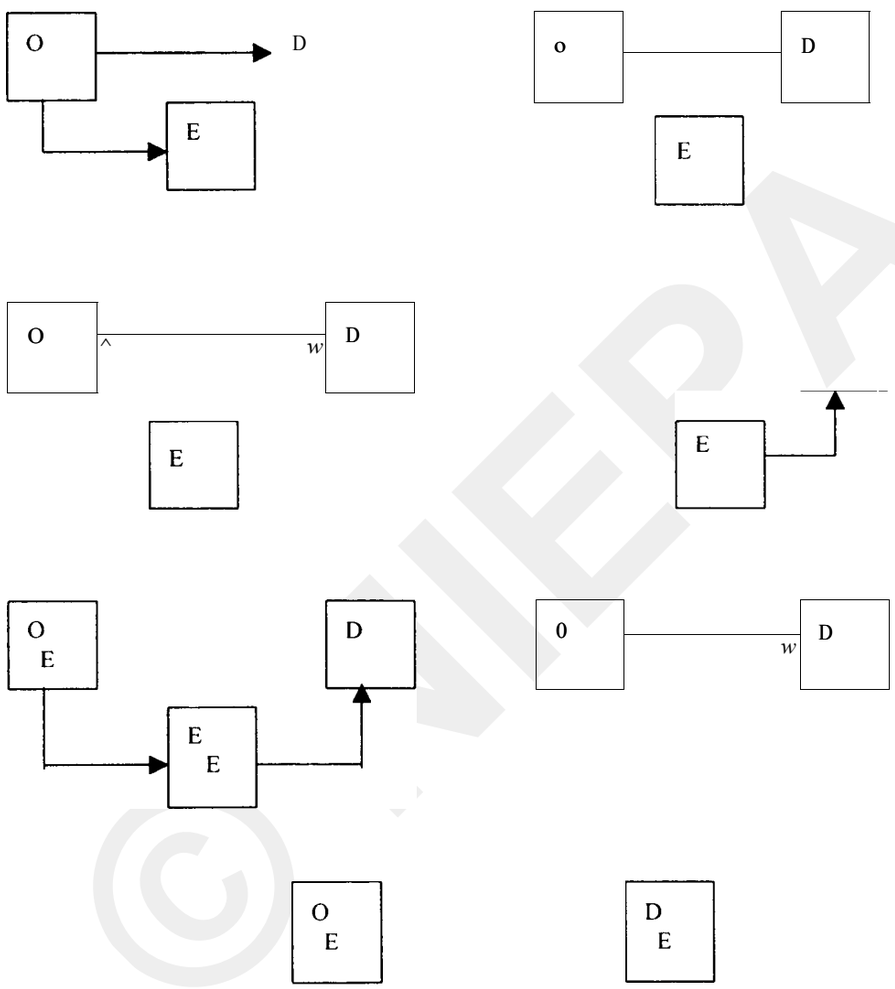
Duncan (1967). Merit is rewarded. But the option of acquisition of merit is not open to all. This model is based on social Darwinism that is on the principle of survival of the fittest. In contrast to this, in the Class Society' model, both direct inheritance of class positions and indirect inheritance through class based education exist. Education makes the class structure more rigid.

All welfare societies try to intervene in this situation and undertake compensatory action in education. In the 'Neo-Liberal Society', importance is accorded both to education and origin in determining class destination of the citizens. While in some occupations like farming, crafts and business, positions are inherited, in many others, they depend on the educational attainments of an individual. This theory justifies inheritance arguing that if one has acquired land, property and business by his own effort, then he has a right to pass it over to the coming generation. But an alternative route to higher positions is also provided to those who have poor inheritance. These persons can develop their abilities by gaining education. They have an equal right to social positions on the strength of these abilities. Education, access to which is universally available, has a strong social-lift effect in an environment otherwise dominated by class structure.

'Meritocracy' is the ideal society, in which both social destination and educational attainment are independent of social origin. Education is the only criterion on which class position depends. For attaining a high position an individual must have excellent educational background. Merit (Education + intelligence + effort) is, here, the stratification criterion (Young 1958). Moreover, every citizen has effective equal opportunities to obtain whatever level, type and quality of education he chooses to have.

The extreme form of an egalitarian society is the 'Equal Opportunity Society'. Society provides equal opportunities to all its citizens irrespective of their caste, ethnicity, parental class, parental cultural grouping, community of residence, religion or any other background characteristic. Individual's inner ability, general skill level and his own effort are the only determining factors. It is a classless society. Differences in education do not matter since there are no substantial educational differences. In this model, class destination and education are uncorrected with class origin.

Following Jonsson (1989, 1993), in these models, presented graphically in flow or path charts in Fig. 1, 'O' denotes social origin (respondent's father's social class when the respondent was about 15 years of age), 'E" level of education of the respondent and D' destination class of the respondent. Arrow shows the direction of the relationship.



"EQUAL OPPORTUNITY SOCIETY"

Figure 1: MODELS OF SOCIETY

Historically, most of the societies start as Low Class societies, developing into Aristocracies, and, in the absence of state intervention in the education and job markets, ending into unequal opportunity societies or pure class reproduction societies. State intervention in education and job markets is essential for transforming a society from the Class Society to a Neo-Liberal Society and ultimately to a Meritocracy. Hence comparison with the two poles - equal opportunity and class society - is necessary to assess the nature and extent of social change.

In India, there are many social groups representing different castes, socio-economic classes and cultural characteristics. Caste, community, parental education and economic status (class) would determine the association between origin, education and destination. However, the focus of our attention here is only on the role of class of origin and education on destination class[4].

In our country, the equity goal is planned to be achieved through highly subsidised education at all levels. There are mainly three types of educational institutions: (1) Government schools, (2) Private Aided Schools, and (3) Private Unaided Schools which are strangely called public schools. Government schools have very low admission, tuition and other fees and charges and are accessible to every one. In some states there is provision of free mid-day meals and free textbooks at the elementary school level. Government schools are neighbourhood schools and, in most cases, they are the only schools in the urban slums and rural areas. The medium of instruction is either national language Hindi or one of India's numerous regional languages. There is very weak parental and community pressure for improvement. Though these schools have produced brilliant students year after year, on an average their products are rated very low. At the other extreme, Private unaided schools are privately managed and privately financed. Fees and other costs are very heavy. They require bussing, costly books, uniforms and equipment. They are mostly situated in exclusive localities in urban areas. They are accessible only to families with high incomes and ambitions. Similar pattern exists at the post-school level. English is invariably the medium of education, parental pressure on quality is high and parental commitment of resources to the achievement of educational goals is total, hence their educational product is perceived to be qualitatively far superior to that of the government schools. Private aided schools fall in between these two extremes. These schools are highly subsidised by government; they are in fact run with government money but are under private management. There is, however, strict government regulation regarding fees, recruitment of teachers, courses taught and books used[5].

Data and Method

The study is based on data collected from a field survey conducted in 1994 in the city of Udaipur in South Rajasthan. The sample comprises all male individuals aged 25 years and above. The sample size is 1913. The origin or background characteristic considered here is father's occupation (class) when the respondent was about 15 years of age. Last class passed and present occupation (class) of the respondent are the relevant destination characteristics.[6]

TABLE 1
Educational Categories

1.	Illiterates	ILL
2.	Primary (literate upto 7th class)	PRIM
3.	Middle (from 8th to 9th class)	MID
4.	Secondary/ High school/ I.T.I., Higher secondary/Pre-university, Technical/Professional Pre-degree Certificate courses and diploma	SEC
5.	General Graduation/Post-Graduation/Ph.D., Technical /Professional Post-Graduation/ Ph.D.	UNIV

Note: The categorisation is based on the last class passed.

TABLE 2
Social (Occupational) Classes and Codes

	Occupational Classes	*Code*
1.	Top Class: Higher grade professionals, officials, administrators, industrialists, and proprietors.	(TOP)
2A.	Petit Bourgeoisie A: Middle level professionals, administrators, officials, businessmen and proprietors with employees	(PB_2)
2B.	Petit Bourgeoisie B: and without employees.	(PB_2)
3.	Non-Manual Workers	(NMW)
4.	Skilled Workers: Technicians, Supervisors, rivers and other skilled manual workers.	(SW)
5	Unskilled Workers: Labourers, small self-employed workers like Thella pullers, servants etc.	(UNSW)
6.	Cultivators: Big and middle level farmers having twenty or more than twenty acres of land.	(CULT)
7.	Small and Marginal Farmers, Agricultural Labourers and Misc.	(SFAGL)

The following classifications of education, class/occupation and caste categories are used. Educational categories are defined on the basis of completed education (last class passed) as given in Table 1. Similarly, eight non-hierarchical occupational classes are defined (Table 2).

The models can be tested in several ways. We use two methods: (1) The Lottery Method, (2) Log-linear Modelling of cell frequencies obtained from cross-classifying respondents by their class of origin (O), education level attained (E) and class of destination (D).[7]

The Lottery Method

Lifetime prospects may be considered to be an outcome of three lotteries:

1. Educational lottery,
2. Entry-level job lottery, given education, and
3. Lifetime vertical mobility chances given entry-level job.

Three transition matrices correspond to these three lotteries:

1. Education lottery: A child education (E) by class/caste origin (O) matrix, (OE),
2. Job lottery: An education (E) - initial destination Occupation (I) matrix, (EI)
3. Vertical mobility lottery: An initial destination Occupation (I) - an eventual class (D) Matrix, (ID)

However, in the event of less than satisfactory promotion data, the last two matrices are combined. The current occupational class is taken to represent the class position of the respondent. Hence, only two flow matrices are prepared: OE and D. From these, two probability matrices are prepared.

The origin to destination probability matrix expected on the basis of the two lotteries is, therefore, given by the compound probability matrix: $OD^{e} = (OE)(ED)$. Comparing this expected matrix $(OD)^{e}$ with the actual flow matrix between origin and destination occupations (OD) would tell us the extent to which inter-generational social mobility (or lack of it) is mediated through education. Chi-square test is used to test how best the estimated matrix predicts the actual matrix.

Log-linear Modelling

In the log-linear model, the interaction between two or all of the multinomial variables - class origin, class destination and education - are studied. The model can be used to describe the interactions by suppressing

one or more of the possible interactions (Bishop, Fienberg & Holland 1975, Knoke and Burke 1980, Jonsson 1993).[8]

For the purpose of this study, the number of educational and occupational (class) categories are reduced to four[9] so that zero and very small cell frequencies and cell totals are avoided since these (small frequencies) may arise because of sampling fluctuations. By reducing the chances of small frequencies, our results are rendered more reliable.

The four educational categories are: Illiterates, Elementary educated (Primary and middle educated), Secondary educated and University degree holders. The four occupational categories are: Top [Including the top class and the Petit bourgeoisie]; the middle class comprising the non-manual employees, the skilled workers and cultivators; the urban working class (Unskilled workers); and the rural working class (small and marginal farmers, agricultural labourers and miscellaneous workers).[10]

For testing the models, we cross-tabulate destination class (D class) by origin class (O class) and destination education (E). There are 64 cells. The frequencies in these cells are noted. Let F_{ijk} be the cell frequency for i^{th} destination class, j^{th} origin class and k^{th} destination education. Natural logarithm of F is taken as the dependent variable. Had there been random distribution of positions, all cell frequencies would have been in proportion to the column and row sub-totals. Obviously, this is not so. The divergence from randomness is to be explained by the three origin and destination factors and their interactions. For this, log linear modelling is attempted. The model is:

$$\text{Log } F_{ijk} = a + b_1 O + b_2 E + b_3 D + b_{12} OE + b_{13} OD + b_{23} ED + b_{123} OED$$

where, i,j,k vary from \ to 4, a is the log of the intercept term and b's are vectors of the estimated parameters for the effects of Class origin, Education and Class destination and their interaction. O, E, D are the matrices of three origin class dummies.

Of the three destination education dummies and three-destination class dummies one dummy each is dropped to avoid multicollinearity to make it possible to estimate with the intercept. OE, OD, ED each represents matrices of 9 cross products of dummies. Their coefficients will represent the effect of the interaction of a combination of two factors at a time.

Thus, there are 64 cell frequencies. However, three of these are found to be zero. These cases are dropped. The total sum of squares (TSS) in the dependent variable (logF) is 1 12.44 for 60 degrees of freedom. Different models are fitted. The explained and error/residual sum of squares (ESS & RSS) is obtained for each of these models. These are given in the upper panel of Table 7.

The Results: Lottery Model

Class Origin and Destination Education - OE The Education Lottery

The chances of obtaining different levels of education by persons of different social origin are given in Table 3A. The very high value of chi-square substantiates the hypothesis that education is basically class based in India". Respondents originating in the Upper classes have relatively brighter chances of getting higher education. Of the persons originating in the TOP class, 78.3 and 20 per cent have been able to complete university and secondary schooling respectively; these percentages in the case of PB,, PB_2 and NMW are 51.7, 33.3; 35.3, 36.8; and 51.7, 36.2 respectively (Table 3A). In contrast, almost half of those originating in rural poor (SFAGL) families are still illiterate. This is also true of 32 per cent of the urban poor class (UNSW)

TABLE 3A
Education Lottery: Class Basis Of Education: OE
(Cell format: count/per cent row/per cent total)

Edul-> Origin	*class*	*ILLIT 1*	*PRIM 2*	*MID 3*	*SEC 4*	*UN IV 5*	*TOTAL*
TOP		0	0	1	12	47	60
		0	0	1.67	20.0	78.33	100
	1	.00	.00	.05	.63	2.46	3.14
PB,		5	6	7	40	62	120
		4.17	5.0	5.83	33.33	51.67	100
	2	.26	.31	.37	2.09	3.25	6.28
PB_2		9	10	18	49	47	133
		6.77	7.52	13.53	36.84	35.33	100
	3	.47	.52	.94	2.57	2.46	6.96
NMW		2	6	17	75	107	207
		0.97	2.90	8.21	36.23	51.69	100
	4	.10	.31	.89	3.93	5.60	10.84
SW		11	20	26	40	23	120
		9.17	16.67	21.67	33.33	19.17	100
	5	.58	1.05	1.36	2.09	1.20	6.28
UNSW		194	112	110	139	49	604
		32.11	18.54	18.21	23.01	8.11	100
	6	10.16	5.86	5.76	7.28	2.57	31.62
CULT		75	35	15	33	54	212
		35.38	16.51	7.08	15.57	25.47	100
	7	3.93	1.83	.79	1.73	2.83	11.10
SFAGL		229	93	40	55	37	454
		50.44	20.48	8.81	12.11	8.15	100
	8	11.99	4.87	2.09	2.88	1.94	23.77
TOTAL		525	282	234	443	426	1910
		27.49	14.76	12.25	23.19	22.30	100.00

CHI-SQUARE= 714.59, D.F. = 28, PROBABILITY = .0000, N=1910

The stages at which the different classes face difficulties in moving to the higher level of education are clear from the transition values at different branching points in the education system. These are given in (Table 3B). The top four classes have no difficulty in moving up to secondary education, nearly everybody is able to make the transitions at the first three branching points. The rural poor are the most handicapped specially in surmounting the illiteracy hump and at the second branching from primary to middle education. The urban unskilled workers are a little less unfortunate. The urban non-manual employees and cultivators have benefited the most from the expansion of education, especially higher education.[12]

TABLE 3B
Transition Rates at Branching Points by Class of Origin

Class	*ILL-PRIM*	*PRIM-MID*	*MID-SEC*	*SEC-UNIV*
TOP	100.0	100.0	98.3	*19.1*
PB,	95.8	94.7	93.6	60.8
PB,	93.2	91.9	84.2	49.0
NMW	99.0	97.1	91.5	58.8
SW	90.8	81.7	70.8	36.5
UNSW	67.9	72.7	63.1	26.1
CULT	64.6	74.5	85.3	62.7
SFAGL	49.6	58.7	69.7	40.2
ALL	72.5	79.6	78.8	49.0

The Labour Market Lottery: Education and Occupation - ED

Table 4 confirms the hypothesis that education of the respondent is highly significant in explaining his class attainment. The chi-square value is very high implying that class position is not independent of education. The university/college educated achieve class positions in TOP, PB and NMW classes whereas the illiterate are exclusively fated to be in the rural and urban proletariat classes. School education is enough for the skilled workers. To be in the TOP class requires a university degree - 92 per cent of respondents in the TOP class have some university degree. The proportion is also high in the case of PB, (48%) and NMW (41%). Education has, thus, a crucial role in the labour market.

Class Origin and Destination

Table 5 describes the chances of respondent inheriting the same occupational stratum as his father or moving out of it. More exactly, the present class position of an individual is related to its class origin. The high

chi-square value shows that the probability of obtaining this value bv chance is very low, thus confirming our hypothesis.

If the three topmost classes are collapsed into one, about 74 per cent of the respondents originating in the composite class are able to retain their advantageous class positions. Probability (0.44) of movement towards higher classes (0.36) as also that of retaining the class position (0.36) is quite high in the case of persons originating in the *non-manual class.*

TABLE 4
Education and Class Attainment
Destination Class by Destination Education
(Cell format: count/per cent: total/per cent: row)

	Class of Destination							
Education	*rop*	*PB,*	*PBi*	*NMW*	*SW*	*UNSW*	*CULT*	*SFAGL*	*Total*
	i	*2*	*3*	*4*	*5*	*6*	*7*	*8*	
	i	9	16	4	30	308	33	124	525
ILLIT 1	.05	.47	.84	.21	1.57	16.12	1.73	6.49	27.47
	.19	1.71	3.05	.76	5.71	58.67	6.29	23.62	
	0	10	30	11	58	141	8	24	282
l'RIM 2	.00	.52	1.57	.58	3.04	7.38	.42	1.26	14.76
	.00	3.55	10.64	3.90	20.57	50.00	2.84	8.51	
	1	14	28	29	65	88	1	8	234
MID 3	.05	.73	1.47	1.52	3.40	4.60	.05	.42	12.24
	.43	5.98	11.97	12.39	27.78	37.61	.43	3.42	
	9	65	77	1 16	90	66	5	15	443
SEC 4	.47	3.40	4.03	6.07	4.71	3.45	.26	.78	23.18
	2.03	14.6	17.38	26.19	20.32	14.90	1.13	3.39	
		7							
	128	89	55	111	23	10	0	1 1	427
UNIV 5	6.70	4.66	2.88	5.81	1.20	.52	.00	.58	22.34
	29.98	20.8	12.88	26.00	5.39	2.34	.00	2.58	
		A							
	139	187	206	271	266	613	47	182	191 1
TOTAL	7.27	9.79	10.78	14.18	13.92	32.08	2.46	9.52	100.00

CHI - SQUARE = 1343.060, D.F. = 28, PROB. = .000E+00, N = 191 1

The probability of self-recruitment immobility is high in *skilled workers* **0.46). There is some downward movement to the unskilled working class (0.17) and some upward mobility to the non-manual class (0.18).** *Unskilled working class* **has also shown a high degree of self-recruitment (0.53) and weak upward mobility toward the higher skilled working class (0.17), non-manual class (0.12) and petit bourgeoisie (0.13). Combining the two working class groups into one class, we find that more than two third of persons originating in the working class are not successful in moving out of their parental class positions. Most of the sons of rural poor (SFAGL) become urban unskilled workers (prob. = 0.47) or remain put (0.26). Thus,**

destinations follow closely origins with some upward mobility across the table.

TABLE 5
Origin Class and Destination Class
(Cell format: count/per cent: total/per cent: row)

		C / *a*			*O f*	*D e s t i n a l i o n*				
Origin	*Cla*	*TOP*	*PB,*	*PB,*	*NMW*	*SW*	*UNSW*	*CULT*	*SFAGL*	*Total*
		1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	
		17	15	13	12	1	0	0	2	60
TOP		.89	.79	.68	.63	.05	.00	.00	.10	3.14
	1	28.33	25.00	21.67	20.00	1.67	.00	.00	3.33	
PB,		20	41	16	20	10	9	0	4	120
	2	1.05	2.15	.84	1.05	.52	.47	.00	.21	6.28
		16.67	34.17	13.33	16.67	8.33	7.50	.00	3.33	
PB,		13	17	79	10	6	3	2	4	134
	3	.68	.89	4.14	.52	.31	.16	.10	.21	7.02
		9.70	12.69	58.96	7.46	4.48	2.24	1.49	2.99	
NMW		33	33	25	74	22	16	0	4	207
	4	1.73	1.73	1.31	3.87	1.15	.84	.00	.21	10.84
		15.94	15.94	12.08	35.75	10.63	7.73	.00	1.93	
SW		7	7	3	22	55	20	0	6	120
	5	.37	.37	.16	1.15	2.88	1.05	.00	.31	6.28
		5.83	5.83	2.50	18.33	45.83	16.67	.00	5.00	
UNSW		12	37	42	72	104	320	1	16	604
	6	.63	1.94	2.20	3.77	5.45	16.75	.05	.84	31.62
		1.99	6.13	6.95	11.92	17.22	52,98	.17	2.65	
CULT		25	18	16	26	24	33	42	28	212
	7	1.31	.94	.84	1.36	1.26	1.73	2.20	1.47	11.10
		11.79	8.49	7.55	12.26	11.32	15.57	19.81	13.21	
SFAG		12	17	13	35	44	212	2	118	453
	8	.63	.89	.68	1.83	2.30	11.10	.10	6.18	23.72
		2.65	3.75	2.87	7.73	9.71	46.80	.44	26.05	
TOTAL		139	185	207	271	266	613	47	182	1910
		7.28	9.69	10.84	14.19	13.93	32.09	2.46	9.53	100.00

CHI-SQUARE = 1530.818, D.F.= 49, PROB. =.000E+00, 3 CASES OUTSIDE LIMITS

Of this mobility, some is caused by the structural changes in the economy as revealed by a comparison of the distributions of sons and fathers as given in the column totals and row totals respectively (Table 5). The proportion in classes TOP and SW has more than doubled and those in CULT and SFAGL drastically reduced from fathers to sons. The proportion of sons as compared to fathers has increased in the other top of the table classes i.e., PB and NMW and is almost stationary in the case of the unskilled working class.

Predicting Class Destination on the Basis of Education: Predicted (OD/ = (OE)(ED)

We multiply the 8x5-probability matrix OE by the 5x8-probability matrix ED, normalise with respect to origin class sub-totals and compute cell frequencies. Chi-square values are then calculated for each class and all classes combined by the formula:

$$X^2 = S(fij - V)^2 / f/$$

where, f_{ij} is the frequency in i^{th} origin and j^{th} destination class. The exponent V stands for the expected frequency from the matrix (OE)(ED).

Table 6A gives the predicted distribution of respondents from different class origins reaching specific class destinations on the basis of education. These have been normalised for origin class sub-totals. Table 6B gives the Chi-Square values so calculated.

TABLE 6A
Predicted Class Distribution of Respondents in Each Class of Origin (Per cent Row)

Origin Class	*TOP*	*PB,*	*PB$_2$*	*NMW*	*SW*	*UNSW*	*CULT*	*SFAGL*	*All*
TOP	23.92	19.45	13.82	25.93	8.68	5.25	0.24	2.76	100
PB,	16.60	16.61	13.87	23.58	11.91	12.45	0.83	4.19	100
PB$_2$	12.11	14.58	13.66	21.63	14.03	17.65	1.19	5.14	100
NMW	16.82	17.20	14.44	24.73	12.53	10.44	0.58	3.30	100
sw	7.40	11.77	12.99	18.21	16.23	25.30	1.67	6.48	100
UNSW	3.24	7.36	9.50	11.08	13.70	39.25	3.35	12.52	100
CULT	8.07	9.05	9.06	12.11	10.47	35.46	3.25	12.55	100
SFAG	2.80	5.31	7.07	6.94	10.54	46.51	4.40	16.42	100
ALL	7.52	9.88	10.34	14.14	12.39	32.33	2.78	10.74	100.13

Chi-Square values (Tables 6A& 6B) reveal that the actual transmission of class positions (Table 5) is significantly different from that warranted by mediation by education (Table 7A). However, it may also be noted that Chi-square value for the actual distribution of O by D is 1530.8 for 49 degrees of freedom which reveals class reproduction whereas the same on the basis of the difference between the actual distribution and predicted distribution (OE)(ED) is much smaller at 759.3 for the same number of degrees of freedom. Chi-square is nearly halved. Hence, nearly equal proportions of class positions are transmitted directly through father's class and respondent's educational achievements. The Indian society is not a meritocracy - class destination does not depend on merit alone.

TABLE 6B
Education Mediation Model Chi-Square Values @

CLASS	*CHI-SQUARE*	*d.f*
TOP	11.7	***1***
PB_1	29.6*	7
PB_2	245.8*	7
NMW	16.1**	7
SW	84.5*	7
UNSW	108.6*	7
CULT	207.2*	7
SFAGL	55.8*	7
ALL	759.3*	49

* significant at 1 per cent level; ** significant at 5 per cent level

@ $x^2 = 2 (fj - V)^2 / v$

Note: Table values of chi-square for 7 degrees of freedom at q and 5 per cent levels are: 18.48 and 14.07; the same for 49 degrees of freedom are:

TABLE 7
Log-linear Models of Interactions Between Social Class of Origin (0), Level of Education (E) and Destination Social Class (D)

MODELS							*TOTAL SUM OF SQUARES= (TSS)*	*R/adj*	*112.44 RSS*	*60 D=(n-1-k)*	*Change in TSS ESS*	*Change indf*
EQUAL OPPORTUNIY	O	E	D					.26/. 13	83.31	51	29.12	9
MERITOCRAY	O	E	D	ED				.62/.45	43.16	42	69.28	18
NEO-L1BERAL	O	E	D	OD	ED			.83/.70	18.58	33	93.86	27
LOW CLASS SOCIETY	O	E	D	OD				50/.29	56.07	42	56.37	18
ARISTOCRACY	O	E	D	OE	OD			.63A33	41.21	33	71.23	27
UNEQUAL ACHIVEMENT	O	E	D	OE	ED			.72/.48	31.98	33	80.46	27
CLASS SOCIETY	O	E	D	OE	ED	D		.94/85	6.71	24	105.73	36

Lower Panel: Relation to Model 4 (Class Society - OE ED OD)

	MODEL		*ASSOCIATION TESTED*	*CHANGE IN RSS*	*CHANGE IN df*
A	MODEL	NEO-L1BERAL	OE	11.87	9
B	MODEL	ARISTOCRACY	ED	34.50	9
C	MODEL	UNEQUAL ACH1EVMENT	OD	25.27	9

The statistical procedure is explained in the text.

TSS = Total sum of squares

RSS = Error or residual sum of squares

df = Degrees of freedom

ESS = Explained sum of squares

O = Class origin (four classes: top+petit bourgeoisie, middle i.e. non-manuals + skilled workers, unskilled working class and agricultural class).

E = Level of education (four categories: illiterates

Elementary, higher secondary and university

D = Destination class position (four classes: as defined for class origin)

It has been shown earlier (Table 3A) that educational achievements are predominantly determined by class origin since the chi-square value of 714.6 is statistically highly significant. Thus, class reproduction is both direct from class origin and indirect through mediation by class-based education. The educational system in India has helped in class reproduction. However, class neutral expansion of education benefiting all sections or subsidisation of the poor has also had some uplifting effect since the chi-square value for origin-education distribution at 714.6 is much smaller than that between education and class destination at 1343.0 for the same degrees of freedom. To this extent, the educational system has at least partly helped in inter-generational upward mobility (figure 2).

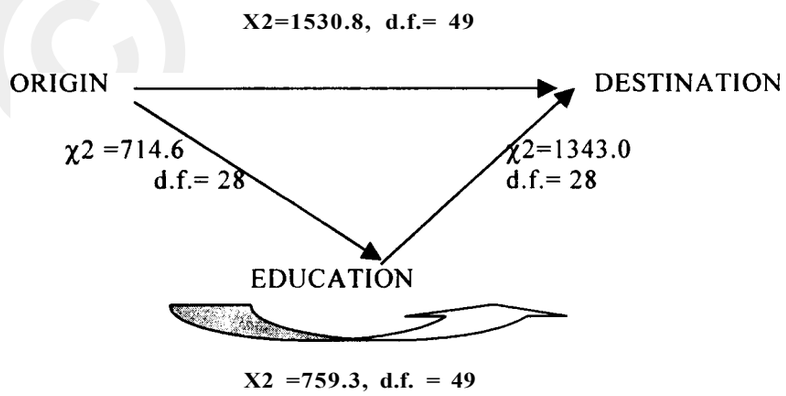


Figure 2: CLASS ORIGIN-DESTINATION PATH DIAGRAM

Taking all these facts into consideration, it may be concluded that about half of class distribution of sons can be explained directly on the basis of class of origin (father's class position) and, of the rest, a large part by class-determined education and a slightly smaller part by class-neutral liberal education. There is, thus, a relatively weak but significant social-lift effect of education.[13]

Considered for each origin class separately, the predicted destination on the basis of education is quite accurate in the case of the TOP class and it is very nearly so in the case of the NMW class (Table 6B). Education has a very strong mediating role in the formation of the top class, prediction on the basis of education for respondents originating in this class being off-the mark for destination to PB_2, SW and UNSW classes. Education does not predict inheritance in PB1 and MNW classes closely, otherwise mediation by education is quite significant in explaining the class destination of persons originating in these classes. About 59 per cent of the persons born in PB_2 class continue to be in the same class despite the fact that on the basis of their education only 13.7 per cent should have done so. This confirms direct inheritance of the class irrespective of education received. Similar remarks hold for the skilled working class (SW). A very large proportion continues to be in the same class as against only 16.2 per cent predicted on the basis of education. On the basis of education about 35.5 per cent of persons born in cultivator families should have been placed in the unskilled working class, however, in realty, only 15.6 happen to be so placed, inheritance and movement towards the Top class being much larger than expected. As some sections of the urban poor have got greater access to education and, most recently, to higher education, a much larger than the reported proportion of the sons born to unskilled worker parentage was expected to have climbed up to the top of the table classes. Thus, education has practically no mediating role in the case of the rural and urban working classes and the second petty bourgeoisie class of small traders and businessmen. Direct transmission of class positions without the mediation of education is more important in these classes.

Results of Log-Linear Modelling

Results are given in Table 7. In the *"Equal Opportunity"* **model, 29.12 for a loss of 9 degrees of freedom reduce the total sum of squares (TSS) in the dependent variable and the fit is not good (Adjusted R^2 is only 0.13). Thus, if occupations were distributed randomly, i.e., distributed across educational levels independent of social origin and across classes independent of the education and origin, we end up leaving 74 per cent of the variance unexplained.**

In *"Meritocracy"* which contains only one interaction between education and destination (ED), the explained variance is 69.28 for a loss of 18 degrees of freedom. Reduction in TSS is by 62 per cent. In other words, TSS is further knocked down by more than 36 percentage points for a loss of 9 degrees of freedom as compared to the first model. However, 38 per cent of the variance is still left unexplained.

The *"Aristocracy"* model is tested with two interactions: between origin and education (OE), and between origin and destination (OD). ESS is 71.23 for a loss of 27degrees of freedom. There is a considerable improvement in the fit (R^2=.63) over the equal opportunity model but the model is poor as compared to Meritocracy model since adjusted R^2 comes down to only 0.33 with a further loss of 9 degrees of freedom.

It may be noted that the *"Low class society"* model does not perform well, adjusted R^2 is only 0.29. Comparing it with other models having education mediation terms, it is established that Indian society can no more be described as a low-level feudal society at least on the basis of the role of education.

The *"Neo-liberal"* model assumes two associations, between class origin and class destination (OD) and between education and class destination (ED). The fit is very good. TSS is reduced by a good 83 per cent and the explained variation has increased to 80.46 for a loss of 27 degrees of freedom. As compared to the Aristocracy model, explained sum of squares (ESS) increased by about 20 percentage points without any further loss of degrees of freedom. The fit is even better than the Meritocracy model, there is gain of 21 percentage points in the explaining power with a further loss of only 9 d.f, with the result that the adjusted R^2 rises from 0.45 to 0.70. The fit is the best so far, still about 17 per cent of the variance is left unexplained by the model.

In the *"Unequal Achievement"* model, the interactions between class origin and education (OE) as well as between education and class destination (ED) are taken into consideration. The explained variation is 80.46 for a loss of 27 degrees of freedom. TSS is reduced by 72 per cent. The fit is, however, worse than in the Neo-liberal model.

The *"Class Society"* model explains three way interactions between class of origin and education (OE), between education and class of destination (ED) and between class of origin and class of destination (OD). ESS is 105.73 out of a TSS equal to 112.44, which is the highest among all the models though 36 degrees of freedom are lost in the process. R^2 adjusted for loss of degrees of freedom is also very high at 0.85. The fit is, therefore, very good. The reduction in TSS is about 94 per cent. Only 6.00 per cent of the variance remains unexplained. Thus the "Class Society" model explains the empirical data best, followed by the "Neo-liberal" model.

Departure From the Class Reproduction Model- (Table 7: Lower Panel)

The *"Class Society"* model describes the empirical data in the very best way. The model includes three interactions. Dropping them one by one can test these three interactions. The change in residual sum of squares (RSS) in relation to the change in degrees of freedom can be interpreted as the explanatory contribution made by each interaction.

The strongest correlation is between education and destination (ED). If we remove this association from the "Class Society Model", 34.50 points of explained sum of squares (ESS) are lost for a gain of 9 degrees of freedom. The next most important association is between origin and destination (OD, Unequal achievement model), followed by that between origin and education (OE, Neo-Liberal model). The result shows highest independent importance of education (achieved status) in determining destination class followed by class origin (directly inherited status). Removing these two associations from the "Class Society model", the remaining association between origin and education (OE) is relatively weaker, though still substantial and statistically highly significant. Therefore, origin also determines education and through it class destination. But the effect is much weaker than the direct effect of education on destination and social inheritance. Thus, reproduction and mobility mediated by education both occur in the society. Education has, thus, substantial class discrimination reducing and social mobility raising effect in India. In a limited sense, education acts as a social-lift.

Conclusions and Lessons

The two sets of results lead us to some significant conclusions with important policy implications.

1. There is considerable improvement in education level achieved by almost all classes in India. To this extent, our education policy has succeeded in its goal. However, the upper classes have gained much more than the lower classes. Origin characteristics still influence the relative education gains made by the population. Education policy has had only limited success in achieving its equity goal.

2. The process of economic and technological development is causing structural changes in the industrial structure and class structure of the society as suggested by Kuznets (1966). Thus, there has been considerable structural mobility of all social classes. However, class origin is still the dominant factor determining class destination.

3. The performance of the "Class Society" model is the best. The existing social inequalities in the society are either inherited directly or

achieved through education which itself is determined, to a considerable extent, by social origin. Education reinforces social reproduction.

4. Neo-Liberal model also supports inheritance, but this presents only one part of the picture. The other part shows that educational attainment independent of social origin also helps in achieving social positions. This process, therefore, helps in inter-generational social mobility and acts as a social-lift.

5. The role of education in transmission of social positions is only partial. The weakest association, though still highly significant, is the one between origin and education, whereas the strongest association is between education and class destination. Hence, the social-lift effect of educational expansion is established by our exercise. However, the effect of origin on destination is also not negligible which is bridged, only to some extent, by education. Moreover, this effect is working in different ways for different social classes. Still the rural and urban working classes have not gained from this process.

6. In both the models - lottery and log-linear - a proportion of the variance remains unexplained. There is considerable mobility independent of the background characteristics - education and origin - considered here. These may be caste, family size, community of residence, effort, intelligence, innate abilities and the like. However, many of these are not independent of class position of parents.

These results point toward the fact that public policies for educational expansion have begun yielding the desired 'social lift' result. However, the school system in India has a strong class bias. The poor, who have gained access to school education because of rapid expansion of highly subsidised education even to the remotest areas, finish getting education which is rated as of poor quality. This puts them at a disadvantage in the labour market. This adds to the already existing discrimination in the labour market. Even with equal qualifications, the first generation school graduates from rural and urban working classes and weaker sections can hardly compete with the English medium educated, highly articulate and resource-backed products of the private unaided and aided schools for admission to technical and professional institutions. And even if admitted, they feel uncomfortable in the alien atmosphere in these institutions. Thus, they do not go much farther in higher education. Their mobility is restricted at most to the next higher class. Hence in order to further strengthen the social-lift effect of education, education policy will have to shift emphasis from expansion of education to ensuring equal access to quality school and higher education for all sections of the society. Establishment of neighbourhood schools, elimination of bussing, making of mother tongue as the medium of instruction, provision of special coaching for first generation students, strengthening infra-

structure in government schools, involvement of **local community in the management** of **schools and preferential admission** to **first generation students to professional and technical education courses and institutions are some** of **the policy changes required. All forms** of **tests for admission** to **courses and job recruitment, which by their very nature are biased against the poorer sections, will have** to **be modified so that they become class neutral. One important lesson** to **learn is that equity in educational access and output cannot** be **achieved by leaving education** to **market forces; governments at all levels have to play** a **more active role for promoting class neutral educational Institutions in order to ensure that the deprived sections get best education so that they** do **not feel handicapped in the labour market because of illiteracy, low and worthless education. The discrimination** in **the labour market against the deprived sections will have** to be **reduced. Failure** to **achieve this will not only pose great danger** to **the democratic set up but also** do **irreparable harm** to **the process** of **socio-economic development** in **the country (Mehta** 1995).

Notes

1. It is assumed here that education is predominantly an investment activity. We are, however, aware of the opinion to the contrary. On the one hand, education, specially higher education is treated to be, in a major part, consumption leading directly to user satisfaction, on the other, it acts merely as a filtering or screening medium of innate abilities of the individuals. In this way education produces credential inflation' or 'defensive expenditure'. See for fuller debate Arrow (1973), Morris (1993), Maglen (1993), Thurow (1975), Tarn and Tang (1998) and Kapoor and Mehta (1997) and Mehta and Kapoor (2001b).
2. Returns to education are U-shaped (Thurow 1996, Poterba 1995). There is sheepskin effect' of obtaining a degree (Foster and Rosenzweig 1995,1996 and Jaeger and Page 1996). These results are confirmed by a study based on our sample (Mehta and Kapoor 2001b).
3. Jonsson (1989,1993) proposed six models except the "Low class society" model and tested these for Sweden. See Kapoor and Mehta (1997) for testing these with Indian Data.
4. Caste is an important social category influencing education and labour market outcomes. In another study, we have used caste as a surrogate of origin class and studied the role of education in determining the class outcomes (Mehta and Kapoor 2001a).
5. National Sample Survey (NSSO 1991) data show that about 89.7 and 58.5 per cent of students study in government schools for their primary school education in rural and urban areas respectively. It is revealing to note that top 10 per cent of the urban families sending their wards to private schools (aided and unaided) spend more than 10.4 and 27.7 times the amounts spent by the top and bottom 10 per cent of rural families sending their wards to government schools. Data for aided and unaided private schools are not available

separately. Thus, private schools cater to relatively better off families (Mehta i996, p.1036).

6. For fuller details of selection of the sample, questionnaires and the field survey, see Kapoor and Mehta (1997).
7. Of course, there are several other methods for testing the reproduction hypothesis or the alternative models. Destination-origin flow matrices might be used to inflow and outflow analysis or regression models may be specified and estimated. Each method has its own plus and minus points. For results based on these methods see Kapoor and Mehta (1997).
8. It may be noted that since schooling and labour markets are not independent selecting institutions, and also not the only ones influencing placement and status, the social reproduction or social lift hypotheses cannot be tested unambiguously by our models. However, we can make an attempt to examine the extent to which education mediates between origin and destination positions. For this the benchmark model would be the equal opportunity model.
9. The logic behind this grouping is that in terms of income generating capacity the weights attached to the classes are: (1) Top 5.499, PB, 4.069 and PB, 3.988; (2) NMW 2.861, SW 2.395 and CULT 2.125; (3) UNSW 1.410; and (4) SFAGL 1.000. See for details Kapoor and Mehta (1997), Ch.2.
10. For better understanding of the mediating role of education, between the parental and filial positions, employers and self-employed should be excluded from the analysis since their positions, presumably, do not depend upon education and labour markets. However, we have not done so, firstly because this would have reduced our sample to unacceptably small size and, secondly, because in general environment of illiteracy and low education, education does matter for progress even in these sections of the population.
11. Since there can be only one way relationship between origin and destination and respondent's education and occupation, Chi-square values can also be taken to explain causal relationships.
12. Regression exercise confirms these results; see Kapoor (1995, pp. 1-20), Kapoor and Mehta (1997, Ch. 6).
13. The mediating role of education would have been much more significant, had the agricultural classes been excluded from our analysis. In a predominantly urban area, most of the persons originating in rural areas are migrants. Since, Rural to Urban migration is much larger than Urban to Rural migration, reverse mobility from non-agricultural classes to agricultural classes is very low. However, the mobility predicted on the basis of education cannot be so restricted.

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RESEARCH NOTE

Is Universalisation of Primary Education Possible?*

Anil K. Yadav *
Madhu Srivastava"

Introduction

The dream of independent India was to provide education to all children till they complete the age of 14. To achieve this goal, the provision was made in the Constitution vide Article 45 stating that free and compulsory elementary education is a fundamental right of every child. Enormous efforts have been made since then to develop formal and non-formal education facilities at primary level in the country. This resulted in sharp rise in enrolment in primary schools in the country (Yadav & Kumar, 1999). The total enrolment at primary stage increased from 19.2 million in 1950-51 to 108.7 million in 1996-97 (ibid). The enrolment of boys increased 5.75 times raising enrolment from 13.8 million in 1950-51 to 62.7 million in 1998-99 whereas the enrolment of girls increased nine times from 5.9 million in 1951-52 to 64.5 million in 1999-2000 (MHRD, 2000¬ 2001). The government constituted the Kothari Commission in 1964 to develop the strategy to achieve the goal of universalisation of elementary education in the country. The commission suggested various strategies to fulfil this target by 1986. In 1986, the situation was reviewed by the Government and it was discovered that we are lagging far behind our goal.

In order to speed up the process, the government formulated the National Policy on Education (1986) and the emphasis was laid on to provide primary education opportunities for all children up to the age of 11 years. The key strategy suggested to achieve this goal was to create opportunities for non-formal education for the out of school working children. The National Policy on Education lay stress on increasing role of the Central Govt, in promoting primary education. To implement the policy, the Department of Education, Ministry of

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Human Resource Development introduced a number of programmes and grant schemes to help states develop the primary education facilities with the increased financial support from centre to achieve this target. The Central Government formulated registered Societies in each state to monitor the progress of projects and for management of financial resources. These Societies were closely linked with the education department of each state. The emphasis in the National Policy on Education was laid on improving quality of primary education and increasing girls enrolment. It also propagated decentralised approach in developing primary education in the country. It stressed on involvement of local bodies like Village Education Committees, Panchayati Raj bodies and to strengthen community involvement in promoting primary education. Another feature of the National Policy on Education was to increase the role of districts in planning and managing primary education. It suggested human resource development mechanism for teachers through in-service training at district institutions of education and training. To implement the national policy, the process of decentralisation of primary education was initiated by making necessary constitutional amendments to strengthen the local governments. The Central Advisory Board of Education circulated a report giving instructions on how to gear up the decentralisation process. The report provides the guidelines regarding the structure, role, functions and powers of local bodies.

Although, concerted efforts have been made from time to time to achieve the objective of universalisation, yet still we are far behind the set goal. The study seeks to examine the issues involved in universalisation i.e., how far we have gone in this direction and what more can be done to move towards the goal of universalisation of primary education. We have tried to compare and analyse different studies relating to the economics of universalisation of primary education to understand its dynamics and possibilities.

Progress Over the Years

Continuous efforts to achieve Univesalisation of Primary Education have resulted in enormous growth of Primary education opportunities in the country. The nation witnessed almost four-fold growth in Primary schools during the period 1950-1998. The fast growth of Primary education facilities enhanced enrolment in Primary schools to 110.9 million in 1998-99 including 62.7 million boys and 48.2 million girls. The Gross Enrolment Ratio (GER) at the primary stage has exceeded 100 per cent. During the last four decades, the teachers for primary education multiplied many-fold from 538 thousand in 1950 to 1904 thousand in 1998.

TABLE 1
Progress of Primary Education during 1950 1998

	1950	*1970*	*1990*	*1998*
Total Enrolment (Million)	19.2	57.0	97.4	110.9
Enrolment of Girls (Million)	5.4	21.3	40.4	48.2
Primary Schools	209,671	408,378	565,786	626,737
Number of Teachers	538,000	1060,00 0	1616,00 0	1904,00 0
Gross Enrolment Ratio	43.1	76.4	100.1	92.14

Source : 1. Ministry of Human Resource Development, Annual Report, 2000-2001
2. Ministry of Human Resource Development, Selected Educational Statistics, 1998-99.

Present Scenario

The nation has made impressive progress towards achievement of the goal of UPE in the last five decades. There has been enormous progress in terms of increase in the number of institutions, teachers and students in elementary education. Accessibility of schooling facilities is no longer a major problem in the country. As per the study conducted by Ministry of Human Resource Development, 8.26 lakh habitations covering 94% of the population have schooling facilities within a distance of one Kilometer at primary stage. But the primary education system developed through concerted efforts of the Central, State Governments, Local bodies and community involvement is still lagging far behind in term of the quality of primary education. The primary education system is characterised by low learning achievement, wide gap in education outcomes across states and among groups, higher dropout rates, low retention rates etc.

One of the crucial issues in the context of achieving universalisation of primary education is to improve the retention rate, specifically in rural and remote areas of the country. The dropout rate at this stage of education is alarmingly high. Forty per cent of the students who enrol for primary education leave the school before completing the class fifth. And even of those who continue to be on roll, only sixty to seventy per cent attend their schools regularly. Moreover, the dropout rate at primary education level is much higher in case of female as compared to male. To achieve universalisation at primary education level, it is important not only to provide facilities for education but also to evolve strategies to effectively deal with the problem of retention of students at this stage of education.

Thrusts in Ninth Five Year Plan (1997-2002)

Development of elementary education has been given adequate emphasis in the Ninth Five Year Plan of the country to fulfil the constitutional obligations such as:

- **Providing primary education as a Basic Minimum Service**
- **Execution of the development plans with the help of Panchayati Raj Institutions and Urban local bodies as directed in 73rd and 74* Constitutional Amendments relating to decentralisation.**
- **Enhanced emphasis on legal measures to prevent child labour.**
- **To provide education as a fundamental right up to 14 years of age as directed by Supreme Court.**

To meet these challenges, an allocation of 3 per cent of GDP has been made in the Ninth Plan exclusively to promote elementary education in the country. To achieve the goal of Universalisation, strategies will be evolved to reduce disparities in access and achievement among and within states and among different segments of population particularly among the disadvantaged communities and working children, who have either not been enrolled or have dropped out of the system prematurely. It also emphasised on developing alternate system of education to promote elementary education for working and other children who could not be brought into the fold of formal system of er'ucation. It propagates on enhancing achievement levels through extension of minimum levels of learning. Retention will be promoted through enhancing teacher competence, better physical facilities including teacher responsiveness through interaction with Parent Teacher Association (PTA), Village Education Committee and nutritional supplement programmes for children. Teachers' educational programmes will be particularly directed to achieve these objectives. Planning, management and supervision of the primary education will be decentralised with the Panchayati Raj Institutions and Urban local bodies being empowered for the appointment of teachers and monitoring their performance with recruitments being made at the district level.

A target of enrolment of two crore children in the age group of 6-11 has been envisaged during the Ninth Plan. With the achievement of this target the gross enrolment ratio at the end of the Ninth Plan would be around 112 per cent. Special efforts would be required to educate the working children. The Ministry of Labour and Employment proposes to cover about 20 lakh working children during 1997-2002, through its National Labour Projects. At present there are 76 projects operating in 12 States. The number of these projects is expected to increase to 126 by 2002. The central government funding would be directed mainly to infrastructure creation.

The number of children in Class I-VIII during the course of the Ninth Plan is estimated to be 4.22 crore. In addition, 6.3 crore out of school children will be educated during this period. The cost of education is considered to be Rs.1500 per annum per child during the ninth plan period. Based on this, the total requirement per annum would be Rs. 15,750 crore and for five years would be Rs.78,750 crore. Assuming the centre's share to be 50 per cent of this amount, the provision required would be Rs.40,000 crore (rounded off). It is presumed that it would be difficult to achieve full coverage during this period. The amount required for 75 per cent coverage would be Rs.31,594 crore. In addition, resources would be required to supplement Nutrition Support to Primary School Education Programme (Mid-day Meal Scheme). The requirement calculated for this programme is approximately Rs. 16,000 crore of which the Centre would bear 60% of this expenditure in terms of food grains and transport subsidy and the balance will be borne by the states. The Centre's share has been Rs. 10,000 crore (rounded off) and balance Rs.6,000 crore is expected to come from the states.

It is for the first time after the first five-year plan that a sizable amount of total education budget has been earmarked primarily for development of elementary education. This reflects the degree of commitment of the government to universalise education. As per directives, the promotion of elementary education would share equal importance as given to the development of higher education. This seems to be a very significant step towards achievement of universalisation of primary education. However, for the development of elementary education 3 per cent of GNP has been allocated which is as high as 50 per cent of the total budget for education. The budget allocated in the Second Plan for elementary education was 34 per cent of the total education budget whereas in the eighth plan this budget was 43 per cent of the total educational budget. Shortage of resources had probably been one of the significant reasons for non-achievement of universalisation of primary education among many others. The significant rise in proportion of outlay for elementary education in the Ninth Plan would boost the process of its development in the next five years. The plan proposes to cover 75 per cent of children in the age group 6-14 for elementary education. Past trends show that 95 per cent of the total budget on elementary education is spent on salaries of teaching and non-teaching staff. A very insignificant proportion (2%) is utilised for other purposes like maintenance of infrastructure and equipments, libraries, sports, scholarship etc. It has been stated in the Ninth plan that the resources from the centre would be mobilised more for development of infrastructure and basic amenities for primary schools. Special attention has been given in this plan for the children who are neither working nor attending schools. Efforts would be made to bring these children into the folds of primary education. NSS data reveals that in 1993-94 at least 10.6 per cent of rural boys in the age groups 10-14 were neither at school nor at work.

Achievements in First Three Years qf Ninth Plan

To meet the objectives laid down in the Ninth Plan, the Prime Minister has announced a special action plan (SAP) for promoting education in the country. The emphasis in the SAP is on total eradication of illiteracy, equal access to and opportunity of education up to the school leaving stage, improvement in the quality of education at all levels from primary schools to universities and the need for expansion and improvement of infrastructure facilities for education. To meet this goal, 48.94 per cent of Ninth Plan outlay for elementary education has been allocated in the first three year's Annual Plans for the years 1997 to 1999. The anticipated expenditure up to March 2000 during the Ninth Plan on elementary education is to be 51.05 per cent of the proposed outlay for the entire Ninth Plan. Balance available for elementary education in the last two years of the Ninth Plan is 48.95 per cent of the total outlay allocated for the propose.

TABLE 2
Allocation to Elementary Education

(Rs. In Crore)

Government	*Annual Plan 1997-98 (RE)*	*Annual Plan 1998-99 (Outlay)*	*Annual Plan 1999-2000 (Outlay)*
Union Government	2,265.32 (56%)	2,278.53 (55%)	3,035.12 (52%)
States/UTs	1,170.51 (44%)	2,239.89 (45%)	2787.77 (48%)
Total	4,035.83 (100%)	5,018.42 (100%)	5822.90 (100%)

Source: Mid-term Evaluation, Ninth Five-Year Plan, Planning Commission.

Elementary Education has been given the highest priority in the Ninth Plan outlays allocated so far. This brings forth the commitment of the country to achieve the goal for achieving the universalisation of elementary education. The allocation of funds during the first three years of Ninth Plan^shows increasing trends of states allocation for providing elementary education. The state's share for elementary education was 44 per cent in 1997-98 which gradually increased to 48 per cent in 1999-2000. It shows equal commitment on part of the states for promoting elementary education. In terms of access, 94 per cent of the rural population living in 8.26 lakh habitations now have a school with in a walking distance of one Kilometer and 84 per cent of this population have now an Upper primary school within a walking distance of 3 km. Concerted efforts have been made during the Ninth Plan period to expand access, increase retention and to improve learning achievement of children in elementary schools. Dropout rates have shown a declining trend registering an overall decrease of 5.42 per cent

during the last five years at the primary level. The programme on Minimum Levels of Learning (MLL) has been introduced in most states in the country. The Mid-day Meal Programme acquired all India coverage in 1997-98. The number of children covered under this programme has increased from 3.4 crore in about 3.22 lakh schools in 1995-96 to 9.85 crore in about 6.88 lakh schools in 1998-99. Evaluation studies conducted by Planning Commission have revealed that average attendance rate has increased whereas the dropout rate has declined as a result of this programme. The states have experimented innovative schemes during the last few years in the field of elementary education. Madhya Pradesh has established more than 12,000 Rajeev Gandhi Swarna Jayanti Pathshalas. The states like Andhra Pradesh, Gujarat, Madhya Pradesh and Uttar Pradesh have recruited a large number of para-teachers. The programme of non-formal education has also been introduced for the out of school children. The country now has 3 lakh Non-Formal Education Centres which cover 75 lakh children, out of which 1.18 lakh centres are exclusively for girls. The scheme of Operation Blackboard has been extended to Upper primary schools as well as to 5.23 lakh primary schools. As many as 1.27 lakh upper primary schools have been provided funds for development of academic infrastructure under this scheme. About 1.50 lakh posts of additional teachers for single teacher primary schools, 0.74 lakh posts of additional teachers at the Upper primary stage and 0.79 lakh posts of third teachers have been sanctioned till 1997-98. To strengthen teachers training, 448 District Institutes of Education and Training (DIETS) have been sanctioned. About 10 lakh teachers have been covered under the special orientation programme for primary teachers. An experiment has been made in Gujarat and Madhya Pradesh to use distance education mode to train the primary school teachers. The District Primary Education Programme which is assisted by the World Bank and European Union is under implementation in 219 low female literacy districts in fifteen states. The project will be expanded to around thirty districts in Uttar Pradesh, ten districts in Rajasthan, eight districts in Orissa, and five districts in West Bangal. The programme on Mahila Samakhya which aims to promote women's education through empowerment in five states has been spread over into four thousand and fifty-four villages in twenty-four districts of Uttar Pradesh, Andhra Pradesh, Karnataka, Gujarat and Kerala.

The main challenge for universalisation of primary education in the country is not only to develop requisite infrastructure and provide access to the primary education but also to ensure continued participation and successful completion of primary education by the children. Although, the facilities for primary education have developed enormously over the years, we are not able to achieve the goal of UEE due to alarmingly high dropout rate. Hence, the need is to focus our attention on the issue of retention of children till completion of primary education. This could, however, be achieved through the process of

decentralisation in management of school education and community participation.

Financial Implications for Universalisation of Primary Education

Many organisations - national, international and individual - and researchers have made attempts to forecast the resources required for achieving the goal of Universalisation in the next five years for India. The Ninth Plan provides estimates of resources required for achieving, universalisation of elementary education. It has been envisaged in the Ninth Plan that 4.22 crore of children would be enrolled in classes I to VIII and 6.3 crore of children who are out of school will be educated during 1997 to 2002. Cost of education has been considered as Rs.1500 per annum per child. Hence, the total requirement per annum will be Rs. 15,750 crore and for five years the budget requirement would be to the tune of Rs.78,750 crore. There would be an additional cost for sponsoring Mid-day meal programme of Rs. 16,000 crore for 8.9 crore children. In addition, there would be the cost of school construction to the tune of Rs.8000 to Rs. 10,000 crore.

The World Bank published a report "Primary Education in India" in 1997 in which attempt has been made to estimate the cost of providing primary education to all children in the age group 6-14 by the end of 2007. The cost has been estimated separately for maintaining the existing system, costs of expansion of the system and costs of improving quality of the system. According to this study, presuming the same pace of growth rate of expenditure, all states would be able to provide about 80 per cent of the resources required to achieve Universal Schooling of higher quality than at present. If policy objective of devoting 6 per cent of GDP on education and the average economic growth rate is maintained at least 5 to 6 per cent a year, then Universalisation can be achieved. It appears that 95 per cent of expenditure on elementary education is earmarked for salaries of teaching and non-teaching staff. The target of Universalisation by 2007 can be achieved if increase in teachers' salaries is restricted to 4 per cent per annum. The predictions have been based on the assumption that 45 per cent of total education expenditure is spent on elementary education.

Tapas Majumdar Committee (1999), suggests that it is possible to arrange funds for UEE out of normal budget allocation assuming a reasonable rate of growth of 5% of GNP, an increase in the tax/GDP ratio from 16 per cent to about 18 per cent during 2007-08 and the gradual increase in the allocation of the total of the central and state budgetary expenditure on education to about 6 per cent of the GDP by the year 2006-07. As per estimates worked out in this report, there is a requirement of an additional amount of Rs. 1,36,822 crore (Rs. 1,06,350 crore recurring and Rs. 30572 non- recurring) over a period often years (1998-99 to 2007-2008). The expert group, along with the estimation of additional cost of achieving UEE, has also pointed out three areas where a certain degree of over-

estimation is possible and which could provide some built-in cushioning in case of an unforeseen adverse cost situation. These areas include availability of necessary human resource, reduction in cost due to internal efficiency, better retention rate and lastly the increasing rate of private sector in providing elementary education. The group emphasised the need of cost-effectiveness in realising the targets of U E E. The group recommended that the central government may set up an independent institutional mechanism for monitoring and controlling the flow of funds for all U E E related expenditure at the centre and the state level. The committee felt that participation of the community in the affairs of the school is the only sustainable way to improve the internal efficiency of the schools. This can be achieved by involving Panchayati Raj institutions in management of schools. The village level community organisations can alone determine, as per this report, the specific needs of the school age group children.

The Tapas Majumdar Committee stated a few limitations of their report. It has been accepted that there may be some under-estimation of cost projection as the over- and under-age children have not been included, restricted definition of free education has been adopted and the assumptions have been made regarding the coverage of on-going schemes.

Ramachandran, Rawal and Swaminathan have also conducted a study for estimating the cost of primary schools for 150 children with five teachers for West Bengal in 1995. The study estimated unit non-recurring expenditure for a school with these facilities as Rs.2500/- and the unit recurring cost of the school as Rs.1593/-. Assumption made in this study is that the cost of building is same in rural and urban areas.

Swaminathan and Rawal updated the estimates made by Ramachandran group in incorporating information available on school attendance and school age population. An estimation of children in the age group 6-11 years who would and would not be attending school has been made by applying attendance rates to the projected population for 6-11 age cohort. For those children who are out of school, the additional cost has been estimated by using Ramachandran norms and for children currently in schools, 50 per cent of the unit cost has been provided for improving the quality. However, for simplicity, the cost has been spread over five years. According to this study 2.85 per cent of GDP would be required annually to provide adequate quantity and quality of primary schooling for all children within five years.

On the other hand, the budget as envisaged by Planning Commission, for the Ninth Five Year Plan, to achieve the goal of universalisation of education are based on two presumptions;

i) The expenditure involved in providing education to children of age groups 6-14 years will be approximately Rs.1500/- per child.

ii) The children proposed to be enrolled during 1997-2002 will be 10.52 crore including 6.3 crore children who are presently out of school.

The cost for the plan period has been .worked out simply based on norm of per student cost and an estimation of children in the age group 6-14 in the next five years. The plan also provides estimates required for supplementing Mid-day Meal Scheme for the children. The World Bank estimates, on the other hand, take into account the expected rate of growth of expenditure as well as that of GDP. The estimates are based on a number of assumptions such as the growth of teachers' salaries and the share of outlay on elementary education in total budget on education. The analysis of various components of cost of education has revealed that the expenditure on education is highly correlated with salaries of teaching and non-teaching staff. Ninetyfive per cent of total expenditure on education is spent on the salary component. The World Bank estimates, thus, have rightly taken into account the- growth rate of salaries while predicting the future educational expenditure scenario. The World Bank estimates based on the above cited assumptions are more realistic and relevant. The growth rate of economy, the share of budget allocated for education and specifically for the elementary education, the growth of salaries have been considered while forecasting the future requirement of resources for universalisation of education. The World Bank estimates provide alternate estimates for:

i) Maintaining the Existing System
ii) Expanding the Existing System
iii) Improving Quality of the System

The case study conducted by group of researchers viz. Ramachandran, Rawal and Swaminathan is on estimating unit cost of a primary school in West Bengal. The estimates have been worked out for a school with the capacity of 150 children and five teachers. For working out unit cost, they have considered both recurring as well as non- recurring cost of education. The Study provides valuable estimates of cost for a primary school but the results of this study would have been more useful if alternate estimates would have been worked out for schools with minimum ideal and modern facilities. The costs in the study have been worked out for an idealistic primary school with adequate resources like teaching aids, recreational materials, play materials, reference books teachers' training etc which is ideally not the situation in the present Indian context. The estimates of cost based on alternative scenarios will be more helpful for educational planners. Moreover, the estimates based on data collected from one part of the country i.e. West Bengal, may not be applicable for the whole country.

The research team of Swaminathan and Rawal developed budget estimates for universalisation of education for the children in the age group 6-11 for the

next five years based on the unit estimates worked out in the case study of Ramachandran, Rawal and Swaminathan. The estimates have been worked out separately for states and for the country. These forecasts are based on estimates of children in the age group 6-11 years and allowing 50 per cent of additional cost for improving the quality of education. These estimates include the cost of maintaining regular education stream and the out of school children as well. Out of school children have been worked out by applying attendance rates to the projected population for 6-11 years of age. As per the study, the states have to spend 2.85 per cent of GDP to provide quality education to all children of the school going age group.

Thus, as per the estimates of Planning Commission, only 75 per cent of children in the age group 6-14 will be enrolled for elementary education during 1997-2002. The goal of universalisation would certainly not be achieved during this period. Twentyfive per cent of children in this age group would still remain uneducated at the end of the Ninth Five Year Plan. The forecasts of World Bank are, however, more optimistic. It envisages that if the states are able to maintain economic growth rate of 6 per cent and give adequate emphasis on Universalisation of education by providing 6 per cent of GDP for education and the fortyfive per cent of educational budget for elementary education, then all resources for Universalisation will be available with the states for achieving this goal. The estimates are based on the assumption that growth in teachers' salaries will be restricted to 4 per cent. It also provides alternative scenarios of expenditure for either maintaining expanding or improving the system of elementary education in the country.

The unit cost of education considered by the Planning Commission i.e. Rs.1500/- per child is in tune with the research findings of Ramachandran, Rawal and Swaminathan. The study conducted by the group suggests that a school of 150 children with 5 teachers requires Rs.1593 as recurring expenditure. The estimates are based on 1:30 pupil-teacher ratio and have considered all elements of expenditure required for providing appropriate teaching and other facilities in a school. But the research findings of Swaminathan and Rawal regarding realisation of the goal of universalisation of education are in contrast with the Planning Commission estimates. The plan envisages that, by the end of Ninth Plan, we would be able to provide education to 75 per cent of children in the school going age group with no emphasis on raising the quality of education. The research group, however, concluded that the states can provide qualitative education to all children of this age group by spending less than the share of GDP (2.85 per cent) as against envisaged in the Ninth Plan (3 per cent).

Conclusions

Notably, enormous efforts have been made in the last five decades to promote education in general and primary and/or elementary education in particular. These efforts gradually resulted in sharp growth of educational institutions, rapid increase in enrolment rate and continuous upgradation in the literacy level. Adequate emphasis has been laid in the five year plans to boost education in both rural as well as urban areas. In the Ninth Plan, an allocation of 3 per cent of GDP has been earmarked to achieve the target of universalisation of elementary education. Emphasis has been laid in this plan on achieving this goal with the involvement of Panchayati Raj Institutions and urban local bodies by developing alternate system of education and reducing disparity in access and achievement of primary education. It also propagates on enhancing achievement, promoting retention, raising teacher competence and developing better physical facilities. Special efforts are recommended to educate working children. To achieve this, an outlay of Rs. 12,644 crore has been proposed in the ninth plan. The allocation of fifty per cent of total education budget for development of elementary education shows the commitment of the government to achieve this goal. It has been envisaged that 4.22 crore of children would be enrolled in classes I to VIII during 1997 to 2002.

Financial implications for achieving universalisation of primary education have been estimated by different researchers and organisations like Planning Commission, World Bank etc. According to the Ninth Five Year Plan estimates, an amount of Rs.31,594 crore has been proposed which is expected to cover 75 per cent of children in the school going age group during the plan period to bring them into the fold of primary education. As per the World Bank estimates, all states would be able to provide about 80 per cent of the resources required to achieve universal schooling presuming the pace of growth rate of expenditure will be same by the end of 2007. Ramachandran, Rawal and Swaminathan also conducted a study for estimating the cost of primary schooling.

The Tapas Majumdar Committee also suggests that it is feasible both for the centre and the state to manage resources to achieve the Universalisation of Elementary Education (UEE) over the period of ten years till 2008, with reasonable increase in the growth of GNP (5%), tax/GDP ratio (18 per cent) and budget allocations for education to about 6 per cent of GDP. The committee has rightly stressed the need for increasing the efficiency of the system by promoting genuine decentralisation, meaningful focussed local level planning by involving the community and Panchayati Raj Institutions and by effectively handling the wastage rate and maximising the retention rate among students.

The paper also highlighted the level of literacy achievement in India and its different states. It also reflects the different kinds of programmes run by the government to reach the final goal of universalisation of education. Indeed, there seems to be high hope that India would be able to reach close to the goal of

universalisation of education with the allocation of 3 per cent of GDP and 50 per cent of total education outlay in the Ninth Plan exclusively to promote elementary education in the country. For the first time after First Five Year Plan, the outlay for elementary education as proportion of total education outlay has touched fifty per cent indicating the commitment of the Government to achieve the uphill task of universalisation of education. The recent Sarvshiksha Abhiyan Bill passed in the parliament to ensure total literacy in the country is yet another milestone in this direction. Apart from the monetary aspects, it is also utmost important that implementation of the programme and/or scheme should be made more rigorously and sincerely to achieve the goal.

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BOOK REVIEWS

WEIKART, DAVID P.: ***Early Childhood Education: Need and Opportunity,*** **UNESCO: International Institute for Educational Planning, Paris: 2000, pp. 93, Price: not given. ISBN 92-803-1197-2**

The last two decades have been very significant for the field of Early Childhood Care and Development (ECCD), for, it is during this time that professionals in this field have been active in establishing the importance of investments in early childhood for child development outcomes and the role they play in building human resources, generating high economic returns, reducing social costs and helping in achieving greater social equality.

The book under review, brought out under the series on Fundamentals of Educational Planning, gives due recognition to the field of early childhood education as an important input in educational planning. The author being one of the most renowned academicians has very scientifically established significance of early childhood programmes at the High/Scope Educational Research Foundation, bringing in his experiences of the International Research on Evaluation of Educational Achievement (IEA).

The ninetythree page booklet, divided into seven chapters, offers smooth blending of current and past issues impinging on the field - the authors own research contributions and his identification of other significant researches - all this makes the reading very scientific and helps in weaving the chapters together to address ECCD programmes.

The very short first chapter quickly traces historically the view on childhood, by discussing the practices of infanticide, child labour and how the reformers in the 18"" and the 19^ Century began to establish that childhood is a very specific period of life which is very different from adulthood. The author, referring to the book "How Nations Serve Young Children" (Olmstedt & Weikart 1989), points out that most of the countries mentioned in the book showed that the -'Modern thrust of early childhood care and education has been evident only since the first-second world war period". The detailed description of development of early childhood education in the People's Republic of China makes a very interesting reading. Briefly mentioned is also the change in the USA since the Fifties, the establishing of Head-Start programme and need to use early childhood intervention for reaching the economically disadvantaged. It also points to the significance of early childhood education for better preparedness for school intellectually and socially, which helps children achieve greater success in school and to successfully move to adolescence and adulthood.

The second chapter titled, "Use of Child-Care Settings: The Challenge and Policy", acknowledging the move ahead in getting an understanding of Child Care Policies and Programmes across the countries through various documentations, points out that these sources do not look at the family perspectives on the use of child care and education services. The 11-country Multiphase International Educational Achievement study (for which the author is the coordinator), elaborates as to how the survey tried to get an understanding on the parents' adjustment of family needs and beliefs in the light of the programmes they were being offered. It provides very interesting and some unexpected findings. A significant point of observation was that countries which had large rural populations had more children in home care and children being in programmes was associated with women's movement into paid workforce. A very unexpected finding was that as many as 92% of parents in every country reported satisfaction with services. The author notes, "It means that while a few families may experience problems, the average parent either truly has adequate problem-free services or does not perceive any inadequacies". This finding may be one reason why advocates for early childhood programmes find it difficult to get widespread support. An important concern voiced is that if policy analysts look at demand for child care services from a feminist perspective or even as a demand of industrialized society, we may fail to look it from children's perspective which is important for evolving child appropriate quality programmes. Therefore, the author raises very pertinent questions that the countries need to answer questions like - who are running the programmes, what is happening in the programmes and are these programmes helping children in their development?

The Chapter III focuses on expectations from education; starting with the premise that our own expectations and those of others influence how and what we accomplish and, therefore, the IEA study focused on expectation of young children's parents and teachers. The author reports that despite countries differing linguistically, geographically and politically, there was no difference across countries on expected skills in young children. Further, when parents and teachers were asked to identify the skills, again, there was almost complete agreement between them. Interestingly the teachers did a more accurate prediction of parental expectations for children. The author explains that the common notions about child's development and age-specific developmental characteristics and the rapid dissemination of this information has created a "common expectation" among parents and teachers which gets further strengthened through their experience of being with children. He also attributes the globalization of communication, entertainment and commerce as important factors in parents and teachers having common expectations from children which are, getting along with others, taking care of themselves and using language to better their life chances.

In discussing the impact of early education, David Weikart first gives an overview on how and what children learn, and what programme elements are needed for this learning. The discussion uses Piaget's theory for age-wise differences among children. The second part of the chapter looks into evidence for effectiveness of infant toddler and preschool programme. Studies with good research designs like the High/Scope Carnegie Infant Education project and Ford Foundation Child Survival Fair Start project had clearly shown the limited benefits of toddler infant programmes especially for child development outcomes. For the advocates of programmes for under three's, this should be an area of concern. Today, the brain research has created newer demand for early stimulation and there is much discussion on how the programme is to reach under three's. There was a need, therefore, to have a detailed discussion in this book on the research evidences and the implications for programming for the under three's.

The evidence of effectiveness of preschool programmes seemed more encouraging. The positive programmes' effects were seen in Head-Start children on intelligence score, social emotional performance and health but the gains faded out over time (intelligence test scores). The author's own High/Scope Perry preschool study is perhaps the only such study which followed up children till age 27 with high quality preschool experience and those without any preschool experience. The children with high quality preschool experience by age 27 showed social responsibility, had better earning and economic status, had higher educational attainment, better commitment on marriage showing that programme participation did improve life chances.

In continuation with questions raised in chapter five, the chapter six analyses the different approaches to preschool curriculum programmes, open framework, child-centred and custodial. Though programme comparison researches are few as they are difficult but the book reports that the child-centred models help children make significantly higher gains and that child-centred models signify developmentally appropriate practices. Further, the high-scope pre-school curriculum comparison study showed that "Using Specific curriculum models were essential to having high-quality preschool programmes that produce lasting benefits. Very specifically, the choice of a curriculum model is an important factor in determining the quality of early childhood education".

If specific curriculum models must be used, how does one select and use a curriculum model, as discussed in chapter six, it is pointed out that an effective curriculum model (1) must have a validated curriculum, (2) must have a validated training system and it must have a (3) validated assessment system. Weikart emphasises on documenting experiences and validating models by research as extremely relevant and essential. In India, there is no accepted pedagogy for preschool education, what have emerged are experiences and small scale experiments which very often fail when scaled up to be applied in larger

context and may not give the same deserved outcomes and so strengthens V/eikart's point that documenting and research are important inputs in developing effective curriculum models.

The second very important dimension of requirements of an effective model is a validated training system. The author very urgently notes that it is not enough to have a validated model but more important is to have validated training. The importance of linking models with teacher training is not understood especially in the Indian context. The effectiveness of teacher perhaps would increase if very specific inputs are given as part of training to implement specific models. We often claim we use child-centred or play method but the teacher trainees have no model to follow, nor training that helps to follow this model. It requires a lot of seriousness on the part of practitioners, trainers, researchers and policy makers to realize the need to have scientific inputs into curricular models, training and assessment. The chapter reflects the author's conviction that practice, policy and research have to have strong links to show effectiveness of any programme.

The last chapter, based on policy recommendation, synthesizes the issues arising out of his own researches and the many researches reviewed. It has identified six criteria for successful early childhood programmes, namely validated curriculum model, training and assessment, importance of staff-child ratio, parent involvement and participation and resources and administration. Each of these recommends to the planners how to address the issue and establish links between each of these criteria very strongly; therefore, indicating the need to address all the six criteria to get a successful programme. It is rare to have such clear understanding and use of research towards programming and policy planning. The simplistic presentation and clear suggestions for policy planners to act on 'make the book a useful document' to all educational administrators and planners.

Thus the book contains very scientific information based on child development theories, author's researches and his long experience in documenting the preschool project. An academician and a researcher in the field of early childhood will find the book very stimulating. The analytical approach of the book and applications for policy making have tremendous learning points for educationists in general.

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KOSHY, JOHN S.: ***Strategies In Educational and Development Planning,*** **Dominant Publishers and Distributors, Delhi, First Edition, 2000, pp.352, Price Rs.650/-**

At the turn of the millennium, this book has come as a remarkable one for fixing target for educationists. Its main focus underlines fourfold strategy of planning for educational development, viz. clarity of the development concept; adequate resource measures; correct deployment of resources in men and materials; and an adequate employment generation programme to absorb the large turnouts of higher education in creative jobs.

In the beginning, a very elaborate presentation is given on the importance of higher education, its large variety and achievements. The importance of achievements in sciences as compared to history and psychology has been well spelt and realised. The author believes that what we really gain in life is partly through the assistance received from parents, teachers and other helpers and partly through self-experience, that enable to realize somewhat accurately what sort of world we are living in and how to behave so as to meet successfully the demands of world, enjoy lives of comparative peace and happiness. The author strongly reiterates that if this reading of teaching of psychology is correct and if it is really possible for man to make life happy and peaceful, there need to be no hesitation in coming to the conclusion that higher and perfected education alone can save us from the great course of human life. It is through such education that parents and teachers will understand the outer world correctly and learn what sort of help they are to extend to the younger generation, to enable the latter to build up a proper inner world and lead peaceful and happy life.

The first part of the study has at length discussed the Islamic traditions in India. The author has been careful enough to translate the traditional importance and significance and values to the modern system of education. It has also occasionally reflected upon the unique features of Banaras Hindu University and the western Universities. In the second part, an in-depth analysis is made of the cost-effectiveness with particular reference to salaries to teachers, net requirement for replacement of buildings, cost of teacher training, recurrent cosy non-specialist teacher training colleges, high economic growth assumption and low economic growth assumption.

An attempt has also been made to analyse available statistical material on public expenditure on education (including UNESCO publications, manual educational statistics and the three volume public expenditure on education) Truly believed is the fact that expenditures are related to the income of the nation and especially the per capita income; the larger the surplus over what is needed to cover the essentials of life, the greater is the proportion of income likely to be spent on higher education. Discussing the relativity of Income and Expenditure on Education, the hypotheses is asserted through analysis of 14 countries.

A very methodical presentation supported with statistical analysis has been made in terms of trends in public expenditure on education in relation to national income, Inflation and public expenditure on education, variables explaining trends in educational expenditures and the structure and distribution of responsibilities by level of Govt, expenditures at different educational levels, enrollment by age, groups and economic status, trends in population, students, teachers and expenditures, explanations of increase in expenditure, and research expenditure.

In the Chapter on National Education Policy: Review and.Recommendations: Macro issues, which is descriptive of the various approaches, the author has rightlv brought out that many ideas and concepts have repeatedly trailed over a period of time. It appears that these strong beliefs have always suffered a fear of quick action.

The question that forms the base of dilemma in the next chapter radically argues as to how our children would figure in the international competition of the present day, if at one end, illiteracy continue to be the badge of the tribe and, at the other, universities should remain depressed, partly due to lack of effective aspiration on their own part to approximate to the ideal but largely for want of funds without which achievement is impossible even with the best will in the world. This has been supported with facts and figures of various European and American universities along with their status.

As a word of advice from the author's firmness in discipline and patriotism, the unique example is of Englishman being before us. They had discipline, organisation unity, purposefulness, determination and loyalty to their own land. The essay on "Indian Education and Worldviews: Reforms and Resolution" by Sir Jagdish Chandra Bose has been reproduced as a strong support of the authors' hypotheses.

Discussing the sectoral strategies and development objectives, strong assertion has been made for restructuring of UGC, Selectiveness of Admission, Autonomous Colleges, New Management for Univ. extension University, National Testing Services, Rural Education, Grievance Redressal, Technical and Management Education, Community Polytechnics, AICTE and IITs.

Towards the concluding chapter, the author separately reviewed the Plan performance of education and at each stage and level during eighth plans.

While suggesting the various strategies, it appears as though old wine has been put in new bottles. The author asserts that in order to face the challenges of the future, which are increasingly becoming dependent on information and knowledge intensive, the higher education needs to be strengthened from time to time. As regards technical institutions again, the only suggested strategy is that of establishment of Industrial Liaison and/or models like university-industry symbiosis as being practiced by Jawahar Lai Nehru Technological University, Hyderabad. However, the setting up of a National Cell to promote and coordinate

the linkages between the promotional agencies, universities, industry and R&D organizations is an excellent suggestion. Similarly, other Institutional thrusts have a viable suggestion of having links between management institutes and training institutes in sectors like health, rural development, agricultural education etc. The chapter concludes with a note on youth and education with reference to immigrant students.

Further in nutshell, the author has suggested certain future perspective and measures as action points, which are worth noting and can form the base and guideline for further delineation of the strategies in educational planning and development.

Some inconsistency has remained in the thoughts pertaining to slow translation of goals into action as discussed in chapter 4 and broader goal of education for All by 2000 A.D.

This book in totality is a good source for teacher educators, planners and policy makers and much more for implementers.

A word of caution! Strategies be put into action. Development in education just does not happen. It needs to be properly planned, suitably pursued and effectively implemented.

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VARGHESE, N.V. and MEHTA, ARUN C. (2001): *Investment Priorities and Cost Analysis - A Study of Upper Primary Education in India,* Vikas Publishing House Pvt. Ltd., New Delhi, pp. 200, Price: Rs. 275/- (Hardbound) ISDN 81-259-1047-6

There are certain undisputable and time-tested advantages through education. Most important of them are: Return on the investment on education is higher than on all other types of investment; Return on primary education is higher compared to returns on other levels of education; and Investment in basic education of the deprived groups yields the highest returns. Similarly, female education leads to improvement in child health, better survival rates of the newborn and reduction in infant mortality rates. Above all, literacy and education act as basic tools that improve capabilities of individuals to exercise choices. The World Education Forum at Dakar affirmed that EFA plans should be integrated into a wider poverty reduction and development framework. An issue of such topical importance in human life needs thorough enquiry from all angles. This book is a good contribution to that end.

Varghese and Mehta had focused their study to examine the status of upper primary education in India, identify the bottlenecks and suggest measures for its

expansion to cope up with the expanding primary education in order to fulfil the Constitutional requirement of universalisation of elementary education in India. However, as the authors have rightly remarked, the upper primary education is limited to the extent of absorbing only those children that had successfully completed primary education. The children that were left out by the primary stage do not come into the portals of upper primary education. Therefore, not all the children of 11-14 age group could be covered by the universal upper primary education programmes unless total success is ensured at the primary education level itself by enrolling all the children between 6-11 age group.

Specific objectives of the study are:

1. **To study provision of upper primary schooling facilities in relation to primary schooling facilities in a given locality,**
2. **To analyse provision of infrastructural and other academic facilities in upper primary schools,**
3. **To analyse functioning of upper primary schools in the selected localities, and**
4. **To estimate costs of provision of upper primary schooling facilities under varying organizational arrangements.**

In order of examine the above specific issues, the authors had selected 4 districts one each from Kerala, Madhya Pradesh, Maharashtra and Uttar Pradesh and 8 blocks at the rate of 2 from each sample district. A total of 285 schools and 1,391 teachers were covered in this study.

Since the authors are associated with the NIEPA, they had the advantage of utilizing the services of well-trained and highly experienced field staff that helped them to obtain comparatively reliable and quality data. This study is divided into 9 chapters.

The first chapter is an introductory chapter dealing mostly with the methodology of the study, while chapter 2 portrays the district profiles of the 4 sample districts which provide a good backdrop for better understanding of the varying levels of education system across the study regions. Malappuram from Kerala is identified as the most forward while Moradabad district from Uttar Pradesh is identified as the most backward district on the educational front. In chapter 3, access to upper primary education is analysed. In general, the number of upper primary schools has sharply increased in rural areas over the period 1986 to 1993.

In fact, in Malappuram about 50 per cent of upper primary schools were started prior to Independence. It took 40 years for Bilaspur to provide such a facility in upper primary education.

In respect of management government, and private sectors shared in Malappuram, local government particularly, Zilla Parishads dominated in

Aurangabad. In Bilaspur the government and in Moradabad government and private unaided sectors shared the responsibility of setting up of upper primary schools. Location-wise 95 per cent of the upper primary schools are located within a distance of 3 kms from the primary schools. Around 68 per cent in Malappuram and 78 per cent in Aurangabad are integrated primary and upper primary schools whereas in Moradabad around 45 per cent are independent upper primary schools and another 42 per cent are primary, upper primary higher secondary combined. It is noticed that integrated upper primary schooling helps in the continuation of the girls' education for whom parents prefer to discontinue once their girl children reach the terminal class in the first joined school.

In the 4th chapter a very detailed examination is made in respect of the variations in the physical facilities. It is found that many schools are too large in size while others are too small. Some are well endowed with physical and infrastructural facilities while others are not. And there are wide variations in the provision of teaching and learning material. About 56 per cent of the schools in Bilaspur and 40 per cent in Moradabad are very poor in school facilities. Contrastingly, in Malappuram 73 per cent of the schools have got good facilities. However, these differences are not found to be such glaring across blocks. Admittedly, this is due to defective sampling procedure. Most of the sample schools fall within the educationally backward blocks.

Chapter 5 deals with students' enrolment and transition aspects. Generally speaking, government schools had admitted large number of children. However, in Malappuram private aided management schools had admitted more children. Efficiency tests suggest that education in Aurangabad is the most efficient while that in Bilaspur is the least efficient with input/output ratio of 1.41 for boys and 1.47 for girls. This indicates that it takes 1.47 times more years to produce an upper primary graduate girl and 1.41 times more years to produce an upper primary graduate boy. The wastage in the system is due both to repetition and dropouts.

Chapter 6 deals with teachers and teaching-learning conditions. This is based on the data gathered from 1,391 teachers. Male teachers account for 2/3rd in the total. The ratio of female teachers varies from 65.9 per cent in Kerala to 19.90 per cent in Uttar Pradesh (Madhya Pradesh 24.50 per cent and Maharashtra 40.30 per cent).

Most of the teachers hailed from a good background. Their parents were literates/employed. Most of the teachers from Uttar Pradesh had acquired post-graduation. Most of the teachers expressed that upper primary level curriculum was heavy and they felt it difficult to teach especially Mathematics, Science and English subjects.

The subject competence of the teacher seems to be an important area for improvement. Temporary appointments lead to intake of ill-trained teachers, the authors observed. They suggest that the DIET arranged training classes shall be

extended to the upper primary level also. This problem was solved in Maharastra. The S M A R T of Maharashtra is giving training to the primary as well as to the upper primary school teachers, that is why more than 55 per cent of the teachers received two training programmes and more than 42 per cent received three training programmes in this state.

Teaching aids like teaching guides, Mathematics kits, Science kits, Maps, Globes, etc., help a lot in toning up the teaching efficiency. But they are not available in most of the schools. The schools in Bilaspur and Moradabad districts are poorly endowed with such facilities.

Issues relating to school management are discussed in chapter 7. It is observed that educational administrative arrangements vary across states in India.

In Kerala, unlike in other parts of the country, educational districts/blocks differ from revenue districts/blocks. Private schools are managed either by corporate bodies (who manage more than one school) or individuals (single school management).

Generally, school inspection is done by the government official designated for that purpose and there is a general dissatisfaction about it. In Aurangabad, inspection is done by the head of the school complex and most of the teachers are happy about this arrangement. Since in most cases, the head of the school complex, himself/herself being a teacher, will carry out the inspection with academic intents than from administrative angle.

Community support to the upper primary school is not satisfactory. Except in Kerala, the Parent Teacher Associations (PTAs)/Village Education Committees (V E Cs) are either not formed or not meeting regularly. And even in Malappuram and Aurangabad where they had regular V E C meetings, they do not pay attention to the issues pertaining to the upper primary schools.

The number of working days and the working hours differed from state to state. It ranged from 180 days to 280 days per year and 23 hours 59 minutes to 26 hours 49 minutes per week. In general, schools in Malappuram work less number of days in a year and less number of hours per week. Contrastingly, schools in Aurangabad work for more number of days in a year and also more number of hours in a week.

In most cases, headmasters of the schools do not find time to pay attention to tone up the academic efficiency of their schools. They are busy with the routine administration work of the school and the work outside the school.

In chapter 8, the authors have made a very detailed examination of cost of upper primary education which varied across schools, locations and management systems. In general, small schools had lower expenditure and large school had higher expenditure. Salary account takes nearly 95 per cent of the total cost. Private aided schools spend a little more on non-teaching salary account. Zilla Parishad managed schools had lower per school expenditure, while aided private school had higher per school expenditure. Strength of the teaching staff makes

the difference in the per school expenditure. Per student expenditure is higher in the government schools and lower in the un-aided private schools. However, this aspect reflects the fact that the unaided private schools pay very low salaries to their teachers.

In general, provision of upper primary education through independent upper primary schools is more expensive while it is relatively cheaper through integrated primary - upper primary - secondary schools.

To conclude, this is a neatly written book, data are well documented, generally accepted conclusions are drawn and useful suggestions are made. This book enriches the knowledge available on this subject

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YEAKEY, CAROL CAMP (ed): *Producing Knowledge, Pursuing Understanding,* JAI Press Inc., Stanford, Connecticut 06904, 2000, pp. 345 Price. Not given

The present publication is an initial volume in the new series Advances in Education in Diverse Communities: Research, Policy and Praxis. It is devoted to Edmund W. Gordon's work and the influence he has had on contemporary thinking in psychology, education and social policy, and the implications of his work for the schooling of lower-status youth and children of color in America. Though it may have some specific relationship with African-American problems, the foundational aspect of cognition has universal application. To my mind the last chapter (written by Edmund W. Gordon) remains the best part of the publication. The production of knowledge and when produced the constituents of knowledge like phenomena, relationships between things and their symbolic representations and information about feelings etc make Gordon's contribution worth notice. As a serious thinker, he also detailed how education and training can be distinguished from each other. For example, whereas training is associated with the transfer by the teacher and absorption by the student of that which is to be learned, education is associated with the development of intellect. In other words, one can be trained to become educated because while training needs a teacher or an external agent, education is possible even without that kind of mediation. If this is correct then relevant knowledge can be produced and multiplied for general use.

The volume is divided into four sections: relevance of social divisions in research and development; population sensitive intervention; explanatory investigations; and context and responsibility; and in the end the final words by

Cordon. The part 1 discusses principles, Gordon has described as important in generating social science knowledge that appropriately includes the experiences of diverse groups of people. These include the impact of culture and ethnicity in choosing and using suitable paradigms for research, the appropriate uses of descriptive and comparative study and even the composition of research teams.

In Part 2, Population Sensitive Intervention, Ronald and Malika Braithwaite and Micah H. Milton's "Building Capacity for Health Empowerment in African - American Communities" seeks to highlight the role and importance of health promotion in modifying individual health behaviors of African Americans.

Part 3, Explanatory Investigations, opens with an article by Armour-Thomas entitled " Intelligence as dimension of Diversity: Implications for Pedagogical Assessment." Focusing on Edmund W. Gordon's own work she examines two intractable problems - the assessment and pedagogical relevance of their knowledge of human diversity; and, the implication of that knowledge for making education more effective and its opportunities more equitable.

In Part 4, Context and Responsibility, Edmund T. Gordon and Mark Anderson, in 'Conceptualizing the African Diaspora' explores the manner in which it is conceptualized and the politics behind it. There is an essay that describes how post-industrial changes have hurt African-American men disproportionately as compared with the others.

The last section, which carries a write-up by Gordon, reflects the extent to which established social science researchers have rejected traditional assumptions and the extent to which serious scholars are searching for answers to many social, political, economic and educational dilemmas of contemporary period.

The editor has claimed that the importance of the book does not lie in the answers advanced but for the beginnings.

We, in India, have similar experience of the way the knowledge of the Nation's depressed and neglected classes, even when available, is consistently ignored by the intellectuals, except to take either pecuniary advantage or to show erudition. There are numerous similarities between the SCs/ STs and the African-Americans. I think the explicit aim of the present volume is contained in these lines:, "to be sure the title scholar, intellectual, doctor, or professor does not make a person responsible for the state of all humanity. It however does entail the responsibility to provide the conceptual leadership that enables the society to engage in self-corrective action." They deserve universal acceptance and commendation

It is everyone's concern to look within and respond honestly.

The present book is a perfect example of balanced approach to any problem and the way to arrive at a sensible conclusion.

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KAPOOR, KRANTI and MEHTA, B.C.: ***Education in India: Growth and Equity Aspects,*** **Spellbound Publication Pvt. Ltd. (Cloth), Rohtak, India, 1997, pp. 271, Price: Rs. 400.**

Provided the opportunity to learn, one way or the other, man has the irresistible desire to get unleashed from the shackles of lower caste and class of poverty and to lead a life of affluence. Sometimes, the caste and economic class factors of a person hinder in the attainment and access to educational facilities even at the earlier stage of development. These facts prevent from getting good earning opportunities in the labour market and hence, lack of transformation. The book under review focuses on the socio-economic equity aspect of education in the transformation of the societal class and cultural groups. An attempt has been made to analyse whether education in India, both in absolute and relative terms, as promoted by the government, has generated equity or not. It has been concentrated to prove class mobility and the mediating role of education.

The book is divided into ten chapters. Chapter one discusses the background of the study, objectives and hypothesis, review of related literature and lay out plan of the study. In chapter second, data sources and methodology of the study have been discussed. Since the study is based on primary data, a total of 2570 males aged above fifteen were selected form a total of 1447 sample households from Udaipur city and Udaipur rural of Rajasthan state. Various educational and social class levels have been earmarked in the sample. Besides, dividing the respondents into rural and urban, they are also divided into six castes. In this study, application of various methodologies like summary measures of educational inequalities, flow matrix, affinity index, mobility index and various regression models etc. has been made.

In the third chapter, reference of various educational policies upholding the cause for universalisation of elementary and primary education has been made It has categorically been stated that the resource allocation for achieving universalisation of primary education is lagging behind the optimum level. Examining the quality education in the private schools, it is pointed out that the problem is not only to provide education to all, free or otherwise, but also to provide similar quality education to all. It is established that with expansion of education the level of inequality diminishes though the inequality still persists in a large extent. The study found 4.55 years of schooling as the threshold level of

education. In the fourth chapter, significant caste difference in education has been found. In a preliminary analysis of the primary data, it is observed that education is class based; family background determines the social status of the respondents and that the trend for the poor achieving higher education is improving.

In chapter five, resorting to the flow matrix analysis, educational and occupational mobility has been determined. It is observed that in recent years the transition from lower educational level to the higher educational levels of persons originating in the lower educational classes has become more difficult (p. 77), though expansion of education has increased the chances of higher schooling for the weaker sections. The culturally advanced families have been able to derive larger benefits from this expansion than the backward families. For the non-manual category, the class mobility rate is the maximum. The affinity index shows that the gulf between the rich and the poor is very wide. In chapter six, the authors resorted to the multivariate regression models to test the hypothesis that education is class neutral. They took two regression equations; in one equation, the educational score and in the other, actual completed years of schooling have been taken as the dependent variables. In both the equations, all the background character variables have been taken as independent variables. It is observed that educational achievement is the lowest in the case of respondents from rural origin as compared to those having town or city origin. A new variable, that is, the ratio of son's to father's education score, has been introduced to the former regression model as the dependent variable so as to study the inter-generation change in educational level between fathers and sons. The finding was that in every five years, inter-generation growth has increased by 3.9 percentage points. The high caste Hindu got the higher ratio whereas the rural population got lower ratio. IIoucs cr, high cultural groups have lower growth than backward cultural groups. In comparison to the performance of cultural groups with the illiterate fathers' groups, it is found that growth performance has been the best for the most backward section and the vice versa. Educational score by class origin net of cultural and caste origin shows that all classes though gained, due to educational expansion, the youngest cohort gained the maximum. Likewise, education score by cultural origin net of all other effects shows - educational expansion has not improved the educational development of the culturally backward section of the population as compared to the advanced sections. Educational score by caste origin shows that the mean level of education for the sons of upper caste origin is still high when compared to other caste groups. In spite of reservation for SCs and STs, the caste-based inequalities are still very high.

In chapter seven, the study concentrated on transition rate of the respondents at various stages. Two sets of data have been used in this chapter. At the first place, the census (1981) data provided in the socio-cultural tables has been used for India, Kerala and for Rajasthan separately. The other is the primary data

collected for the purpose of the study in the state of Rajasthan. It has been concluded that there is a difference in transitional probability between different social groups, especially, at the first and fourth branching points. The logit model shows the probabilities of obtaining secondary and university education after crossing the preceding branching points for respondents coming from urban, rural working class and poor farmer families are very poor. It is also found that after the expansion of education, the urban privileged groups have a good chance of surviving up to the third branching point, though the chances of middle class have, however, shown more improvement. Interestingly, the authors found that as more and more poor sections are covered by educational expansion and their proportion in school enrolment rises, the overall percentage of school graduate going in for higher education would fall.

In chapter eight, various class models have been given. It is found that education, independent of class of origin and caste, holds key to vertical social mobility. It is, therefore, concluded that education intervenes effectively in the process of class reproduction; it has a strong social lift. Controlling for castes and fathers' education, lower class originated sons have moved more steps ahead of their parents than those originated in the upper class so far as the inter-generation change in caste is concerned. The study also found that the inter-generational class mobility is greatly helped by education, though the uplifting role of education has weakened over time.

In the ninth chapter, some of the class based growth models have been examined. Out of the six exemplary models, the authors found the class society model, in which both class position and education are determined by origin background, is operational in India. The study pleads that structural and institutional changes in the education sector will have to be initiated so that entry to high-class position is not restricted to the upper and middle classes on the plea of rewarding merit through monopolization of quality education. It has been cautioned that if higher education is also privatised and marketised, there is a real danger of the social lift function of education being further compromised. The major findings and suggestions are made in the tenth chapter. The study suggests for creation of better schooling infrastructure in the rural areas and covering schools under operation black board scheme. Strengthening of higher education and employment and income generation programmes for the poor need to be taken care of by the government Discriminatory subsidisation policy i.e. capacity to pay for education may be explored to the maximum. Side by side, resource mobilisation for education through donations etc. must be resorted to. Last but not the least, the study pleads that education, which has a long gestation period, should not be lopsided in the long-term interest of the nation.

The book present the equity issue in more articulated manner. Especially, the analysis of transformation of inter-generational inequality in cultural groups and class attracts due attention. The study is well researched. Though at times, it

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seems, the alternative methodologies used in the book might create confusion for the readers, but various modeling techniques and analytical tools used for analysis purpose will be quite helpful for the researchers in the area of economics of education.

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BALACHANDRAN, ETHEL SELINA: *Student Evaluation for Effective Teaching,* Rajamaal Publications, Chennai, 2000, pp.xiv+216, Price: Rs.100 (U.S. #3.00).

This is an empirical study that aims at developing a rating scale to evaluate teaching effectiveness of college teachers by their students as also finding out the effect of feedback of student evaluation on teachers in terms of effectiveness of teaching. Teaching especially at the higher level of education is accepted to activate the complex process of high order mental skills of students. The teacher's job is to show what to study, to challenge students by setting high standards, and to criticize in order to spur to further achievement, to help surmount black spots and to evaluate each student's progress in terms of valid objectives.

The main purpose of evaluation of teaching is for its improvement and, therefore, evaluation must provide information regarding the quality of performance that may serve as a basis for improved teaching. Teaching is assessed on the basis of teaching process itself than on marks obtained by students in examination. Self-evaluation by teachers of their teaching is the most rewarding but it requires a high degree of maturity and unconditional need for objectivity. Student evaluation of teaching is practiced in many institutions across the globe and there is a need for its wide application. Clarity in the concept of student evaluation on the part of teachers can have tremendous positive effect in the attitude of teachers and students in the betterment of education system. Feedback of student evaluation is important, as it makes teacher aware of the expectation of students in respect of their teaching. It has produced gain not only in student rating but also in student motivation and achievement.

Teacher behaviours/characteristics are important for the success of classroom process. In this context, D.G. Rayan discussed that a teacher is effective to the extent that he/she acts in ways that are favourable to the development of basic skills, understanding work habits, desirable attitudes, value judgements and personal adjustment of students.

Teacher characteristics can contribute to the quality of teaching and can facilitate learning on the part of learners - the model of Teaching Behaviour modification assumes that the classroom teaching process consists of a chain of teaching behaviours that are influenced by learner behaviours and other types of incidental feedback together with systematic types of feedback resulting in modified teaching behaviour. There is also a chain of learning behaviours influenced by teacher behaviours and other types of incidental feedback together with teacher evaluation of learning leading to modified learning behaviours (p.23).

In this study, a rating scale for student evaluation of teaching effectiveness was developed. Initially an item pool of ninetyone items of teacher characteristics and behaviour was assembled. At the second stage, thirtyfive items were identified as important, contributing to effective teaching. On factor analysis, eight factors of effective teaching emerged on the basis of student rating. There are subject mastery and intellectual binding; responsiveness; integrity and communicating ability; commitment to teaching; impartiality; motivation; education for student progress; and internal academic help.

The results indicate that among the 35 characteristics, the lowest performance of teachers as rated by students is with respect to 'encouraging discussion in the classroom'. Teachers are best in 'punctuality' as per student rating. In order to be effective, teachers have to conduct effective class discussions and increase student participation in the teaching-learning process. Evaluative feedback based on student rating helps teachers improve their teaching effectiveness significantly. Women teachers are more receptive to student evaluation of teaching than their men counterparts. Teachers in general in the experimental group have a favourable attitude towards student evaluation of teaching. Economics teachers have improved slightly more than English teachers as a result of feedback of student evaluation.

Here the major concern is about learning flexible so as to improve teaching and having sensitive to student evaluation on the part of teachers. Teachers must acquaint themselves with the procedure of student evaluation of teaching and they must be encouraged to carry out the same voluntarily and obtain feedback. This would improve teaching and help teachers change their attitude positively and in turn enhance the effect of feedback. The author has suggested some areas of research, which may enlarge the attention of researchers. Moreover, this concept can be tried at +2 level of secondary education.

In fine, student evaluation for effective teaching is a constructive attempt to improve the quality of teaching. Your reviewer had seen the application of this concept in a teachers' training college in 1960-61. Prof. Balachandran has done a good job and deserves the gratitude of readers. The book will be of interest to a variety of readers associated with the cause of education in one way or the other.

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UNESCO (Paris), Editorial Co-ordinatior Voifmann, Wolfgang: *Women as Educator and Women's Education in E-9 Countries,* 2000, pp. 65, Unpriced.

This book documents a study of E-9 Countries namely the high population countries - Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, Nigeria and Pakistan.

In its first chapter, the document makes a comparison of the nine countries related to the role of women as transmitters of attitudes in society and their main influence on girl's value system as well as the motivation they give them to attend school and succeed in school and life in general. Also in analyses, the role of women as educators in passing on information to their daughters regarding marriage, pregnancy and fertility. Country experiences are presented such that the distinctive traditional roles played by women in the first few countries mentioned above vis-a-vis the others where legal framework permits women to have right for education, wider opportunities are thrown open to women to have access to education and facilities are extended to them within the community. For instance, women in Bangladesh acquire knowledge in informal settings. In Pakistan, women play a major role in the education of the females and family members, mostly inspired by Islamic philosophy. The document further presents how in Mexico, Brazil and China the basic ideological shifts have led to women's empowerment which have greater impact on girls' education.

As an extension to this, different dimensions of women's education have been presented and its influence on girl's education has been depicted with graphic representations and comparative perspectives have been discussed country-wise. Profiles of Countries at the end of Nineties (under review) has been presented with supportive statistical information. Not only this, the relationship between literacy and child mortality rates and fertility rates are discussed with illustrations.

In the second chapter, women are portrayed as educators in schools and colleges. Descriptions of vital role played by women teachers has been reported extensively across countries. Especially women as educators in schools in urban settings have been reported nicely. At the same time, women's participation in decision making in school education has been brought with suitable examples and studies across countries. In the third chapter, the author presents on entirely different role of women as educators in the community. The main focus on this chapter is to discuss central role played by women in rural environments. As a member of the family, community and society, a woman becomes informer as well as educates her fellow-mates to participation in community activities. Readers are made to understand the traditional roles played by women in the community as well as how they have adapted themselves to fulfil the requirements of development programmes where state and NGOs play a major role.

The fourth chapter presents women as educators in public life. Here detailed discussions are placed before the readers as to how women's empowerment processes are being organized by different countries and the results of such programmes that have made them participate in local governance. So also their identity within the political administrations and decentralized governance. The last chapter presents conclusions based on the observations made in the study of nine countries. The document is very useful for those who wish to see women as educators. To those who are interested in works related to women as educators in various settings, the document is a mirror that reflects the multiple roles played by women. For students of comparative sociology, the document provides an array of recent literature on women. It is an interesting document for academicians who wish to examine issues concerning women in school contexts.

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SINHA, J.B.P.: ***Patterns of Work Culture: Cases and Strategies for Culture Building,*** **Sage Publications, New Delhi: 2000, pp. 200, Price: Rs. 200 (Paperback)**

In the era of economic liberalization and integration of economy, materials pertaining to industry and management are virtually flooding the market. Much of these run-of-the mill documents are commentaries on an analysis of corporate structures and functions. More importantly, these studies also link them to the ethics of capitalism and indispensability of globalization both as theory and practice. But the book under review comes as a refreshingly new phenomenon and makes its presence felt in the market not only because it does not share the culture of the day but also it attempts to locate the 'pattern of culture' in the world of industry. The book aims at discovering the 'work culture' in a seemingly under-developed state and its flagging industrial structure. The author zeroes on the prevalent work ethic in small industries and, through a detailed and remarkable field work, tries to bring these facts into academic deliberation.

Purely for the purpose of review, the book may be divided into three main parts to get a glimpse into the structure and contents of the book. This division, based primarily on analytical and heuristic reasons, is thematic in nature, besides being illustrative rather than exhaustive, with focus on theoretical, methodological and substantive dimensions of the book.

Within the theoretical structure of the book lies the profound realization of culture as an important element of management and production process. Continuing the lead provided by the observations of 'Hawthorn studies', the author outlines the premise of industrial management based on. cultural

parameters In fact, culture continues to dominate recent paradigms of entrepreneurship and management, as we are becoming more technocratic and cyber savvy. However, the concept of culture remains elusive, though there has been a broad acceptance of Tylorian definition of culture as a "complex whole which includes knowledge, beliefs, custom, tradition, law, morals and values and any other capabilities acquired by man as a member of human society" (Tylor: 1871). Despite this, most social science researchers use their operational definition. In this context, culture is defined as 'the totality of assumptions, beliefs, values, social systems and institutions, physical artifacts and behaviour of people reflecting their desire to maintain continuity as well as to adapt to external demands' (p.14). This definition of culture is used to explain the network of social relationship and human dimension of management and production process. Further, the author tries to pattern this system of behavioural responses and attitudes (worldview and life-world) and test this hypothesis in industrial setting. Positing a similar line of explanation, he contextualises this logic in the definition of work culture. For him, the work culture is dependent upon the societal culture, which is a broader category defined as something that consists of 'the assumptions, beliefs and values acquired and held by the majority of people in a geographical area for the purpose of: (a) adopting to the ever changing environment; and (b) developing an identity in order to maintain continuity in the core areas of their lifestyle (p. 13). Underlying this definition of culture, the author fries to investigate the impact and importance of culture in small industrial units. His emphasis on the work culture forces him to write that work culture comprise the meanings, beliefs and values attached to work. Basically, this refers to quality time put in work, efficiency, commitment, role perception and role performance. In this theoretical chapter, we come across various dimensions of work culture, work ethics and perception towards work in Indian, western and Japanese cultural tradition etc. The pattern of work culture is divided into three sub-heads namely soft culture, technocratic culture and work-centric culture. In the analysis, classification of work ethics is based on management style, motivation, available infrastructure and facilities for workers.

The book follows a standard social science methodological procedure to collect and collate information. Equal emphasis is given to standardization of questions used in the questionnaire and systematic generalizations based on sound theoretical premises. As a part of its methodological agenda, the study implores into the contours of the setting and then to the profiles of industrial units under the observation of the study. The study is based on industrially underdeveloped state of Bihar (undivided) and for the purpose of better representation, samples are collected from the northern, central and southern belts of the state. Pervasive poverty, inadequate infrastructure, a weak administrative base and low level of human development characterize Bihar. Efforts are made in the study to familiarize the reader with the social and

economic background of the state and its industrial moorings, albeit briefly. The focus of the study is on the small size industries and, therefore, details are given regarding their size, structure, workforce, employment pattern and procedure, investment etc. A cluster of twenty-eight industries is sampled from a variety of production units varying from food and beverage industries to iron and steel industries. However, all these units can be broadly divided into three categories namely, goods and beverages; engineering, iron and steel; and chemical, ceramics and others. Each sample unit is described and analyzed on the basis of its location, history, ownership, workforce, work environment etc.

The last two chapters delve into the dynamics of analytical issues pertaining to work culture. In the first section pertaining to discussion, we find that wider discrepancies exist among the sampled organisation not only in terms of products but also in relation to total capital invested, management style and type, number of workers, wage and salaries, ownership types, location, age of establishment and brand name etc. Sometimes these are quite striking but, according to the author, beneath these external features, there lies a similarity in their pattern of work culture which is common to all. More importantly, these variations do not affect generalizations.

The last chapter deals with the pattern of dominant work culture prevalent in these units and follows it with some suggestions to improve the situation by altering the existing pattern of work culture (amoral work culture). In the ensuing analysis, the author points out that though the image of the organisation, ownership, management style and work environment differ in most of these units, the workers and managers share similar worldviews and attitudes to work, though an insignificant variation can be located at places. The scope, analysis and purpose of the book can be better understood with a link to the author and his previous work. Professor Sinha has engaged himself over a period of time in issues relating to cultural and psychological aspects of management and has coined and operationally defined many concepts, which have contextual and cultural meanings. In his earlier studies, he had identified two patterns of work culture: the soft work culture and the synergetic work culture. In the context of small organisations, he discovers slightly different pattern and has named it as a moral work-centrism. According to him, the emergent emphasis on work and improved productivity based on self interest and inward orientation might work fine for short spells but it will turn counter-productive at late stages. Citing instances and distinguishing between the public sector, state owned and privately owned industries, he opines that though the productivity and facilities are relatively better in public sector and private owned industries, the work culture remains the same. The bureaucratic hurdles, administrative bottlenecks, lack of training facilities, shortage of updated information, lack of safety norms and gears as well as a de-motivated workforce is common to all the industries under >iudv. Even **when workers are putting more working hours and squeeze out extra**

works, they are doing so under the constant pressure of lack of alternatives and nagging from the eagle eyed supervisors rather than spurred by a genuine work ethic and collective commitment to industry. Demand for higher pay and better facilities have been common to both the workers and the managers across the board. The pressure tactics and lack of choice cannot revitalize the industries nor it can be productive over a period of time, therefore, the need is to reorient the work culture. The author suggests a shift from the pattern of amoral work-centrism to work-centric nurturant organisations where the emphasis will be on combined strength of welfare and work orientation.

There has been little to criticize about the book except its lack of an extensive theoretical framework and review of literature which could have allowed the reader a much better grasp of the trends of recent researches in the area and the contents of the present study. Further, this would have provided him with a better insight and ability to assess the present study. It would also have been better if a cross-cultural analysis of work culture could be put forward and, in any case, work culture in Bihar is hardly indicative of general work culture prevalent in India and it hardly provides scope for wider generalizations.

However, this lucid and compact book raises a few important questions and explores into a very important aspect of industrial behaviour particularly in the context of India. It would be very useful to a host of professional workers in the environment of academic organisations, industrial settings and bureaucratic citadels besides the teachers and students of social and industrial psychology, management and human resource development.

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GUNDARA, JAGDISH S.: ***Inter-culturalism, Education and Inclusion,*** **London: Paul Chapman and Sage Publications, New Delhi, 2000, pp. 214, Price: 17.99.**

Bred in an increasingly heterogeneous nation, the term 'multiculturalism' formed the basis of a widespread debate in the US and quickly gained international currency. Yet by the beginning of the 21st century, the term, meant primarily to refer to the presence of non-white cultural pressures, is fast being replaced by that of 'inter-culturism'. The book in hand is one such endeavour and seeks to address issues related to education in the context of inter-culturism and inclusion. Though Gundara does not provide explicit meanings of either 'inter-culturalism' or that of 'inclusion', one gleans from the stray sentences that interculturalism refers to the need for dominant cultures to take into consideration the cultures of

subordinate groups. And in the context of many nation states, having culturally different groups who are also disadvantaged, inclusion, in the context of education, refers to the need to enable such groups to fully participate and gain in education processes. Though Gundara seeks to address these important issues in an international context, he starts by providing an interesting introductory note to his own personal history of being a Punjabi boy who grew up in Kenya, studied in Canada and now lives and works in the U.K. Having experienced racist discrimination from an early age, Gundara is especially sensitive to the range of discriminatory practices in education. Documenting the contentious and often difficult conditions and experiences of different ethnic groups in the UK's education system, Gundara delineates not only the broad cultural bases but also identifies with the pressures that many of the immigrant groups face in the UK. He emphasises the need to take into consideration the social class bases for differing academic performance of different ethnic groups. Arguing against the stereotypical and psychological approaches used to explain the low academic performance of 'black' groups, Gundara points to the "present forms of racism, the present forms of structural inequalities and present barriers to choice" (p.53) which combine to disadvantage many non-white communities. Gundara also provides an excellent overview and assessment of some education policies in the U. K. For example, he reviews New Labour's approach to education which claims to challenge the "circle of disadvantages" but continues to function out of pre-existing institutional structures and fails to recognise the need for the education system to incorporate multiple languages. This, as Gundara points out, is central as one-third of school children in the UK speak in languages other than English at home and London's residents represent 307 languages. In addition, he calls alteration to the pressures of youth culture and emphasizes the need to strengthen community-school relations.

However, Gundara's review of affirmative action programmes in the U.S. and India is on thin grounds and he draws on a popular misconception when he notes that the "dominant scheduled castes and bouregis blacks assimilate within the existing structures" (p. 104) in such programmes. But Gundara's perspective in representing and understanding issues of interculturalism is welcome in as much as it provides a perspective from that of the working class. This is in sharp contrast with much of the multiculturalism debates in the US in which ethic groups and cultures are represented in a non-class perspective. Gundara goes on to argue for inter-culturalism in an attempt to include issues of rights of citizenship and equal participation in civil society and to ways in which "exclusionary power and powers of exclusionary institutions (p. 120) can be dealt with. At a time when global or trans-national 'good practices' of policies are sought to be shared, Gundara provides a useful overview of some key trends and development in intra-culturalism in different countries. Drawing primarily on a world svstems approach, he indicates some of the problems faced by non-white

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immigrants in Europe and among the multiple ethnic groups in Malaysia and Singapore.

On the whole, the book is marked by a prescriptive tone and several sentences are odd statements, which are not fully developed or supported. Though the essays in the book lack a coherent structure or theoretical framework, the essays are wide-ranging and the bibliography is up to date and useful.

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MAZZAROL, TIM and SOUTAR, GEOFFREY NORMAL: ***The Global Market for Higher Education: Sustainable Competitive Strategies for the New Millennium.*** **Cheltenham, UK: Edward Elgar, 2001, pp.200, (hard bound), Price: £ 45.00; ISBN: 1-84064-329-3**

Though it is the economists who recognised the economic dimensions of education and emphasised aspects such as investment, human capital, rates of return, etc., they at the same time did not ignore the basic nature of education, when economic tools were applied. For instance, the public good (and *quasi-public* good) nature of education, the merit good nature, the consumption component, education as a means of development as well as a measure of human development - all received due attention of the economists. But of late, with the strong wave of globalisation, many, particularly management specialists tend to treat education rather exclusively as a marketable good, without making any distinction between education which is recognised by many as one that requires to be specially treated even among the economic activities due to the social and human components imbedded therein, and any other commercial good and service. WTO/GATT discussions also exhibit the same trend. The book under review falls exactly into this category. Both authors, who are respectively Senior Lecturer and Professor and Director at the Graduate School of Management at the University of Western Australia, ignore the basic and mostly recognised inherent characteristics of education altogether, and focus their attention on management strategies on how to market education in the global international market.

The nature of education as a marketable service and sustainable strategies to market it in the global arena is the focus of the book. Even when the history of education was briefly described in the book (in chapter 1), it is the history of education as a 'service industry,' that was described. There was a brief description of free compulsory and secular education in a few European countries in the 19th century. The authors surprisingly do not even attempt at the rationale for providing education free, compulsory and secular. Similarly there was a

cursory brief reference in less than half a page to the social benefits of education, and to the human capital theory, which according to the authors was criticised as it concentrated on 'the narrow market function of education, ignoring the social and cultural aspects ..' While such a criticism of human capital theory does not stand the scrutiny of any serious researcher, this applies very well to the book under review. The concept of 'success,' in education for the authors means 'market success' - success in global markets, or what is commonly described as success in 'selling education abroad.' The authors describe in detail in several chapters what brings success; they analyse the determinants of success, and describe strategies required to make the success sustainable.

On the whole, readers interested in education issues would be very much disappointed with the extremely narrow perspective of the authors. Neither the historical factors that led to formulation of public policies for education development, nor theoretical and conceptual aspects of education, are given any place in the book. Treatment of the subject such as internationalisation of education attempted here requires an interdisciplinary perspective, which is completely lacking in the book. I doubt whether it satisfies any serious reader, even if he/she is interested in the narrow framework of the book. For example, one expects a critical discussion of some of the strategies adopted by a few countries in aggressive marketing of their education abroad and the pros and cons on education development. Many of the strategies violate established ethnic, legal and even educational norms. For example, that universities offer courses to students abroad, which are not approved to be offered to native students, has been an important feature in the recent past. That many universities are 'successful' essentially due to weak regulatory mechanisms in developing countries on the one hand, and indifferent attitudes of the governments of the developed and developing countries - is also well known. Universities that fail in the domestic sector might meet 'success' in the international market, as the criteria for success in international market are different from those adopted in domestic economy. These are only a few illustrations. The authors do not even warn about such tendencies. One should also look at what happens to the national educational systems with the aggressive marketing strategies adopted by other countries. What a pity: the book certainly does not help in better understanding of the mechanism of global marketization of higher education, nor does it help in sound policy making in education at national or international levels.

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