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## Education and Development - the Missing Dimension of Regional Disparities

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### Introduction

The shift in emphasis in development literature from the maximisation of growth rates to the reduction of inequalities and unemployment is matched by a shift in the approach towards the role of education in the development process of an economy

Endnotes and References

See M. Fernandes, "Education versus Credentialism - Some

Implications for Economic Development in Recent Times", in Perspectives, Volume I: Recent Trends and Interpretations, Delhi, 1988 for a review of the various studies which indicate this shift in the role of education in development. . Earlier, education was considered as an investment in human capital contributing to higher productivity and income without attention being devoted to distributional questions - the general assumption was that expansion of education contributes towards a reduction of inequality. More recently, however, the productive role of education has been questioned and attention has been focussed on the link between education and inequality. Without going into the controversy about the extent to which education contributes to increased income and output of goods and services and thereby economic growth, the present paper focuses attention on an important aspect of the distributional implications of education: regional disparities in education.

The paper begins by considering the distinction between the dimensions of class and region in the education-inequality relationship. As the provision of education in the different regions of a country is of crucial relevance to regional disparities in education, we next discuss the question of who is to provide education by looking at the 'public good' characteristics of education which make it different from other goods and call for government provision of education. Next, we consider the need for distinguishing between different levels of government in a federal country instead of regarding the government as one monolithic entity. Amongst the policies for tackling regional disparities in education, the mechanism of financial transfers under fiscal federalism is an important one. The link between regional economic disparities and regional fiscal disparities which forms the basis for federal financial transfers is discussed in the next section. This is followed by a discussion on the use of these transfers for tackling regional disparities in education. Finally, we consider the contrast between advanced and less developed countries in the nature and extent of regional disparities in general and in education in particular.

Distinction between the dimensions of class and region in the education-inequality relationship Much of this section is based on M. Fernandes, "Education and Development - the Regional Dimension", in Society for the Study of Regional Disparities, Regional Inequalities in India: an Interstate and Intrastate Analysis, Delhi, 1982.

Distributional questions, whether they relate to income, education or other facilities, are often confined to individuals and groups obtaining varying amounts of a particular item, irrespective of the place they are located in. When reference is made to regional inequalities, the discussion is generally focussed on inequalities between regions defined by national boundaries - i.e. inequalities between one country and another or between rich and poor nations are considered. As mobility of people between spatial areas within a country is restricted - although less so than between

countries - it is important to bring in the spatial dimension into any discussion of inequality in a country, especially if it is a large country with heterogeneous regions. In particular, the disparities in the spatial distribution of educational resources and facilities can be seen to play an important part in disparate educational attainment which in turn is related to inequality in income and other aspects of socio-economic well-being. Reduction of inequality would thus seem to require a narrowing of regional disparities in educational provision.

In identifying the nature of the relationship between education and inequality, it is more common to consider the dimension of socio-economic background as an important determinant of this link. The existence of a 'class bias' in the operation of the educational system and educational attainment of people is well-documented. In other words, those belonging to the higher socio-economic classes in the society are able to benefit more from the education system which operates in their favour as reflected by the school structure and pattern of enrolment, curriculum, teacher-student relationships, etc. In so far as education is used for selecting people for occupations, the class bias in education implies a class bias in occupational selection. Thus, those belonging to the higher socio-economic classes occupy the top rungs of the occupational ladder and, as a result, receive higher amounts of income and other advantages including the broad ones of status and power and narrow elements like job security, promotion prospects, fringe benefits, pensions, etc. - all relevant to the extent of inequality in the country.

Although class background and residential area are not independent of one another, it is useful to distinguish between them. The important reason for this is that while social class predicts educational attainment with a high degree of accuracy, it is not always the case that children similarly placed in the social hierarchy perform similarly well in the field of education. Educational attainment levels for children of the same socio-economic background vary according to the region of the country in which they live. Disparities in the provision of education between different regions of the same country can be seen to exist in all countries. The amount and quality of educational resources made available to students in the areas where they reside significantly affect the extent of their educational attainment and hence their occupational selection later on.

#### The 'Public Good' Characteristics of Education - a Basis for Government Provision

Nowadays, one finds that the government as well as the private sector are involved in the provision of educational facilities in all countries although the extent of each sector's provision varies from country to country. The important advantage of private provision of education lies in

the fact that it can take account of the tastes and preferences of individuals who voluntarily contribute towards its financing. The extent of private provision of education will be determined, as in the case of other private goods, on the basis of market demand and supply. Only private benefits and costs (both direct and indirect) would enter into the calculations See M. Blaug, Introduction to the Economics of Education, Penguin, London, 1970 for a discussion of the various types of benefits and costs of education..

There are some goods called 'public goods' for which the allocation of resources cannot be determined by the market forces of demand and supply. These goods display the two important characteristics of non-excludability and non-rivalry in consumption. This means that it is not possible to exclude people from enjoying the benefits of a good if they do not pay for it and that two or more persons can obtain satisfaction simultaneously from the good without reducing each other's satisfaction. When people try to act as free riders and fail to reveal their preferences by offering prices according to the satisfaction they derive from such goods, private producers will not be willing to undertake their provision. Thus, the government is required to step in to provide public goods financed by the taxes that it has the authority to levy. In a democratic

country the allocation of resources to the provision of public goods is thus determined indirectly by people voting into power the kind of government they feel would best meet their preferences.

The characteristics of a public good, however, do not seem to completely apply in the case of education. For example, by charging school-fees, it is possible to exclude those who do not pay from gaining entry into the school; similarly, a school-place taken up by one student is not available to other students. As education thus also exhibits the two characteristics of a private good, viz. excludability and rivalry in consumption, it is not surprising to find private provision of education as well as public provision.

Education is one of many goods which involve externalities or spill-over effects in terms of both benefits and costs See Blaug, *ibid.*, for a list of the various types of externalities in education.. For example, the education of an individual benefits the individual and therefore he can be made to pay; it also benefits the society at large for which no one in particular can be charged. The extent of educational provision, if left to be determined solely by market forces, may not be appropriate from society's point of view. The government has to step in to provide for education taking account of both private and social costs and benefits of education.

An important reason for public provision of education is that it is

regarded as a "merit good" - a term used by Musgrave See R.A. Musgrave, Fiscal Systems, Yale University Press, New Haven, 1969. to refer to a good whose supply is not determined directly or indirectly by individual preferences, but by the preferences of the government which considers it to be "socially desirable". Such a merit good can interfere with consumer preferences because government is considered to know better than individuals about what is good for them. Education can be regarded as a merit good not only as an end in itself but also a means to promote another socially desirable or merit good, viz. economic development. Left to themselves, individuals may demand too little of education because they are not sufficiently aware of its benefits or cannot afford to pay adequately for its provision; hence the need for provision of education by the government.

Economic Criteria for Determining the Provision of Public Goods by Different Levels of Government Much of this section is based on B.S. Grewal, "Economic Criteria for Assignment of Functions in a Federal System" in Advisory Council for Inter-government Relations, Information Paper No. 9, Towards Adaptive Federalism: a Search for Criteria for Responsibility Sharing in a Federal System, Australian Government Publishing Service, Canberra, 1981 a.

Although the government is required to provide public goods, it becomes crucial to determine the level of government most appropriate to provide different public goods. There are various levels of government in the federal set-up of a country - the federal or central government, the state or provincial governments, and the local authorities/districts/municipalities. The political jurisdiction of each level of government extends over spatial or geographical areas of different sizes in an hierarchical order. The fact that the benefits of different public goods are available in spatial areas of different sizes can be used as a basis for establishing a hierarchy of public goods - 'local' public goods, 'state' public goods, and 'national' public goods. Thus, at one extreme, the benefits of a public good like defence extend over the entire geographical area of a country and are hence available to all its residents; at the other extreme, the benefits of a public good like street lighting are available to the community of a local area only. If this hierarchy of spatially arranged public goods can exactly correspond to the

hierarchy of political jurisdictions, implying the possibility of perfect mapping, it would be possible to clearly determine the appropriate level of government for the provision of various public goods. In the real world, however, the geographical boundaries of the existing political jurisdictions are the result of complex historical and other factors and not rational economic principles. It is not possible to have different sizes of political jurisdictions to provide various public goods according to the size of their respective "benefit areas". Thus, spillovers of a

public good between the jurisdictions of the governments at a particular level are bound to exist, just as spillovers with respect to individuals exist. This, in turn, would require the intervention of a higher-level government to take into account such interjurisdictional spillovers in determining the provision of the public good. Even when there are no spillovers with respect to a particular public good, if the jurisdiction is too small in size to reap the economies of scale for efficient production, a system of contracting out to an agency would be required. This agency would produce the good on behalf of a number of small jurisdictions. A higher-level government may be required to coordinate between such small jurisdictions or function as this agency itself.

Thus, a centralised or national government may be able to ensure efficient production and uniform or minimum provision of a public good - especially, if it is considered as a merit good - to all the jurisdictions and the citizens living therein. However, it may not be responsive to the needs and preferences of the local citizens who are far-removed from it. These needs and preferences can be taken into account through decentralised provision of the public good by a local government. Moreover, the variations between jurisdictions in the provision of public goods would enable consumers to move between jurisdictions according to their preferences. The extent of provision of public goods is however, only one of many factors which affects the size of locational surplus - a concept used by Grewal and Mathews See B.S. Grewal and R.L. Mathews in *Federalism, Locational*

*Surplus and the Redistributive Role of Subnational Governments*, Reprint Series 53, Centre for Research on Federal Financial Relations (hereafter referred to as CRFFR), Canberra, 1983. as a basis to determine interjurisdictional mobility. The "voting by feet" See C.M. Tiebout's seminal article, "A Pure Theory of Local Government Expenditures", *Journal of Political Economy*, 64, 1956, pp.416-24, which stimulated a large volume of literature (some of it reprinted in B.S. Grewal, G. Brennan and R.L. Mathews (ed.), *The Economics of Federalism*, A.N.U. Press, Canberra, 1980) discussing various issues relating to decentralised public expenditure and fiscal federalism. would thus reveal the true preferences of people for the public goods since the normal "\$ voting" through market prices, as in the case of private goods, is not possible in the case of public goods. This mobility in turn would promote allocational efficiency.

Thus, it seems that with respect to the allocation function of the government there are no clear-cut criteria for determining the assignment of public goods to a particular level of government - federal, state or local governments. The criteria often conflict with each other and the trade-offs between them involve value-judgements which should be based on detailed empirical information. In the case of the other two fiscal functions, viz. distribution and stabilisation, the national government would have the primary responsibility for undertaking them. However, even

here, some action from the lower-level governments coordinated by the national government may be required to achieve successful implementation of the functions See B.S. Grewal (1981 a.), op. cit., for a more detailed discussion relating to responsibility sharing between different levels of government with respect to the distribution and stabilisation functions. As this discussion is not directly relevant to the main arguments of the present paper, only his conclusions have been mentioned..

Like some other public goods, education is not a single uniform good which has to be provided by only one particular level of government.

Different levels and types of education and various types of activities within each have to be provided and these may generate different kinds of externalities extending over jurisdictions of different sizes. This in turn implies that different levels of government would need to be involved in the provision of education. Thus, the central government may undertake the provision of tertiary education, the benefits of which are likely to extend over the entire geographical area of the country, while a local school benefiting a local community may be operated by a local authority. Irrespective of which level of government assumes the major responsibility for providing a particular level of education, some coordination is required between different levels of government and between different governments at the same level. Coordination is needed with respect to the different functions/activities involved in each level of education - collecting information, raising of resources, training of teachers, etc. See R.L. Mathews, Fiscal Equalisation in Education, CRFFR, Canberra, 1983 for a more detailed discussion on the educational roles of the different levels of government.

### Regional Economic Disparities and their Link with Fiscal Disparities

Economic disparities between different regions exist in every country although their extent may vary between one country and another. Unlike the extremely limited mobility of factors and even goods across national boundaries, interregional mobility of factors and more so of goods within a nation is supposed to be high enough to equalise factor-earnings. However, for various reasons - e.g. linguistic and cultural differences amongst people, transport costs, past lopsided development of regions during colonial rule, etc. - such mobility is also limited in practice. Hence, disparities in per capita income and the more basic disparities in factor-endowments between regions persist to a greater or lesser extent in all countries.

One important significance of these economic disparities is that they

imply fiscal disparities between regions in their relative ability to raise revenue for the government and in their need for and relative cost of services including education that have to be provided by the government. The mechanism of financial grants from the higher-level (e.g. central or federal) government to the lower-level (e.g. state or local) governments in differential amounts is an important way of reducing such fiscal disparities. The grants could be general-purpose grants or specific-purpose grants. The former enhance the fiscal capacity of the recipient state to spend according to its discretion rather than the preferences of the central government. The latter, on the other hand, are given for spending for specific purposes determined by the grantor.

When financial transfers are made, the government at both the central and state levels needs to pay particular attention to the design of the transfers, the machinery for formulating, coordinating and implementing policies and the development of an efficient and equitable model for the distribution of funds. Otherwise, the financial transfers would fail to achieve the purposes for which they are given and/or fail to take account of the relative revenue-raising capacity and expenditure needs of the governments being assisted. In other words, they would be inefficient and inequitable, apart from resulting in the general problem of encroachment of the central government in activities which are the constitutional responsibilities of the state governments. The latter may not seem to be a problem in the case of an activity over which both the central and state governments have jurisdiction (e.g. education which is in the 'Concurrent List' in India) but even here the need for coordination between the state and central governments and the agencies involved in federal transfers has to be emphasised so as to avoid conflict in their policies which may neutralise each other or make it difficult to achieve the given objectives.

### Regional Disparities in Education and Some Policies for Tackling Them

Before designing policies for tackling the problem of regional disparities in education, it is necessary to identify them and measure their extent. Regional disparities in education can be observed in terms of both the inputs and outputs of education. Considering the difficulties in identifying and measuring the latter, attention is generally focussed on the former. In fact, improvements in educational output and standards are often specified in terms of educational inputs, e.g. higher levels of per pupil expenditure, lower pupil-teacher ratios, etc. There is need, however, to relate the educational inputs to the outputs which they produce but attempts to do this are fraught with serious difficulties See F.A. Hanushek's survey article, "The Economics of Schooling: Production and Efficiency in Public Schools", *Journal of Economic Literature*, 24 pp.1121-77, 1986 which covers a large volume of literature relating to the U.S.. The inputs of education can be measured in physical terms (school-buildings, teachers,

students, etc.) and/or in financial terms (expenditure per pupil, etc.). In the context of regional disparities, it is the financial expenditure on education measured on a per pupil basis which is most generally used. See, for example, J. Miner, "Estimates of Adequate of Adequate School Spending by State Based on National Average Service Levels", *Journal of Educational Finance*, 8, (Winter 1983), pp. 316-342..

This measure is relatively easy to calculate and provides an overall idea of the extent of regional disparities in education. This is not to say, however, that other measures are not required in order to pursue effective policies for curbing regional disparities.

Various policies may be designed to tackle the problem of regional disparities in education, whether directly or indirectly. However, we focus attention on only two of them in this section of the paper - judicial action and financial transfers under federalism. The former on its own may not be adequate while the latter has been used by several countries as an important policy to tackle the problem of regional disparities in education.

## I Judicial Action

When widespread regional disparities exist in education, one method of tackling the problem is through court action. If the constitutional requirement of equality of opportunity is shown to be violated by regional disparities in education, as it occurred in the case of disparities between school districts in several states of the United States in the early 1970's, judicial intervention can serve as a means to initiate reforms to curb such disparities. See B.S. Grewal, *Equalisation Techniques for School Finance: An Evaluation*, Occasional Paper 20, CRFFR, Canberra, 1981 b. and J.D. Sherman, *Towards a Federal Role in Financing Interstate Equalisation in U.S. Education*, Occasional Paper 33, CRFFR, Canberra, 1984 for examples of such judicial intervention.. However, exclusive reliance cannot be placed on judicial intervention as past experience shows that it generally follows a negative approach in declaring "what does not constitute equalisation in education" but does not define "what does constitute equality" Grewal (1981 b.), *Ibid.*, pp. 11 and 12.. The latter requires an identification of the nature and causes of inter-regional disparities and the selection of an appropriate technique of equalisation.

## II Financial Transfers Under Fiscal Federalism

Restricting ourselves to a consideration of inter-regional disparities in financial expenditures on public education measured on a per-pupil basis, these may arise on account of fiscal disabilities (i.e. disparities in revenue-raising capacity per pupil and/or differences in the per pupil cost of providing the same standard of education) or on account of policy decisions (i.e. conscious preferences of the residents of some

jurisdictions to spend relatively more or less on education depending on

whether they assign a higher or lower value to education in relation to other goods). The latter case does not call for intervention by a higher-

level jurisdiction unless there is need to interfere with the preferences because education is regarded as a merit good or because of its externalities. When a higher-level jurisdiction is involved in the provision of education, the amounts of educational expenditure it may incur in the lower-level jurisdictions may thus be different from those decided on the basis of pure preferences of the people of the concerned jurisdictions.

Regional disparities in education on account of fiscal disabilities can be tackled through the provision of grants from the higher-level jurisdiction (e.g. federal government) to the lower-level jurisdictions (state or local) as an alternative to the former undertaking the educational provision itself on behalf of the latter. Various equalisation techniques See Mathews (1983), *op.cit.* and Grewal (1981 a.), *op.cit.*, for a discussion on the various techniques and their limitations. The former uses algebraic equations while the latter uses diagrams for the purpose of analysis. may be used to determine the size of grants, for example, gap-filling grants, supplementary or add-on grants, equal per pupil or flat grants, the foundation plan, capacity equalisation and power equalisation. However, the technique of capacity equalisation is preferred by Grewal for being able to uphold the basic premise of fiscal federalism - the autonomy of decision-making at each level of government Grewal (1981 b.), *op.cit.*, p. 40..

Complete fiscal equalisation can take account of differences in both revenue-raising and costs of providing comparable services for a region in relation to a "standard region" (e.g. a region with the highest fiscal capacity or the average of all the regions). The grant is equal to the sum of the revenue need and the expenditure need. The revenue need represents the shortfall in revenue which a region would have in raising revenue from its own sources on the basis of a standard revenue effort because its revenue base (e.g. income, property, sales-volume, etc.) is below standard. The expenditure need represents the additional costs which the region would incur in providing a standard range and quality of services in relation to the standard cost of providing them either because a larger number of units of service have to be provided or higher costs per unit have to be incurred.

#### Regional Disparities in Developing and Developed Countries - a Contrast

Regional disparities may be tolerated to a greater extent in a developing country because efficiency considerations tend to be given

greater priority than equity considerations. At a low level of development, the resources at the disposal of the central government may be too little to ensure the attainment of even a national minimum (let alone complete equality) of the various public goods in every region of the country. The limited resources tend to be invested only in those regions that encourage efficiency and resource mobilisation instead of being spread too thin over all the regions. This can be seen in a developing country like India where wide disparities exist between and within various states (i.e. interstate and intrastate disparities). Despite balanced regional development and reduction of regional disparities being explicit planning objectives, disparities exist in terms of the provision of public goods including education, development of infrastructure, indicators of development like per capita income, etc.

In an advanced country characterised by regional disparities in economic development, fiscal instruments may be adequate to stimulate the development of particular regions and reduce regional disparities. In a

developing country, in addition to fiscal instruments, a planning agency is generally called for to promote overall economic development in the country as well as reduce regional disparities. Thus, in an advanced country like Australia, there is no formal planning agency but the Commonwealth Grants Commission and the Australian Loan Council determine the distribution of financial transfers (grants and loans respectively) from the Commonwealth to the various states. In a developing country like India, the Planning Commission and the Finance Commission are the two main agencies concerned with financial transfers from the Centre to the States, although the various Ministries of the Central Government also provide some financial transfers.

The government may be required to provide education to a greater extent in a developing country than a developed country. In the context of low levels of literacy and the need for expansion of education to facilitate the process of economic development, too much reliance cannot be placed on the private provision of education for the country as a whole. In addition, for various reasons, e.g. past educational drives in a region, involvement of missionaries/philanthropists, in education, the ability to pay high fees, etc., the extent of private provision of education is bound to differ between regions. Such regional disparities in private provision of education, which may be greater in a developing country than a developed country, should also be taken into account by the government when determining public provision of education in different regions.

The principles determining the financial transfers that the higher-level government makes to lower-level governments may also need to be different between a developing country and a developed country. A uniform standard may not be appropriate for determining the amount of financial transfers that different regions should receive in a developing country where efficiency tends to be given greater importance than equity.

## Conclusion

The dimension of region as distinct from socio-economic class needs to be considered in the education-inequality relationship. Regional disparities in education need to be identified in terms of a variety of measures in addition to the measure commonly used: financial expenditure per pupil. Such measures could then be used as a basis for policy to curb regional disparities in education. In view of the peculiar characteristics of education making it both a private and a public good, it is necessary to arrive at a proper mix of the role of both the government and the private sector in the provision of education. When government provision is called for, it is important to distinguish between different levels of government whose jurisdiction extends over different regions in a hierarchical order (apart from different governments at the same level) and to consider their respective roles in educational provision. As regional economic disparities are closely linked with regional fiscal disparities, the mechanism of financial transfers under federalism can serve as an important means of tackling the problem of regional disparities in education. Finally, a distinction between developed and less-developed countries is relevant for determining the nature and extent of regional disparities in general and in education in particular. This distinction is also relevant for determining the criteria on the basis of which policies like financial transfers can be undertaken for tackling these regional disparities in a federal country.