

Economics of Education

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INTRODUCTION

Economics of Education, which developed as an offshoot of the interest of the economists and policy-makers in the problems of economic development, appears to have got an unshakable place now in social sciences as an important component deserving the attention of the researchers and policy-makers. A number of issues relating to the economic aspects of education have emerged in the course of research studies. These issues have gone beyond the initial themes of economics of education which relate to the problems of costs, financing and returns to education. The new issues which have attracted the attention of the researchers in social sciences relate to diverse themes such as wastage and stagnation, the economics of study by foreign students in India, brain drain, problems of educated unemployment, the economic dimensions of different methodologies of transmitting knowledge to students, distributional issues concerning the questions of access to and utilisation of educational opportunities, education and economic reforms, etc. Inter-sectoral perspectives on education and other sectors of the economy have further enriched the social science perspectives on education.

At this stage of the development of the interest of the social scientists in education, one feels extremely encouraged by the fact that education has no longer a restricted scope now,

as the concern of pedagogy and pure educationists *per se*. On the other hand, recent developments in the researches on education have made misnomers the terms of such subdisciplines as economics of education, sociology of education, politics of education, etc. This is because no research study on education can be put in a watertight compartment of these subdisciplines. In other words, one cannot visualise a study in economics of education *per se* without sociological and political perspectives. Similarly, a sound study in sociology of education cannot be divested of the consideration of the economic and political dimensions involved. With such confessions we have to consider the studies on economics of education. In the present trend report on economics of education, we wish to consider some of the recently completed studies on various aspects of education if they have some reference to the socio-economic dimensions of education or have some focus on economic aspects. Our approach would be relatively more liberal in including the studies under this trend report rather than excluding them in recognition of the interdependencies of different aspects of education. Such an approach, it is believed, is likely to be more rewarding even for a student of the narrow concerns of 'pure' 'economics of education' itself.

From a quick look at the studies undertaken in India on social science perspectives, particularly 'economics of education', one finds

that most of the studies are largely empirical in nature. The conceptual and rigorous, theoretical studies in economics of education are missing. It is in this sense that we feel that in the discipline of economics of education, as developed so far through the reviewed studies, India has a long way to go in terms of strengthening the rigorous conceptual foundations of the disciplines.

A qualification needs to be added here. The thematic review below is based upon only the studies completed mostly in the university system by the students for their degrees. The above observations would, therefore, be applicable only to those studies. Only occasionally, a few other studies have been reviewed under different themes.

The plan of the overview would be:

- (a) raise the conceptual issues relating to the theme;
- (b) present a critical thematic review of the available studies, in brief, in this general background; and
- (c) suggest researchable areas for future work in the background of the existing state of knowledge.

The themes considered are:

- (1) Interlinkages between education and socio-economic variables.
- (2) Problems of inequality in education: the economic dimensions.
- (3) Issues in educational planning.
- (4) Problems in educational finance.

INTERLINKAGES BETWEEN EDUCATION AND SOCIO-ECONOMIC VARIABLES

Education has several economic dimensions was recognized by the thinkers in India since long—for example, the eminent Sanskrit poet Bhartrahari (circa AD 10-11th century) termed education as indestructible wealth having significant use value and exchange value. It is only during the period after the 1930's, or more specifically, after the 1960's, that economics of education as a 'discipline' was 'born'. A series of studies on estimating the economic value

of education strengthened the foundations of this new discipline. The reciprocal linkages between economic variables and education also widened the scope of the discipline. Still later, the simultaneous interactions between the effects of socio-economic variables and educational variables came to be considered in some of the technical studies (the simultaneous-equations model developed by Wheeler in the World Bank papers can be cited as an example). In India, in recent years, such direct and reciprocal linkages between socio-economic and educational variables have been examined in a number of empirical studies. The studies are rich in their perspectives, covering several subtle aspects of these linkages. We propose to attempt a thematic review of the *recent studies*, highlighting the effects of education on socio-economic variables first, as that is how the literature in economics of education seems to have developed. After such a thematic view, we propose to review the recent studies focusing on the effects of socio-economic variables on education. Overlaps cannot be avoided for obvious reasons. The studies focusing on the socio-economic aspects of wastage and stagnation have been chosen for a special review in view of the crucial significance of wastage and stagnation in achieving the goals of UEE and Education for All.

Effects of Education on Socio-economic and Demographic Variables

Education has significant influences on the economic status of the individual and the family and on the productivity of the entire economy has been the subject-matter of a number of rate-of-return studies which were part of the first-generation contributions in economics of education. A number of questions are faced by the researchers in this connection. Some of the major questions are outlined below.

Major Issues

- (1) What is the mechanism through which education influences the economic

variables? Does education directly influence the productivity of the individual and the productivity of the economy as a whole? What type and level of education would have favourable effects on the economic well-being of the individual and of the country as a whole? In other words, is it possible to identify the critical minimum effort of education for realising the economic gains?

- (2) Are the benefits from education for the individual consistent, with the benefits for the economy as a whole? Or, if they are not consistent, what are the factors responsible for this inconsistency?
- (3) How does education interweave as an important determinant of the demographic variables? Is it possible to manoeuvre education to realise the goals with respect to the demographic variables?

The Studies

The studies under review do not touch upon all the above problems. Unfortunately, very few rigorous studies are undertaken by researchers in economics in different universities and institutions on some of the above issues.

The rates-of-return studies which are still popular with students of economics of education have their own limitations (Panchamukhi, P.R. 1988). The empirical testing of the rate-of-return approach to allocation of resources in education and also a number of conceptual problems in considering education as an agent for capital formation in human beings have been succinctly outlined in a number of studies brought out in a volume edited by Kothari, V.N. (1991). Such studies were attempted for different communities, genders, groups, states, etc., Some of the studies also examined the relevance of education for improvement in the agricultural sector.

A study of education of women in the developing state of Orissa (Debi, S. 1992) showed that the rates of return for women's education

are lower than those of men's education. In some cases, in view of the high wastage and stagnation for women, the rates of return for education for them were even negative. In the context of a backward socio-economic environment, any improvement in family income is found to lead to preference for education of male members in the family to that of the female members. This is a somewhat strange and interesting result. If resources are not adequately allocated for women's education then the rates of returns for women's education should be even higher than those for men's education, implying that there is underinvestment in women's education. The low rates of return for women's education as obtained in the case of Orissa, however, have to be interpreted in terms of the overall low rates of return for education for both men and women. This may also suggest that the rates of return for education cannot be considered as a dependable guideline for policy-making in resource allocation!

More than the rates of return for education, women's education depends very much upon the educational level of the parents themselves.

Which type of education is likely to be crucial for socio-economic upliftment?

Does education influence the attitudes towards family planning and the small-family norm? This question was examined in the context of adult education programmes in Punjab in a limited way (Sodhi, H. 1992). On the basis of 628 rural adult families of Punjab from 32 adult education centres, it was found that participation in adult education programme positively influences the attitude towards the small-family norm. It is interesting that neither the size of the family nor the socio-economic status of the members had any significant effect on the attitudes towards the small family norm, except through an interaction effect on such an attitude. The adult education of rural women in the age-group of 15 - 35 was found to have positive effect on such an attitude. In another study for Punjab (Sodhi, T.S. and Singh, M.N. 1990), it was found that education does

intervene in a significant way to alter the responses of the Scheduled Castes members in rural and urban areas so far as their attitude towards the population problems are concerned. Thus, education is found to be more effective in an urban environment than in a rural environment. Can we in, other words, say that it is success which succeeds so far as the effect of education on demographic variables is concerned?

A clearer evidence of the role of education for improvement in income was presented in a study for Andhra Pradesh (Reddy, C.C. 1988) using the data for 1,150 farmers drawn from various educational and cultural backgrounds from two districts—Mehboobnagar and Medak—of Andhra Pradesh. It was found that education of the farmers and their agricultural income are highly positively correlated. The modus operandi of the influence of education on farmers' income is through the farmers' exposure to mass media programmes, which educate them about the different aspects of agricultural activities. In an earlier study for the Punjab and Haryana wheat belt, (Choudari, D.P. 1968) it was shown that the stipulated number of years of formal schooling for the farmers is always advantageous. The present study (Reddy, C.C. 1988) also showed that there is a positive relationship between the degree of exposure of the farmers to mass media extension education, and their agricultural income. From these results the study suggests that suitable extension programmes for the farmers need to be organised, so that the agricultural income improves further. Though the study uses some of the simple statistical techniques (the correlation co-efficient) it appears that the vast data for 1,150 farmers collected by the researcher has not been fully used for developing a more rigorous study of the linkages between education and agricultural income.

Such sectoral studies of estimating the effects of education on economic variables are not many though there are several studies using the earnings data of general population and

linking them with education data. One such sectoral study for few firms in electrical and electronic industry in a city concluded that the social rates of return to education are fairly high in this industry (Hebbare, V.N. 1989).

A Source of Misplaced Priorities?

From the above brief review we are back in the question-raising mode. Have researchers overacted in emphasising the economic value of education, neglecting the primary functions that education is expected to perform? It is time now that researchers have to attempt such a self-introspection. Some of the rigorous studies in the literature (Kothari, V.N. 1991) have raised such questions showing that income and the rates of return are a function of several variables like labour-market conditions, social background, native intelligence, occupation, industry, etc., and not just education. Many more such multi-variate analytical studies are needed to prevent overstress on only the economic dimensions of education.

Effects of Socio-economic Factors on Education

The studies in Economics of Education have focused on the importance of education for socio-economic status (SES). The reciprocal linkage between the socio-economic status and education is also equally important. Some of the first-generation studies in this field tried to show how in the low-income countries educational development is likely to be neglected. In a micro-level setting the less advanced social status was also found to be related to the lower educational status of the individual. The educational backwardness of the Scheduled Castes and Scheduled Tribes population brought out by a number of studies is illustrative of such a linkage. In the same way, the educational backwardness of the Blacks in the United States, and of the economically less developed countries in the African subcontinent are taken as cases of evidence of such a correlation between the socio-economic status, on the one hand, and

educational development on the other.

Major Questions

A number of questions can be raised in this context. In what way do socio-economic factors influence the different aspects of the process of educational attainment? In other words, do they influence the choice of the courses in education? Do they affect the occupational preferences of the students while they are still in the process of education? Does SES affect the achievement motivation of the students? In what way are socio-economic status and scholastic achievements related? What do we mean by *socio-economic status* which intervenes in different aspects of education? Is it possible to identify the variables under SES which can be considered as policy variables, i.e. manoeuvrable, in order to influence different aspects of education? What percentage of the variables under SES can be so considered as manoeuvrable and what percentage are beyond the control of policy-making? How strong are the former group of variables as compared to the latter group? Thus, there are several conceptual and empirical questions which need to be analysed while examining a flow of causation from the socio-economic status to education.

Materialistic Interpretation of Education?

Unfortunately, the studies that are available in this field are mostly empirical in nature without giving a semblance of trying to develop a body of theory or conceptual insights into the effects of socio-economic variables on education. The studies also appear to be somewhat mechanical in terms of methodology and the direction in which the generalisations are drawn.

Most of the studies which try to examine these type of linkages are based upon the data for different levels of education (standards) derived from *ad hoc* field investigations. The studies on socio-economic and familial correlates of achievements (Usha, P. 1992; Trivedi, V. 1988; Sahay, N. 1991; Ramaswamy, R. 1988; Muthumanickam, R. 1992; Indra, 1991;

Harikrishnan, M. 1992; Garg, C. 1992; Ganguli, M. 1989.; and Devaneshan, P.P. 1990) show that the socio-economic conditions of the family are fairly closely associated with the academic achievements of the children, whatever be the level of education that we consider. For girls, this correlation is found to be closer. That is why poor families are discouraged from sending their girl children to schools and for higher education. While there are many factors like personality, achievement motivation, self-concept, study habits, etc., which contribute to the scholastic achievements, the role of socio-economic status cannot be considered to be insignificant. In fact, all these other aspects are likely to be dependent upon socio-economic status itself.

Such a *materialistic interpretation of educational achievements* may be frowned upon in the conventional context of achievement being considered dependent upon only native intelligence and 'pure' education. Even the commitment of the students to the scholastic pursuits was found to be closely associated with the economic status. One of the studies (Yeole, C.M. 1990) concluded on the basis of a study of 500 adolescent students from higher secondary institutions in Kolhapur city that eve-teasing, gangstering, bunking from class, etc., were more prevalent among students who came from the richer families! It was less prevalent among the children coming from poorer families. There is, however, a sense of purposelessness in the pursuit of their education for many children from the poor families, in particular. Underachievement was found to be prevalent more among boys rather than girls, among rural students, among backward castes students and among the upper age-group students, as compared to the others (Seethamoni, D. 1988). This shows that socio-economic status, which is relevant for educational achievements, is a highly complex phenomenon. Several types of permutations and combinations among different socio-economic variables are possible, each permutation and combination indicating one type of socio-economic status. One can

understand in this context why some of the studies in this field have even questioned the relevance of socio-economic status for educational achievements. The various scales of socio-economic status constructed by scholars in this field so far can be considered as different possibilities implying that there is much scope for further refinement of the concept itself. A study carried out in Aligarh district, for example (Saraswat, A. 1988), concludes that it is the school environmental factors which are more important than the socio-economic background factors for the students so far as the academic achievements of adolescents in different types of school climate are concerned. The achievement motivation is found to be a major factor in determining the scholastic achievement of the students, even without the influence of the socio-economic status, according to another study (Paul Devanesan, P. 1990).

Wherever the socio-economic status factors are found to be playing a significant role in determining scholastic achievements, efforts may have to be made to alter them to facilitate better scholastic achievements.

The socio-economic status, educational aspirations, scholastic achievements, value formation, etc., function under a mutually reinforcing mechanism. For example, the vocational choices of higher secondary students were found to be independent of their socio-economic status according to one study (Robert 1988). According to another study (Srivastava, L. 1988) vocational development is related to academic achievements and socio-economic status but not to gender and levels of education.

Education is found to alienate the students from their moorings and develop in them different sets of values. For example, irrespective of the socio-economic status, the students are found to be having negative attitude towards manual jobs (Subramanyan, P. 1990). Education itself has a tendency to take away the children from their familial backgrounds (Verma, B.P. and Nayak, R. L. 1990). Socio-economic status was also not found to be significant in its effect on the learning styles of

the students (Verma, B. P. and Tikku, A. 1990). Though there are not many studies on the mechanism of how the socio-economic factors influence educational achievements, general insights can be derived from some of the studies about this issue. For example, socio-economic status could influence the mother's reactions towards the children's behaviour. If this reaction is positive then children may develop achievement motivation. However, in the families with lower socio-economic status, the mother's reaction to the behaviour of children of preschool age was not very positive (Srilatha, G. 1988). Socio-economic status may also determine the preferences of the parents for different categories of schools. For example, parents with better socio-economic backgrounds are found to prefer unaided pre-primary schools to aided pre-primary schools, not only because the former provide better physical facilities at the place of learning but also because the unaided pre-primary schools are used as a good screening device at entry points (Sharma, R. 1992).

Never to be Conclusive?

The upshot of these various studies under this broad theme of flow of causation from socio-economic status to education is that the studies are not conclusive. The materialistic interpretation of educational development has yet to take firm roots as a basis for policy-making in a country like India. The studies done for the Coleman Committee in the United States on the question of socio-economic background and education had methodologically stronger foundations and hence they could have a higher degree of acceptability. So far as the studies in India are concerned, it may be observed that they have a wider coverage in terms of consideration of different aspects of the problem, but have lesser depth in terms of their methodological strengths. Against such a background, the results cannot be considered to be conclusive. This is evident from the precisely contradictory sets of conclusions from the

various empirical studies undertaken with different regional data.

Economic Aspects of Wastage and Stagnation in Education

A number of studies on wastage and stagnation at different levels and in different types of education attempt to bring out the importance of socio-economic factors in determining wastage and stagnation.

The problem of wastage and stagnation obviously would have very significant socio-economic implications in that the social costs from wastage and stagnation would be unbearable against the background of the scarcity of physical, financial and manpower resources available for education in a developing country like India. The studies range from the analysis of the problem of the wastage and stagnation in the context of a given city to the state and groups of states in the country. A study (Chavare, D.S. 1991) showed that even in an educationally advanced environment the drop-out rates are fairly high. The drop-out rates were high for those living in slums, and for those who live below the poverty line in which the daily-wage workers are found. Wastage and stagnation is a major problem in educationally backward states, which, incidentally, are also economically backward, like Andhra Pradesh, Assam, Bihar, M.P., Orissa, Rajasthan, U.P., West Bengal, and Jammu and Kashmir. These rates are high for Scheduled Castes and Scheduled Tribes, for children from the families with low economic status, and for girls. (Gupta, J.K.; Rastogi, P.K., Gupta, M.K. and Srivastava, A.B.L. 1989 and Gupta J.K.; Srivastava, A.B.L. and Sharma, K.K. 1991). About whether the rural environment is associated with a higher wastage rate, there is no agreement among the researchers, even though the majority of the studies reviewed here showed that in the rural areas the wastage rates are higher than in the urban areas (Gyaneswar, S. 1992). A separate study for Rajasthan (Vyas, J.C. et al. 1992) shows that the drop-out rate in urban areas is more than in the schools of rural areas. Some

of those studies also show that there is no significant relationship between physical facilities in the schools and the drop-out rate, contrary to the common belief. This is a startling conclusion (Vyas, J.C. 1992) questioning even the basic premise of the Operation Blackboard measure. The parental perceptions, the student perceptions and teachers' perceptions about the causal factors for drop-out among the school children, by and large, converge. Though the teachers have highlighted the specific factors of frequent transfers of teachers and large family size, illiteracy of parents, etc., as the basic causes (Yadav, B.S. 1991), it has also been shown that even absenteeism and regularity in attendance of the children, which may ultimately influence the academic achievement, are closely associated with the socio-economic background of the children. A study for U.P. (Rawat, G.S. 1987) shows that the drop-out rate for children coming from the higher socio-economic status is relatively higher than for children coming from lower economic status: this indicates the negative effect of better economic conditions on the attendance of the children. Normally, wherever the economic compulsions are great, children drop-out to make good the economic deficiencies. Another study for secondary school students showed that for the girls the drop-out rate is higher than for boys as the girls are required for household work as per prevailing practices. That the economic compulsions are the causes for dropping out may also be indicated by the occupational preferences of the drop-out children (Pathy, M.K. 1990). Such preferences were quite different from those of others. The drop-out children preferred clerical jobs in the employment market. In the urban areas, the occupational aspiration of the drop-out children were somewhat better than in the rural areas. The studies also showed that the drop-out children from the urban areas were found to be less intelligent than those who continued in their education. In the rural areas the drop-out children were found to be more outgoing though

less intelligent (Nayal, G.S. and Nayal, S. 1989). While several socio-economic factors may be responsible for the problem of wastage and stagnation in education the pure educational factors also have some role to play in this. For example, the detention system and drop-out rate are found to be much more closely associated than the socio-economic background factors and the drop-out rate (Reddy, V.R.A. 1989).

What do the drop-out children do? What are their economic aspirations? Do they wish to continue their education under the non-formal system? These are some of the issues which may bother the policy-makers. It is found that there is no smooth sailing in the change over from the formal to the non-formal system for the drop-out children mainly because of the lack of proper facilities, absence of women teachers, distance of the non-formal education centre from the place of the stay of the children, etc. (Krishnaji, G.H. 1989).

From all these studies it seems clear that the socio-economic factors do play a role in determining whether the children continue their education or drop out. If it is possible to classify these socio-economic factors as those which are manoeuvrable and those which are not, then the studies would have a significant input for the policy-makers. While drawing inferences about such matters, care has to be taken not to disturb the other policy thrusts. Thus, for achieving the objective of lower wastage and stagnation in education, improvement in the educational level of the parents or improvement in the appreciation of the value of education by the parents, improvement in their economic conditions weakening of the taboo against girl's education, provision of adequate facilities in the school system for boys and girls, etc., may be suggested as the directions in which the intervention may be helpful. However, if the wastage rates are found to be high for rural areas as compared to urban areas, the policy conclusion should not be in terms of shifting of children from rural areas to the urban areas. The policy conclusion ought to be the provision

of adequate facilities in rural areas which are comparable to those obtaining in urban areas.

THE PROBLEMS OF INEQUALITY IN EDUCATION

While we may appreciate that education intervenes in a significant way to improve the socio-economic status of the individual and of the society as a whole, in order that education performs this function effectively, there ought to be equality in education. In actual practice we find that there are serious inequalities in the field of education. The problem of inequality can be considered under the following heads.

- (a) Inequalities in the distribution of educational facilities.
- (b) Inequalities in access to educational facilities.
- (c) Inequalities in the utilisation of these facilities.

All these three facets of inequalities—which may be expressed in terms of inter-regional or inter-community or inter-group inequalities, inter-gender inequalities, interpersonal inequalities, etc.—would be a function of the socio-economic factors. It has been found that a relatively less developed region in the country suffers from inadequacy of educational facilities as well. Since the people in such less developed regions consider education as an item of low priority, the access to educational facilities is not equal; for the same reason the educational opportunities are not equally and fully utilised by the people. In this sense, the role of education as an agent for economic improvement will not be realised at all in such regions. In the Indian context, the educational opportunities in the rural areas are found to be inadequate at all levels of education. The special educational reforms aimed at equality in the distribution of educational opportunities have not succeeded to the extent expected (Panchamukhi, P.R. et al. 1989).

We are not reviewing here all the studies pertaining to inequalities in education. We

would, however, consider only studies which emphasise the economic aspects and also some of the measures to tackle educational inequalities. Two such measures are considered for a special review of their economic aspects: (a) the Non-formal system, and (b) measures based upon inter sectoral linkages.

Inequalities in Education: Undisputed Conclusions

Inter-regional, inter-community, inter-caste, inter-group and interpersonal inequalities, etc., in education would have significant implications for the socio-economic status of the individual. India presents a polar case model consisting of a high degree of access to and utilisation of educational opportunities and also a high level of internal and external efficiency of the educational system, at one end, and very low degrees of access to and utilisation of educational opportunities and also low levels of internal and external efficiency, at the other. While there is the state of Kerala with high levels of achievements, there are also the educationally backward states like Rajasthan, Bihar and Orissa.

Even in a less developed state, extreme *intra-regional* inequalities are observed. In the case of Orissa, for example, (Mohapatra, R. 1988) the inter-district inequalities are fairly high. In the tribal districts of the state, the educational facilities are not satisfactory at all. Even over a period of time the improvements in the facilities in such districts are not still quite up to the mark. Several factors contribute to such inter-regional and intra-regional inequalities in education. The deprivation of different communities and regions and sub-regions is multi-dimensional; the pace of development is uneven; the resources are scarce; and the educational planning exercise is almost non-existent and ineffective in actual practice. That the educational backwardness of Orissa is also due to a lesser allocation of resources to education is brought out in another study (Sahoo, C. 1990). The per capita expenditure

on education in the state of Orissa was the lowest in the country on the eve of the First Plan. The per capita expenditure continues to be low even thereafter. This also shows that there is no concerted effort to develop education in a planned way in the state.

While it is true that an educational institution is a replica of the society reflecting all types of stratifications that are witnessed in the Indian society, each individual educational institution seems to be designed to cater to different socio-economic groups of the society. Schools catering to children from different socio-economic strata are found to offer facilities that are different and disparate. Hence, they in turn create further inequalities in the society. For example, the Indian Institutes of Technology (IITs) and the management institutes normally cater to the students from the upper echelons of the society. There are innumerable arts and sciences colleges in the country catering to the needs of the children from the lower socio-economic strata. The public school versus the non-public school differentiation is too well-known, which perpetuates and strengthens the prevailing elitism in the society. A study of three schools belonging to three socio-economic strata of the society from Bombay (Britto, R.S. 1988) clearly brought out the positive relationship between the class to which a school caters, on the one hand, and the academic performance of the students, physical facilities available, home support to education, etc., on the other. Since social backwardness and economic backwardness seem to be converging in the society, the improvements in the economic status realised through different policy interventions might be the suggested policy implications of such studies for overcoming the educational inequalities. Educational inequalities are found not only as between different communities; they are found also within a specific community. In fact, the intra-caste and community inequalities are found to be more severe than the inter-caste and community inequalities (Chinnappan, G. 1987). Problems of income distribution can be tackled

by providing equal educational opportunities, other things remaining the same. In the case of the Muslims, for example, the educational inequalities are found to be grave. Particularly with regard to the girls, the educational inequalities have been quite large in view of the social customs, lack of adequate facilities (say the neighbourhood schools), low economic status, etc. (Awasthi, S.K. 1992). Certain socio-economic measures have been suggested by some researchers to improve the situation. A study of 960 students from Kumaon University (Bisht, A.R., 1990) showed that the socio-economic status and vocational stress are negatively related, and hence the reservation policy in employment should be based on the socio-economic status of the individual. Even in the process of education, different aspects depend very much upon the economic conditions of the students. The policy measures for overcoming the educational inequalities may consist of those aimed at socio-economic improvement. Since income and language ability are found to be positively related (Devi, C.B. 1991) it follows that measures to improve the parental income would lead to improvement in the language ability of the deprived children. Interventions can also be thought of from the side of education itself, for example, special schooling facilities for the deprived children, employed children (as the study by Yadav, A.J. (1992) outlining educational measures with regard to the hotel workers in Kolhapur District shows), Muslim girls in general and girls from the socio-economically backward communities, in particular, tribals, etc. The Ashram School Reform and the neighbourhood school reform suggested by the Education Commission (1964-66), supplementary teaching aids for the deprived children, etc., can be considered as useful interventions from within education to overcome the educational inequalities. In other words, issues of social deprivation and poverty issues can be integrated in educational policy so that the socio-economic hindrances for educational development are suitably handled.

Selected Measures to Tackle Inequalities

When different types of inequalities exist, it implies that the principles of equal treatment of equals leading to horizontal equality and of unequal treatment of unequals leading to vertical equality are flouted in actual practice. In a country with many levels of socio-economic stratification, the principle of unequal treatment of unequals would be extremely necessary. In this sense, the educational opportunities for different categories of population will have to be necessarily different. Non-formal education, distance education, or the open learning system would be one such reform for tackling problems of socio-economic inequality and the problem of educational inequalities.

Non-Formal Education as an Equality Reform: Economic Aspects

Most of the studies in Economics of Education focus primarily on formal education. However, educational activities take place through different methodologies. We may classify these activities out of which some methods may be useful for tackling the problems of inequalities:

- (a) Informal education at home through the parents and the members of the family.
- (b) Informal education through the peer group interactions.
- (c) Informal education through interactions in the society and the workplace.

As against the above categories of informal education there are the following categories of formal education and training:

- (a) Formal education through the school system.
- (b) Formal education through organised programmes on the job.
- (c) Formal education in the armed services.

In addition to the above informal and formal channels of education, the usefulness of the non-formal education channel also needs to be appreciated. This channel is, in a sense, a combination of the main features of the informal

and the formal channels with characteristic flexibility. Non-formal primary education classes, non-formal adult education programmes, and non-formal distance learning schemes which have a linkage with the formal system, etc., may be considered under this category.

The Informal Channel

Just as in the case of the formal system, the socio-economic methods would play their role with regard to all the above aspects. For example, in the non-formal channels of education there is an opportunity cost of time of the trainer while he or she is transmitting knowledge to the children or to members of the relevant group. Where resources for informal education are available in plenty, there is likely to be a lesser burden on the formal system and also on the non-formal system. The informal channel was emphasised in the Indian indigenous system of education. Even though the thrust of the indigenous system has disappeared, the system still has left its important components in the educational system as a whole. The institution of the family, the institution of the peer group (friends' circle, informal societies, debating societies, open intellectual competitions, etc.) can all be considered as vehicles for informal education having significant socio-economic implications. With the mass media becoming more and more crucial in transmitting information (say, through quiz programmes) the informal channel has obviously become a very crucial component of the educational system. With the term 'education' being defined in an eclectic sense, and the developments in the job market in terms of, say, introducing its own system of screening, and not depending upon the degree certificates from the formal system, the role of the informal channel of education has assumed an added importance. Thus a boy or a girl who is better informed through the informal channel of education is likely to stand a better chance in the job market so far as the employment

opportunities and opportunities for improvement in rewards and working conditions, etc., are concerned.

Unfortunately, these aspects of the economics of informal education have not received any attention by researchers in the studies covered under the trend report. This may suggest an area of tremendous research potential for the researchers in the future.

The Non-Formal Channel

So far as non-formal channel of education is concerned some studies have been conducted dealing with the economic aspects of the open learning system, adult education, non-formal education, etc. These studies can be grouped under two categories:

- (a) The studies bringing out the role of the socio-economic factors in the success of these alternative education programmes, in general, and the performance of the participants in the education programme in particular.
- (b) The studies outlining the effect of these programmes on the socio-economic conditions of the participants as well as the region in which the participants are living.

Questions about the Open Learning System and Non-Formal Methods

There are a number of questions which confront us in connection with distance education or the open learning system. The questions are:

- (a) Are the open learning system and non-formal methods equally resource-efficient and comparable with the regular system of education, in terms of the educational outputs?
- (b) Is the open learning system more cost-effective as compared to the regular system?
- (c) What are the problems of the financing of the open learning system?

- (d) How have the different methods of the open learning system like correspondence courses and the use of mass media (particularly the electronic media) been effective in respect of different levels of education and for different types of education (science education, vocational education, liberal education, etc.)?
- (e) How have the experiments in different States and regions of the country (rural and urban) fared? In other words, is distance education successful only in the advanced regions and not in the less advanced regions?

The Studies

The studies under review in this field have covered some of these aspects. A review of the facilities for distance education at the higher level has found that the facilities are unevenly distributed in the country (Anasari, M.M. 1989). The average cost per student of distance education was found to be 15-25 per cent of the cost of the formal system. As a result, the universities offering correspondence courses were found to have revenue surpluses on account of the correspondence course programme. It is interesting that despite the apparent cost-effectiveness of distance education, the returns from distance education are necessarily spread over a period of fewer years as compared to the formal system of higher education. This is because the students taking to distance education courses are relatively older in age as compared to the students in the regular system. Considering such a difference in the student composition for the two systems of education, the cost-effectiveness of distance education appears to be doubtful. In any case the low economic cost of the educational delivery system alone should not be the sole criterion for promoting an alternative system of education. In a study of distance learning system for the B.Ed. level, (Gautam, R. 1990), it was found that the institutional

variables contribute positively to the success of distance learning. It was also found that distance learning was equally effective compared to the regular system. Similar questions were raised with regard to the financing of IGNOU (Mridula 1991). It was noticed that such a system is more equitable. The specific regional studies do not alter the thrust of the above conclusions. The study for Rajasthan, for example (Gupta, M.L. 1988) shows that the per capita costs of correspondence education are less than about one-third of the regular system of education. The per capita costs at the undergraduate level are, however, double the costs at college, though at the postgraduate level the costs are almost one-tenth of the costs at the University Departments.

Some studies have revealed that the correspondence courses are not managed quite efficiently because the income from the correspondence course, at least for Rajasthan, was found rising less fast as compared to the expenditure. The overall expenditure has risen five times in just 12 years. The Parkinsons Law seems to apply quite vigorously in the case of the correspondence courses as the administrative expenditure (expenditure on establishment) constituted a major percentage of the total expenditure and was also found to be rising faster than the expenditure on typical educational heads like teachers' salaries, expenditure on books and journals, etc. It was intriguing that the latter type of expenditure was found to be declining over a period of time. On the whole, though the correspondence education, in particular, and distance education, in general, are taking firm roots in the Indian educational system their receptivity does not seem to be very high. Students still have a differential valuation of the open learning system as compared to the regular system. Further, there have been no significant experiments of the open learning system at the school level. There are a number of aspects of the open learning system which have not received the attention of the researchers in the field. Obviously, this area should provide interesting opportunities for

economists to probe further into the socio-economic aspects of this alternative to the formal system.

The non-formal education programmes through electronic media have been found to be effective so far as working children are concerned. From a study of 60 working children in Andhra Pradesh (Basker, P.J. 1990), it was noticed that the economically deprived children, who were working, could improve their economic conditions and also could take good advantage of the social awareness programmes through video lessons.

The other alternative method tried for improving the access to skills and knowledge for those who were deprived of the participation in the regular system are polyvalent education for industrial workers. From a study of 400 workers, 30 functionaries and a number of policy-makers, resource persons, boards of management, etc. (Bagria, R. 1991) in Delhi and Chandigarh, it was found that workers do get significant advantages from Shramik Vidyapeeths which were disseminating specific aspects of education. It was also found that while all methods of education have been essentially spending activities, Shramik Vidyapeeths have been able to mobilise additional resources through their own efforts.

Thus, non-formal education has been rightly suggested as an alternative system for the regular system in a country with extreme socio-economic inequalities. More rigorous efforts, however, need to be made to make this alternative system more effective. It has been found from the studies that there have been a number of drop-outs (Reddy, J.D. 1991) from the system, and also that the job satisfaction for the trainers is also not uniformly high (Reddy, S.P.V. 1991). Many factors are responsible for the varying levels of job satisfaction.

From the survey of the studies in the field of the open learning system, we may notice that the socio-economic factors are quite significant in determining the degree of effectiveness of these methods of education.

The Adult Education Programme as an Equity Measure

A study for A.P. (Reddy, R.M.C. 1988) showed that out of the 41 predictor variables used in explaining the variations in literacy rates, 29 variables were found to be quite significant. The multiple regression models used here were also found to be dependable in estimating the quantitative significance of different variables. Some of the socio-economic and demographic variables therein were also considered to be quite important. An earlier study by Shah, M. (1983) (Baroda University) also highlights the importance of the socio-economic conditions of the region and of the learners in explaining the literacy levels. Such studies would obviously provide insights about how the adult education programme can be made more effective by operating on the various socio-economic determinants of the literacy levels.

A micro-perspective about the importance of the socio-economic variables would be further useful in making the adult education programme successful. A study for Kerala (Kumari, P.B. 1992) based on a sample of 600 women, consisting of 300 urban and 300 rural women learners from 20 out of 60 centres of adult education, surprisingly shows that the income-generating activities provided at the centres as such do not play a decisive role in motivating the women learners of the adult education centres in Kerala. It is true that the psychological and sociological factors have a role in motivating women learners in adult education. However, such conclusions have to be taken with caution, because, motivation may depend upon the type of income-generating activities, the amount of income from these activities, the location of these activities, the distance of the activities from residence, etc. The conclusion seems to be somewhat similar to that of the studies on the rate of return from different levels of formal education. Despite a higher rate of return from primary education (calculated on the basis of the lifetime earnings of the completers of education), primary education has not become a very attractive

proposition!

How far has adult education itself contributed to improvement in the socio-economic conditions of the individual and of the society? Some studies in this field have brought out mixed results. The findings from a study for Azamgarh district (U.P.) (Pathak, S.N. 1991) showed that in spite of the implementation of the adult education programmes in the district the people could not find the programme to be socio-economically very advantageous. Another study for U.P. (for the rural areas of Allahabad district) (Sharma, B. 1990) showed that adult education benefited the adult learners in their marketing activity, and aroused them against the social problems like dowry system, etc.

A study on the social uplift of women in the rural areas of Madhya Pradesh (Rao, G. 1992) showed that adult education did bring about a significant improvement in the social, economic, and *hygienic* aspects in the life of adult women learners.

The studies on the adult education programme seem to emphasise a common point, namely, that the programme has not been seriously implemented. A study of the cost-effectiveness of the national adult education programme during the Seventh Five Year Plan (Chandel, N.P.S. 1992) showed that the cost of SAEP and RFLP was Rs.168.36 and Rs.166.87, respectively. The wastage rates in these programmes were around 8.4 and 9.7%, respectively. Cost-effectiveness was found to be higher for the male learners as compared to the female learners. Similarly, for the rural areas also the functional literacy programme was not found to be highly cost-effective. A study for Assam (Das, M. 1990) showed that besides poverty there are many social and other obstacles like social customs, religious fanaticism, natural calamities, etc., in the expansion of adult education. The study emphasised a need-based adult education programme for the socially and economically deprived sections of the society.

On the whole, it appears that the research literature on economics of non-formal education

has not developed significantly in the literature on Economics of Education. A few studies on distance education showed that there are many research opportunities for social scientists in this area, with a number of distance education exercises being implemented in different parts of the country. Studies on costing, financing, returns and planning of distance education programmes need to be undertaken. It is also necessary to look into what may be the cross linkages between distance education and the regular formal system of education. Such studies would help proper coordination and integration of the two channels of education.

Inter-Sectoral Linkages

The saying, 'a healthy mind in a healthy body', summarizes the importance of the inter-sectoral linkages, which are relevant for education. Economic factors play a role of intervening variables between education, on the one hand, and sectoral variables on the other. If less resources are allocated to the development of the other sectors, then achievements on the educational front would also be less. It is in this sense that the inter-sectoral linkages need to be considered in any study pertaining to the planning of educational development.

That health and education are symbiotically related has been effectively brought out in some of the studies undertaken recently. Some of the health practices would, therefore, be related with education in a significant way. An interesting conclusion has been reached in a study (Amanda, S.M. 1991) that the children who were breast-fed for more than four months were found possessing better mental abilities than those who were either artificially fed or breast-fed for less than four months. It is, of course, necessary to have longitudinal studies in order to follow up the performance of different categories of children in their educational career in the future in order to evaluate objectively any particular type of health practice. Another study based upon the data from a random sample of

30 schools from among the 100 project schools identified in seven selected states (Bihar, Karnataka, Maharashtra, Mizoram, Orissa, Rajasthan and U.P.), found that the scholastic achievements were different for the children who benefited from the nutritional project in these states. Against the background of severe nutritional deficiencies obtaining among children in India, this conclusion should be very meaningful, for both educational policy-making and policy-making in the health sector. Unfortunately, even though the funds were quite adequately supplied for nutrition programmes, the utilization rates were not very satisfactory (Bhattacharya, S. 1991). It should be added, however, that the evaluation studies of midday meals programmes for school-children are not unanimous in their conclusion with regard to the nature of association between the nutritional input and the scholastic achievement. In the background of the fact that more than 50 children are undernourished (Verghese, M. 1991), the school nutrition programme should be useful in itself. It is also noticed that enrolment and attendance (at least at the time when bread and milk under the nutrition scheme are distributed to children) improves. While health inputs contribute to education, the educational programmes also do contribute to the achievement of health goals. Different aspects of mobilising education to reinforce primary health care through school-children has been highlighted in another study (Potdar, R.S. 1989). In this sense, the school can be considered as a change agent to facilitate reaching the goals of health for all by AD 2000.

These insights about the nature of the linkages between socio-economic factors, on the one hand, and education on the other, and also other inter-sectoral linkages reinforce the belief that education is only a subset in the overall social context. There is a need to have more rigorous studies highlighting such a symbiotic relationship between various other forces and education in the context of different levels of socio-economic development of the region and of the people. It appears that the symbiotic

relationship is stronger in the early stages of development and lower levels of regional development. The degree of complementarity between the two is likely to be low at the higher stages of socio-economic development. Such 'stage theoretic perspective' about the nature of the linkages would be extremely helpful in both understanding the educational process and also the relevance of various policy instruments. Such unexplored areas offer many useful research opportunities in the future for both social scientists and educationists.

ISSUES IN EDUCATIONAL PLANNING

In the above background of usefulness of education for the economy and the society and the significance of the socio-economic forces for educational development, meaningful interventions can be visualised for the purpose of achieving the stipulated objectives. Care has to be taken to ensure that there is no inconsistency or conflict in the interventions in different sectors, different regions and in relation to different population groups. We may suggest in such a context an approach of developing a *policy matrix* reinforcing the coordination and integration of different sectoral policies.

If only the problems of planning of education have to be focused upon, then the conventional approaches of using rate of return techniques, manpower planning techniques or social-demands-estimation techniques may have to be considered. We have already reviewed some of the studies estimating the rates of return. Unfortunately, exhaustive studies of estimating social demands for education (estimating the requirements of educational facilities based upon the demographic development) have not been attempted by research scholars. While formulating the Eighth Five Year Plan for education, a number of working groups appointed by the Government of India looked into such questions. One of the subgroups examined the questions relating to estimating the financial requirements of educational facilities in the background of increase in

population in the different age-groups and the transition probabilities, and presented the estimates of resource needs (Panchamukhi, P.R. et al. 1989). A number of sectoral studies brought out by the Institute of Applied Manpower Research can be considered to be useful inputs so far as manpower requirements estimation as a basis for educational planning is concerned. In another study the importance of rural manpower assessment was emphasised for the purpose of planning of education (Srivastav, R. 1990). A critical observer of the literature in this field however feels that there is much scope for undertaking rigorous technical studies for different sectors of the economy, estimating the manpower requirements of these sectors and integrating these estimates in the future educational planning.

One gets an impression that while there are a number of attempts to generate useful data of manpower requirements in different sectors they are hardly integrated with the planning exercise of educational development in the country. Obviously, the studies will have to be developed with a bottom-up methodology, with subsectoral and regional exercises conducted initially which will then be coordinated to present a macro picture of the educational plan for the country as a whole. Naturally this exercise of estimation of the manpower requirements for different sectors and regions would be extremely complex, particularly in the background of the fast technological changes that are being witnessed in different sectors and different regions. With the rapid entry of foreign investments and foreign technology into the country, the problems become all the more acute and complex. Such developments would also throw great challenges before the researchers in developing comprehensive educational plans based upon technically developed estimates of manpower requirements.

Institutional Planning

Against the above background of the difficulties

of macro-level planning, one needs to emphasise the importance of planning at the institutional level. Such micro exercises would be quite meaningful from the point of view of efficient and economical use of the scarce financial, physical and manpower resources in the educational sector. This is the subject of internal efficiency of resource allocation. While wastage and stagnation indicate one aspect of internal efficiency of the educational system, the institutional planning would refer to another aspect.

Question about Institutional Planning

The main questions here are of the following types. How are the available resources in the educational institutions actually utilised? Is there a problem about the building space in the educational institutions? Is the library properly located? What is the expenditure on reference collections in comparison with the expenditure on textbooks? What percentage of the resources should be allocated to the academic activities, and what percentage for administration? Such questions would touch upon the ground realities of the actual functioning of the units in the educational sector.

The Studies

A number of studies have been attempted to examine some of the above questions. Studies relating to the planning of the library facilities (Mathew, R.M. 1990, Kaul, C.L. and Gupta, J.K. 1990) show that the library facilities are not quite adequate in the educational institutions at different levels. Neither the library accommodation is adequate, nor the publications holdings are satisfactory. It has also been noticed that the library resources are not fully utilised.

With regard to the school buildings also the conditions are far from satisfactory. The NCERT surveys have certainly brought out the facts about the conditions of the facilities within the schools. Four state studies covering 19 districts

(Mittal, S.C. 1990) revealed that the majority of the schools run by the government do possess enough land but the per capita covered area of land is very little. Fifty-two per cent of the schools function in thatched and *kuchcha* accommodation. Such a state of affairs would only go to show that there is no proper planning of the building resources by the educational institutions.

Ideally, the exercises of planning at the institutional level has to be the basis for planning of education at the state and the national levels. As one of the studies reveals (Vyas, J.C. 1991) not all the educational institutions had prepared their educational plans and sent them to the District Education Officers; and even at the level of the District Education Officer, these plans were not properly integrated with the educational plan for the district as a whole. The same anomaly is seen with regard to the financial planning at the institutional level and planning of the educational sector as a whole, for the state or the country. Thus, even though agriculture receives priority in the economic development of the state and the country, the same priority is not reflected in the actual decision-making for the release of resources to the different components of agricultural development. For example, the agricultural universities in Maharashtra could not get the required financial resources from the government (Mohitkar, P.M. 1991); only 40 to 60% of what the agricultural universities asked for was received by way of grants in this state. The degree of utilization of the grants by the universities, however, was quite high (around 99%)! A number of studies on universities' finances which were attempted during the 1980's clearly bring home the same point—that the financial conditions of higher educational institutions are not sound, and they are also deteriorating over time. Unfortunately, the researchers have not paid much attention to the analysis of finances at the school level. It would be interesting if the finances of the

private and government-run primary schools are analysed and the financial planning exercise at the institutional level is extended to the school sector of education. While there is so much of noise created about more allocation of funds to primary education, it is always useful and necessary to examine what should be the financial strength of the primary schools in order that they may function efficiently.

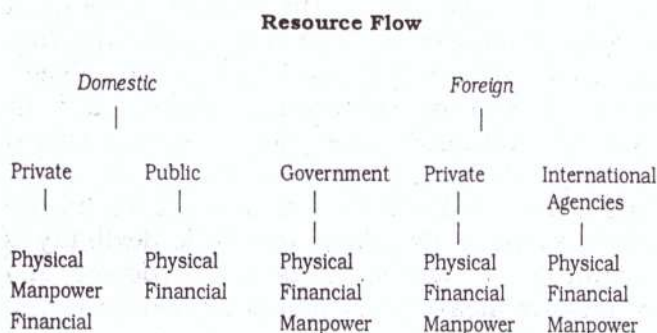
Thus, the existence of very few studies on the physical and financial planning of education at the macro and micro levels show that there are many questions of planning which have remained unaddressed by the researchers in economics of education. Despite the recent trends of state withdrawal from various economic sectors of the country, the state initiative in planning of education for the purpose of allocative efficiency and distributive equity cannot be overlooked. The research base for such initiatives needs to be strengthened in the future.

PROBLEMS OF EDUCATIONAL FINANCE

Educational finance has been one of the areas in which economists have taken a keen interest for a long time. One of the earlier studies on the history of educational finances (by Atmananda Misra) provided pioneering initiatives in the field. Studies on history of education (for example, by Narulla, S. and Naik, J.P. 1974.) referred to the problems of educational finances as one of the crucial components of the historical analysis of education. The subsequent studies with a focus on the financing of education at different levels, funding of education, pricing of education, etc., raised some of the crucial issues in this connection.

The question of educational finances has to be considered in a broader framework of the availability of the resources—physical, financial and manpower—for education. The resource

flow for education can be shown in the following chart.



The flow of resources can also be seen from a different angle.

Resource flow with <i>Quid Pro Quo</i>	Resource flow without <i>Quid Pro Quo</i>
Different types of fees and charges Pricing of education	Grant-in-aid Private munificence Donations Charities

The main issues in connection with resources and finances for education would be the following:

- (1) Is the resource flow into education adequate so that growth and development of education is ensured without any hindrance?
- (2) Is there "automatic stability" in the flow of resources within the given time period? For example, within a year do the resources flow automatically whenever there is a greater need for them?
- (3) Is the flow of resources having any strings, or any conditionalities?
- (4) What is the role of the public and the private resources for education? Are there complementarities or substitutional effects in these flows? Is it possible to determine an optimum combination of public and private flow of resources for different levels of education?

(5) Is the resource flow to different levels and types of education in accordance with the overall plans of sectoral developments within education? In other words, does first-level education, which is a priority sector within education, receive adequate resources? If the resource flow is not adequate then what are the socio-economic and political factors for the same, and how to overcome these forces?

(6) Is the resource flow consistent with the goals of inter-regional, inter-community, inter-gender, and inter-caste-group equity and equality? Obviously, if the resources are not flowing in accordance with these objectives then even the best plans would not succeed.

The studies under review consider some of the above questions.

The flow of resources to education would obviously depend upon which management the educational institution functions under. The private costs consisting of expenditure on books, stationery, clothing, transportation, etc., are also reported to be different for institutions under different managements (Gupta, S. 1990). For teacher training institutions the private costs for hostlers were substantially more than for the regular students. Studies of private expenditures on primary education in different districts of developed, medium developed and less developed states would be quite meaningful for policy making. However, many such comprehensive studies are not available. (Rajaiah, M.B. 1989). Under the sponsorship of the Planning Commission, a multi-state study of private expenditures on education was conducted, which showed that private expenditures, by the parents and the students, and also by the private managements, are too large to be overlooked, though they have not received the attention they deserve by the policy-makers (Panchamukhi, P.R. 1990).

As against such micro studies for specific districts and the states, Tilak, J.B.G. (1994) briefly presents South Asian perspectives about

alternative policies for the finance, control and delivery of basic education. The study primarily focuses on some of the states in India. Tilak rightly points out that even in the schools managed by the private sector, government funding is substantial. In Uttar Pradesh for example, 92% of the total government expenditure on primary education was made on private aided primary schools in the form of grants. In 1970, this percentage was as high as 99.4, in comparison with what was obtaining in 1950, with nearly 60% of government expenditure then being made on private aided schools. The latest position for 1980-81 shows that there has been a substantial increase in government assistance to private-managed educational development. The question whether public and private expenditures are mutually substitutive or complementary is a crucial issue. However, no conclusive studies are available on this issue in the Indian context.

How does the local government mobilise funds for financing education? Historically, educational cess has been considered as a useful source of raising funds for education by the municipal bodies. The picture does not seem to be very encouraging now. For example, education cess in Baroda city contributed to the extent of 16% of the total revenue. Even though the educational cess makes such a significant contribution, it was found that very little is spent on the development of the pupils, particularly the fuller development of the personality of the child. This shows that the resource mobilisation by the local bodies for education is not in consonance with the objective of educational development (Bhat, M.A. 1989).

While private costs indicate the costs to be incurred by the beneficiary, the institutional costs indicate the costs to be incurred by the suppliers of education. The institutional costs of university education (Behara, S.K. 1991) have been rising continuously over the past few years. The case study of Utkal University brings home this point. It also shows that the examination costs are outstripping the other costs of higher education. Though these observations are made

in the case of a university in a less developed state, the picture is not quite different in the case of other states. In the same way, what is observed in the case of the educationally most developed state of Kerala is relevant for the other states as well (Mathew, E.T. 1988). The object-wise analysis of educational expenditure for selected colleges in the state of Kerala over a period of time shows that 'salaries' is the most important head. In view of this predominance of expenditure on salary, very little flexibility is available for the colleges to introduce any innovative measures in higher education.

Against the above background, it would be clear that the picture of the financial position of the institutions of higher education is extremely disappointing, with the government almost giving up its initiative in view of its own financial crisis. It is with this background that the measure for rational restructuring of tuition and other fees, with adequate safeguards to protect the interests of the students from the weaker sections, appears to be the only way out. Similar is the conclusion for Maharashtra as well (Kurup, M.R. and Thatte, L.R. 1991). With the help of unit cost calculations for higher education for different parts of Maharashtra, it was found that almost a threefold hike in the tuition fees is the only way out for tackling the problem of resource crunch faced by the institutions of higher education. Even though this order of fee hike may be politically problematic, the gravity of the financial crisis of higher education cannot be understated. The financial problems are not peculiar only to the unaided institutions of education. There is no significant difference in the number of financial problems faced by the aided and unaided institutions. The paucity of funds for unaided institutions may even lead to malpractices and an unhealthy and undemocratic relationship among teachers and students, as a study in the context of Bombay has shown (D'Leema, S.U. 1988).

Against the background of such a picture of the financial resources the studies also suggest that there is a need to have innovative

approaches with regard to identification of areas of cost saving, and also newer sources of funds for education. The use of low-cost material like plastic bags, plastic disposable syringes and assorted materials such as newspapers, plastic and glass jars and bottles and stoppers, etc., to teach plant physiology and microbiology in the rural schools is one way of making the best use of the available local resources for education (Bhattacharya, S. 1990).

The utilisation of the facilities within the educational institutions is also far from being optimum. A state-wise study of the utilisation of the laboratory facilities in selected states (Rao, K.N. and Gupta, M.K. 1990) shows that the costly laboratories are used for a very short period of one to three hours per week by the majority of urban schools in Maharashtra! In the rural areas the position is still worse. In the less developed state of Rajasthan where a *larger percentage of the rural schools have laboratory facilities as compared to the urban schools*, the utilisation of the available facilities is not very satisfactory either. Thus, while on the one hand there is the problem of inadequacy of physical facilities, on the other hand, there is the problem of less efficient utilisation of the available facilities. A study for Tamil Nadu (Packkiam, M. 1990) showed that even for the educationally developed state of Tamil Nadu, as many as 83% of the primary schools did not have adequate facilities. Operation Blackboard in such a context would be quite a meaningful reform measure. The implementation of Operation Blackboard showed that the implementation is very satisfactory in the case of private primary schools as compared to government primary schools. This is a highly anomalous position. Not all the components of Operation Blackboard have been religiously implemented in the different states. A departmental study (Gupta, R.K. and Gupta, D. 1992) showed that universalisation of elementary education would be better facilitated if added attention is given to drinking water, toilet facilities, provision of women teachers in primary schools, replacement of the

consumables at quick intervals, authority and freedom for the teachers and other functionaries, shift from teacher-centred mode of teaching to child-centred mode of teaching, etc.. The study also showed that both the education officers and the teachers were confident that the Operation Blackboard facilities would certainly result in increased enrolment, and improved retention and achievement levels of students. Thus, for UEE, adequate supply of physical resources was considered as equally important as the supply of financial resources. However, the question of internal efficiency in the use of resources is as important as the supply of financial resources. The problems of wastage and stagnation add to the inefficiencies arising out of wrong management of physical and financial resources.

The problems of financing of education assume a different significance in a federal framework. The apex bodies responsible for resource flow in this framework have not been able to pay special attention to the problems of the social sector in general and of education in particular (Panchamukhi, P.R. et al. 1989).

The other issues which deserve attention in this connection are the community resources for education, particularly for primary education; the extent of underutilisation of resources; size-cost relationships at different levels of education; etc. Foreign funding of education may also be one of the crucial themes in the years to come in view of the recent developments of economic reform and general economic opening up. A study for Sambalpur district of Orissa, for example (Padhan, A. 1991), showed that an average 31% of resources were wasted due to drop-out and stagnation of children. This highlights the importance of controlling wastage and stagnation in education from the point of view of reducing the costs of education.

CONCLUDING OBSERVATIONS

Economics of Education has emerged as an important sub-discipline in the social sciences (of education or economics?). While few

economists have paid attention to the economic aspects of education, several non-economist researchers have tried to highlight the importance of economic variables in their educational studies. It is necessary that a larger number of technical economists, in particular, and social scientists, in general, take interest in the problems of educational development in order to strengthen the foundations of the new discipline.

The researchers in economics of education face a number of problems in their research pursuits:

- (a) In view of the less vigorous research efforts in this field, young researchers do not get opportunities for peer-group interactions or guidance from the senior researchers. This is observed in the case of a number of universities. As a result, economics of education has continued to remain low in the priority for researchers.
- (b) The database for economics of education is very weak. The recent official data on, say, sectoral use of educated manpower (e.g., data on medical doctors in districts and states); the latest expenditure data, level-wise, object-wise and region-wise, and source-wise data about funds, etc., are not available at all. While this is the unsatisfactory position about the macro level data, the vast data collected by different researchers at the micro level are not at all compiled systematically in one place. National and/or regional data archives for education may be suggested as an urgent initiative to help researches in economics of education in particular.
- (c) There does not seem to be a forum where economists of education can share their research experiences. In fact, the economists of education of the universities, especially in social science departments, research institutions, colleges of education, and in specialised institutions like the NIEPA, the NCERT,

the IAMR, etc., need to have a closer interaction, which at present, is missing. In the interest of development of the discipline of economics of education and also in the interest of making the research output as an input in policy-making, such interactions are extremely necessary. The present trend report based mainly on the research abstracts got done, reflects the absence of such a coordination of the research efforts in Economics of Education in the country.

In sum, we may conclude that economics of education may be a good area for researches in future, if fresh initiatives and technical expertise are encouraged, both in the fields of education and economics.

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