

Lead Papers

1 ■ Education, Economic Policy and the National Budget: *Adebayo Adedeji*

Education and Development

To a large extent the pace of any society's development depends on the availability of an appropriate supply of skilled and educated manpower for harnessing and exploiting its resource endowments. This implies that a country's development does not only depend on endowments of natural resources and availability of capital resources, but, more importantly, on skilled and educated manpower with the proper attitudes and enthusiasm as the most essential precondition. Accordingly, the planning and development of education constitutes an integral part of the whole policy of social and economic development. No amount of capital investment uncomplemented by the human factor can sustain or enhance the development of any society.

The significant role of education in the development equation is therefore well recognized and accepted. What is currently being explored is ways and means to quantify or determine the magnitude of its contribution in interaction with other factors in the equation.

Over the last two decades or so we have witnessed the integration of education into the central fabric of national development policy and planning. This integration is a manifestation of the acceptance of education as one of the mainsprings in the development process. For example, correlation analysis has shown that increased expenditure on education has been accompanied by substantial economic growth; that countries experiencing the fastest rate of economic growth are usually those which have allocated the largest absolute and relative shares of their national budgets to education; and, on the contrary, those countries which are falling behind in the economic race are mostly those which are allocating the smallest proportion of their budgets to education. However, one must be cautious in interpreting such findings. For example, it can be plausibly argued that what is taken as the "cause" may well be the "effect", in that countries which are allocating larger proportions of their budgets to education are doing so, or are able to do so, because of greater economic prosperity. On the other hand, countries which are allocating smaller proportions of their budgets to education are those which are behind in the economic race. Reinforcing this alternative interpretation is the fact that research and empirical evidence have shown that social and welfare services, in the early stages of development, are way down on the national budget priority list.

Most developing countries are faced with the paradox of the shortage of persons with critically needed skills and a surplus of unskilled labour. Any strategy of human resource development must, therefore, aim at the

production of these critically needed skills and also the creation of productive employment for unutilized or underutilized manpower.

A very salient phenomenon which contributes to this shortage is what has been called the "brain drain". Although this is a phenomenon which takes place in both advanced and developing countries, it is one which poses a very serious problem to the development world. It involves an international transfer of resources in the form of human capital. This transfer is completely unrecorded in any official balance of payments statistics. Unfortunately, this is a phenomenon which most developing countries are not able to arrest completely since it is induced by both pecuniary and non-pecuniary incentives. For example, the skills mostly involved in this transfer are those which are in great demand in the international market where the developing countries are unable to compete either in pecuniary or non-pecuniary terms. In some cases the non-pecuniary incentives, such as working and research facilities, are the major considerations. Educational planning must therefore make allowance for this form of attrition.

It is increasingly recognized that the acceleration of development could be hindered by a deficiency in the knowledge and skills embodied in human beings. Many studies of economic growth have indicated that this factor, designated "human capital", accounts for a substantial proportion of the output of any production process and accordingly the national economy. For example, one such study in the United States attributes 23% of the growth in real national income to this factor which implies that it is the single most significant contributor to national development.

It is obvious, however, that education is not the only component which enhances the productive capacity of human capital. There are other factors, such as health, housing and so on, which also contribute to the productive capacity of human beings. While the various aspects of investment in human capital have been a major source of growth in advanced countries, the developing world has lagged far behind in extending this capacity of its peoples to meet the challenges of accelerated development. This lagged capacity is a severe constraint on the development potential of these countries.

Since one of the major functions of the education system is to provide the society with the manpower capabilities for productive activity, it follows that the system must be well geared to reflect the current and future manpower requirements of the economy. Considering the long gestation period in producing skilled manpower, particularly at the higher scientific based categories, the education system must be given sufficient lead time in this task if the adequate and appropriate supply is to be made available at the right time. Herein lies the relationship between educational planning and manpower planning. As such, manpower planning is essentially an exercise to ascertain the current and future skill requirements necessary for the attainment of national development goals and aspirations. As implied before, this information must be available to the education system well in advance so that the necessary changes and adjustments in the system can be undertaken in response to such requirements. These changes and adjustments may include, among others, redirection of the system towards job-oriented education and training, more emphasis on career counselling and guidance, and measures for more efficient utilization of skilled personnel.

The need for greater association between manpower planning and career counselling is due to the fact that a rational choice of career requires concrete information on such factors as job availability, pecuniary and non-pecuniary benefits, and promotion and career development possibilities.

It must be noted, however, that education should not be exclusively conceived in terms of purely economic considerations. There are the social and political imperatives which must be given due consideration. Even so, educational development planning is undertaken by every country in one way or another, and the justification is quite obvious. For example, if a country is in a situation of full employment, then continuing development — or even maintaining the development standard — requires a continuing supplement of manpower in all categories for wastage and attrition. On the other hand, if a country is in a situation of unemployment or under-employment, this implies one or a combination of the following: a need for labour development and job-creating programmes, a need for job-oriented education and training programmes, and a need for population and labour force adjustments. These are some of the problems of imbalance which the relationship between education and manpower planning is intended to rectify.

The demographic factor is undoubtedly the most important parameter in incorporating the social and political aspects in manpower and educational planning and development. For example, knowledge of the demographic trend is indispensable for planning the various levels of the education system and also for employment planning.

Experience has clearly demonstrated the futility of approaching the development problem without a rational balance of physical and human capital. As a result of such failures, the term “absorptive capacity” has become quite popular in any discussion or negotiation concerning development assistance. In simple terms it means that if a particular piece of equipment is requested or ordered, there must be someone available to operate it; otherwise it cannot be a productive factor. It is therefore obvious that the efficient use of physical capital is dependent upon human capital. If there is a deficiency in appropriately trained manpower, the rate at which additional physical capital can be productively utilized will be limited since technical, professional and administrative personnel are needed to make effective use of material capital.

Most developing countries are still in the initial stages of experience in the organization and co-ordination of an appropriate machinery for human resource development. It is not unusual to find that in most of these countries the Ministry of Education or the Ministry of Labour are the only ones involved in any way with human resource development matters. However, it is obvious that at the government level, many other departments ought to be vitally concerned with human resource planning and development (e.g. the Government Establishment Office or the Civil Service organization which deals with personnel matters, and the Ministries of Health, Agriculture and Public Works which employ a large proportion of skilled personnel). In addition, the private sector has an important role to play, particularly in the field of on-the-job and in-service training. It is this need for widespread involvement and actual participation which makes it imperative to have a central co-ordinating machinery for the direction, monitoring and review of manpower devel-

opment priorities and strategies so as to ensure that such development is consistent with the current and future requirements of the economy. Such a central co-ordinating body ought to function at the highest possible governmental level and be reinforced by an advisory body composed of representatives from government, the major educational and training institutions, employers, and labour unions where they exist.

Education and Economic Policy

Recognition of the role of education in the development process has led to its incorporation as an integral part in national economic policy and planning. This recognition and acceptance is based on scientific research and on empirical evidence which indicates a positive relationship between the rate of economic development and the performance of the education sector. Accordingly, educational development — particularly at the national level in most developing countries — is now closely tied to the manpower requirements of development as ascertained from manpower studies.

Without an adequate and appropriate supply of educated and skilled manpower, no country is in a position to fully exploit the development potential of its natural resources and other endowments. Consequently, its development process will inevitably be retarded. It follows, therefore, that developing countries must take urgent and positive steps in the direction of human resource development which is the critical complement to the other resource factors in the development equation.

Given the resource limitations of developing countries, it will be appreciated that targets for educational development, and the consequent allocation of resources, cannot be decided in abstract, but must be related to the priorities of social and economic development. The education sector must, therefore, compete with the other sectors, and satisfy — although not as rigidly as the other purely economic sectors — the basic efficiency criteria in terms of resource allocation.

The demand for education on average has outstripped every other demand in the process of development. There are basically three reasons which may be cited for this rising educational demand: the first is associated with the skill requirements for development as ascertained from manpower studies; the second is usually in response to social and political demands or pressures; and the third is what may be termed the demonstration effect in that past expansion of educational opportunities leads to greater individual awareness of the benefits to be derived from education.

As a result of this trend of educational expansion in practically every country for which information is available, the proportion of national income devoted to expenditure on education rises as national income per capita rises. This occurs at every stage of development. The major component of such increased expenditure is associated with the provision and expansion of tertiary-level education which is so much more expensive than the primary and secondary levels. This increasing allocation of national budgets to education is perhaps the main reason for the attraction of rate of return analysis to the education sector in order to ensure that such resource allocation is efficiently undertaken.

The available statistics indicate that most developing countries devote about one-fifth of their budgets to education, or, in general, to human resource development. The financing of such programmes is, therefore, an important aspect of national development planning. It should not be assumed, however, that the budget allocation to education is the sole yardstick for measuring a country's involvement in human resource planning. The strategy and the process of skill development must necessarily involve all sectors of the economy.

The potentialities of fully utilizing government agencies, private employers, expatriate firms and technical experts as trainers and developers of manpower are seldom fully exploited. A key element, therefore, in the strategy of human resource development is to shift as much as possible the responsibilities for training to the major employing institutions and to provide the necessary technical guidance to enable them to develop relevant in-service training programmes. It follows that education and training which are directly job-related in nature, should enlist the full participation of the private sector in providing on-the-job and in-service training programmes. Such training has proved to be very efficient in terms of cost, productive relevance and time. For example, a large firm can utilize the services of its experienced staff on a rational basis as instructors, without incurring the difficulty and cost of recruiting teaching staff internationally which the formal system usually faces. At the same time, the instructional impact of a working technician in a work situation cannot be paralleled by a teacher in the formal set up. Another merit of such vestibule training relates to the demand side. By greater and more systematic involvement in the training process, the employing institutions are in a position to influence and shape the training content to the current and future needs of industry and the economy in general. This will undoubtedly facilitate the absorption and productive utilization of such trained manpower in the labour market.

Whereas physical capital, technology, financial and other resources can be acquired from abroad, for various economic, social and political reasons a country must endeavour to be self-sufficient in the provision of human capital. It is clear, therefore, that when plans are made for the expansion and growth of specific sectors, the manpower component for the implementation of such plans must be an integral part if such targets are to be realized.

The fact that education is not amenable to the strict test of investment criteria for budget allocation has not affected its development. This is due mainly to the social and political imperatives so that most national development plans provide, as a matter of procedure, for increasing proportional expenditures on education. This, however, could be a purpose-defeating exercise if not carefully monitored since there ought to be a period of stabilization so as to ensure consolidation and maximum internal efficiency of facilities provided.

A word at this point concerning the relationship between human resource development and the balance of payment problem — particularly of developing countries — might be in order. Most developing countries, faced with the urgency of educational development, pay little, if any, attention to this relationship. Although in most cases the foreign exchange component of expenditure for education is relatively small, the alternatives for reducing this component must be given some priority in

the strategy of educational development. Such alternative strategies include the training of teachers locally, the localization of as much university and other tertiary-level education as possible, and the local manufacture of school equipment and supplies. These are all import substitution inputs which have not been sufficiently incorporated into the strategy of educational development.

It is argued in some quarters that it is only at a fairly advanced stage of development that pressures for substantial qualitative improvements in human capital are felt. To support this view, reference is made to the early industrialization in Western Europe which appears to have been accomplished without requiring as prerequisites marked improvements in skills and knowledge. Similarly, it is pointed out that the contribution of education to American economic growth has been pronounced only in recent decades. However, unlike these earlier historical situations, the recent and current pattern of development makes it necessary to have a relatively high level of skill and much more knowledge to take advantage of the more complex equipment and techniques from the advanced countries.

Since education expenditure must compete for resources that have alternative uses in more directly productive investment, it is essential to determine what proportion of national income should be devoted to education and to establish priorities for the various forms of education and training. In terms of the economic function of education, the priority requirements for accelerating development may require greater emphasis on vocational and technical training rather than on the formal academic courses.

In the context of most developing countries, education — or, in general, human resource development — must place considerable emphasis on the requirements of the agricultural sector which is the backbone of most of these economies. The economic transformation and modernization of this sector requires the infusion of new skills and knowledge. Associated with the purely economic advantages of agricultural modernization is the potential for such modernization to retain and attract an adequate and appropriate labour force to sustain and enhance the contribution of this sector to national development, and, at the same time, to stem the rural/urban exodus. Accordingly, the developing world ought to exercise some restraint and caution in imitating the educational systems of the more advanced countries. Particularly in the early stages of development, more emphasis should be given to methods of informal and functional education. These efforts are less time consuming, less costly, and more directly related to the productive requirements of their economic structure.

So far it might appear that the discussion has been biased in favour of the economic function of education. To some extent this is quite justified. Given the resource constraint of developing countries, priority ought to be given to measures directly related to the immediate task of development. Nevertheless, education ought to be seen as rendering two basic services: it must attempt first to meet the needs of individuals for their own development and self-fulfilment, and then the needs of society for its general social and economic development. These two aspects of education are, in fact, intrinsically merged, for even if one were to postulate that the sole purpose of education should be individual satisfaction, one

could not logically exclude as incompatible the investment motive for finding remunerative employment which is one of the major prerequisites for achieving such self-fulfilment.

In most developing countries the greater part of the educational facilities is provided by the State. Education, therefore, claims a substantial proportion of the national budget, and it would be useful if some scientific criteria could be applied to justify the level of resources to be allocated to the education sector. Any such criteria must, however, take into consideration both the economic and cultural aspects of education. Unfortunately, due to the virtual impossibility of quantifying, computing and isolating the various cost factors (including opportunity costs for rate of return calculations) investment theory has not yet been able to make its full contribution in the field of human resource development.

Education as Investment or Consumption

The debate continues as to whether education should be properly considered as an investment in human capital or as consumption. Perhaps the question should not be whether education is an investment or a consumption input, but rather, given the requirements and resource constraints on the development process of the developing world, whether it should be properly treated for planning purposes as an investment or consumption expenditure.

Investment is simply a means of enhancing the productive capacity of a capital resource to yield an increased stream of income over time. It follows, therefore, that the growth of income which defines economic development must be the result of investment in various forms of capital resources. The advocates of the investment approach argue that if the positive relationship between education and economic growth is accepted it follows that education is an investment which is undertaken in human beings and which enhances their productive capabilities to the extent of their mental endowments and physical conditions. Therefore in keeping with the definition of economic growth, investment in both physical and human capital resources ought to be given at least equal emphasis. However, the very thought of categorizing man as a capital asset, raises deep-seated moral and philosophical issues dating back to slavery, when the slave was an accountable asset of his master. Therefore, to treat man as a capital or property asset whose value can be augmented by investment is held by some to be a debasement of human dignity. In spite of these and other arguments, most planners and economists take the bull by the horns and incorporate education in the formal core of economics as an investment decision both at the society and individual levels.

Another opposition to the application of the "investment in capital" concept to man concerns the virtual impossibility of separating the consumption from the investment component of expenditures on education, so that the rate of return on any incremental expenditure on education is not computable. The argument continues that since the rate of return is essential for consideration of alternative investment opportunities, and since it cannot be rightly computed for expenditures on education, such expenditures should not be regarded as investment. It must be noted, however, that this opposition has witnessed considerable improvements in the techniques of isolating the consumption and investment components for the application of rate of return analysis.

In line with investment theory, rate of return calculations have become a prominent feature in the literature on the economics of education. In some of the more recent approaches, attempts are made to isolate and quantify those components of education which affect human capabilities to do productive work, and thus classify them as investment components. The consumption school has quite rightly responded that if this definition is taken to its logical conclusion, it would include expenditures on food, clothing, housing, entertainment and even some luxury expenditures since it could be plausibly argued that each and all of these enhance human capabilities to do productive work.

On the specific issue of the rate of return, the advocates of the consumption approach argue that expenditure on education is essentially different from expenditure on physical capital, in that the former is undertaken for reasons other than the expectation of future monetary returns, and it is not normally based on scientific comparison of alternative investment opportunities. However true this might be at the society level, it must be conceded that there are individuals who do make decisions to invest in and pursue a particular type of education with an eye on future pecuniary returns.

Another weakness in the rate of return approach is the attribution of earnings differentials exclusively to additional education. It is well known that such differentials are the result of a permutation of factors among which are the dualism of developing economies (which means that earnings are related to the sector in which the person is employed), innate abilities, ascribed and acquired status, and class of the individual and family. It is, therefore, not unusual to find wide variations in the earnings of individuals who are at the identical level of education. Any linear relationship therefore between education and earnings is void of empirical foundation. Such relationships are more likely to provide measures of the relative earnings influence of respective categories of employees rather than an education-earnings association. Even if the non-educational factors are waived, the validity of any correlation of this kind would have to be based on the assumption of a perfect market situation in which earnings are everywhere equal to the value of the marginal product of labour. In such a situation any earnings differential will be equal to the change in the value of the marginal product of labour. If it is assumed in addition that the change in the value of the marginal product is a pure result of the additional education, then and only then can it be postulated that the earnings differential is the result of the additional education. Given that the whole premise revolves around an assumption of market imperfection, and given that such a situation is utopian, it becomes extremely tenuous to postulate any valid linear relationship between earnings differential and additional earnings.

It should be noted that even with physical capital there is no precise mechanical relationship between the amount of resources invested and the *value* of the product which results from it. This value, or return, normally depends on how and where such investment is made and the extent to which the resultant product serves the production requirement of the economy, and also the prevailing demand for the product. This problem therefore of trying to establish a causal quantitative relationship between the expenditure on resources and the value productivity is multiplied when one moves from physical to human capital.

Frankly, I do not think that there is a sufficiently high rate of return to justify the continuing controversy as to whether expenditure on education is an investment or a consumption outlay. Taken as either, education has established its rightful claim to a substantial allocation of resources. For example, if it is taken purely as an investment expenditure, then the fact that the stock of human capital as calculated by Professor Schultz for the U.S.A. increased more than twice as fast as that of physical capital means that its rate of return is higher than that of physical capital. On the other hand, if education is taken a consumption expenditure, the fact that educational expenditure increased much faster than that of real consumer goods for the same period means that the income elasticity of demand for education is higher than that for real consumer goods.

Although there are a few noteworthy examples of progress in scientifically incorporating certain aspects of education in the core of investment theory, there still remain too many arbitrary elements. This is inevitable. It must be accepted, however, that the attention which investment in human capital continues to receive should prove salutary in cautioning against any over-emphasis on physical capital to the neglect of less tangible factors.

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Introduction to Lead Paper 1: *E. C. Anyaoku*

It is a hazardous exercise to introduce someone else's paper; and I fear that it is even more hazardous to do so when it seems clear from the paper that the author, had he been here, would certainly have been glad to expand the views put forward by him. I therefore propose to do no more than attempt to draw attention to some of the main points and questions arising from the paper.

In the manner that one would expect from an author who is both a distinguished economist and actively engaged in the business of development, Dr. Adedeji has presented a paper that is both scholarly and practical. He has taken an economist's macro-view of the relationship between education and development on the one hand, and education and economic policy on the other. He has also given us the benefit of his contribution to the debate on whether expenditure on education should be conceived as investment or as consumption.

His paper poses a number of important questions which will, I am sure, provoke fruitful discussions. In the first section of the paper, Dr. Adedeji expresses the familiar argument that the main purpose of education is to provide a country with the educated and skilled manpower that is essential for social and economic development. He stresses the importance of "the human capital" in the output of any production process, and as such for the national economy. He recognizes that there are social and political imperatives which have to be considered when planning educational development. The burden of his argument, however, is that education planning must reflect the current and future manpower requirements of the country. The relationship, therefore, between education planning and manpower planning must be close. He describes manpower planning as "essentially an exercise to ascertain the current

and future skill requirements necessary for the attainment of national development goals and aspirations". Education planners must be given sufficient lead time to produce the appropriate types of manpower at the right time, having due regard to economic and social needs and to demographic trends. In order to achieve this objective, Dr. Adedeji urges that a central co-ordinating machinery should be set up in each country to direct, monitor and review manpower development priorities and strategies in order to ensure that such development is consistent with the current and future requirements of the economy. The co-ordinating machinery will embrace an advisory body composed of representatives of (a) those departments of government which are particularly concerned with human resource planning, (b) major education and training institutions, (c) employers from the private sector, and (d) labour unions. He makes the point that the advisory body should function at the highest level of government.

Dr. Adedeji draws attention to the phenomenon of "brain drain", which is a potent factor contributing to the shortage of skilled manpower in many developing countries. He sees "brain drain" in terms of "an international transfer of resources in the form of human capital". He doubts whether "brain drain" can be completely arrested, and advocates that the inevitable loss of skilled resources in this way should be taken into account by the manpower planners.

In the section of his paper entitled "Education and Economic Policy", Dr. Adedeji continues to emphasize the economic function of education. If a high proportion of a country's budget is devoted to education — and most developing countries allocate about 20 per cent of their budget to education — then there has to be justification, in economic terms, for such a high rate of expenditure. The education sector must compete with other sectors in the allocation of resources. He concedes, however, that normal tests of investment criteria cannot be applied to education as rigidly as they can to most other economic sectors. The rate of return on a country's investment in education cannot be accurately quantified or subjected to strict scientific criteria.

Nevertheless, Dr. Adedeji clearly wishes to see an identifiable return, in economic terms, from investment in education. He puts forward four suggestions for obtaining greater efficiency in the education system:

(a) Greater use should be made of government agencies, industry and other employing organizations in training personnel. Every effort should be made to enlist the full participation of the private sector in providing on-the-job and in-service training programmes, thus relieving the burden on Ministries of Education.

(b) Education planners should be fully conscious of the need to conserve foreign exchange. Instead of importing teachers, greater use must be made of national manpower resources. In other words, the emphasis should be on the training of local teachers. For the same reasons, universities and other tertiary education institutions should be localized as far as possible. School equipment should be manufactured locally rather than imported from overseas. These are all significant forms of import substitution.

(c) Greater emphasis should be placed on technical and vocational training than on formal academic courses. These forms of training

contribute directly to development. Economic factors require that special consideration should be given by the education planners to the transformation and modernization of the agricultural sector.

(d) Developing countries must be cautious about imitating the education systems of more advanced countries and should place greater emphasis on non-formal and functional education, which is less time consuming than formal education courses, less costly, and more directly related to the productive requirements of developing countries.

In his concluding section, Dr. Adedeji boldly tackles the question of whether expenditure on education should be regarded principally as investment or principally as consumption. With scrupulous fairness, he analyses the arguments on both sides of this controversy. Some of us who are not economists may find ourselves getting a little out of our depth. Fortunately, this does not really matter, since Dr. Adedeji doubts whether any useful purpose can be served in continuing the debate on whether expenditure on education is mainly an investment or a consumption outlay. "Taken as either", he says, "education has established its rightful claim to a substantial allocation of resources". We must hope that our various Ministers of Finance will accept Dr. Adedeji's assurance on this point.

I am sure we are all grateful to Dr. Adedeji for presenting such an authoritative, scholarly and stimulating paper. It raises issues of fundamental importance. Without in any way wishing to limit your deliberations, I have singled out certain questions around which discussion might profitably centre. These are:

- (1) What are the implications of regarding the primary objective of education as human resource development?
- (2) Is the "manpower approach" to education adequate in a free society? What weight is to be given to social and political influences?
- (3) What machinery is necessary to ensure that education planning is effectively geared to manpower planning?
- (4) What steps could, or should, be taken to limit "brain drain"?
- (5) Granted that education must compete with other sectors in the allocation of resources, what criteria can usefully be applied when resources are allocated?
- (6) What part of the education burden can be transferred to industry and other employing organizations?
- (7) What is the scope of import substitution in education?
- (8) Should greater emphasis be given to technical and vocational education at the expense of more academic forms of education? If so, what are the implications for teacher education and curriculum renewal?