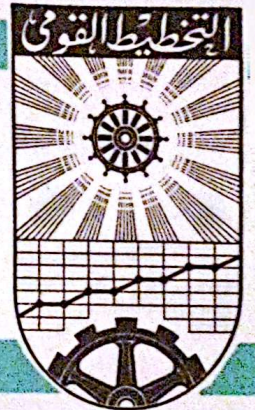


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HUMAN RESOURCES
and
THE DEVELOPMENT DECADE

by

M .S. ADISESHIAH

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A paper by M.S. ADISESHIAH

The problem - Accelerated Growth

The General Assembly of the United Nations adopted, in December 1961, its resolution on the Development Decade, which in quantitative terms sets for itself the objective of increasing by 50% the per capita income of the developing countries by 1970. This would involve an accelerated rate of economic growth of these countries, requiring a more than 50% increase in their gross national product, to allow for population increases during the current decade. How is this accelerated rate of economic growth to be achieved during this period? During the past decade, 1950-1960, the growth rate of the developing countries averaged 3%. The objectives set forth in the United Nations resolution would require a growth rate average of 5% for the decade 1960-1970.

Further, with some notable exceptions, during the past decade, the growth rate in the agricultural sector has averaged over 2%, whereas the growth rate in the industrial sector has been more than double that - averaging 6%. This was needed because agriculture represented over 75% of the total economy of the typical developing country, and so the growth rate of the industrial and other non-agricultural sectors has been around 6% to bring about the average of 3%. Accordingly, during the development decade, the growth rate of the Agricultural Sector will have to be around 3%, while the non-agricultural growth rate will have to register around 10%, in order that an overall average of 5% might be achieved.

In the analysis that follows, the major preoccupation of this paper will be to examine and determine, in the light of existing knowledge and techniques, what are the human resources requirements for and results of the 5% growth rate on the development decade established for us in the General Assembly decision. Here three assumptions or qualifications of the ensuing thesis need to be made clear at the outset. First, the important and complex non-human factors which are necessary to contribute to the 5% development goal, are at this stage assumed and, for this conference, will be treated by the other speakers. Second, in using world indices and averages, the particular stage of economic development of individual countries or whole regions is being averaged out. India, with its goal of broadening the industrial sector and its high targets for the two sectors has to be averaged with Kenya or Thailand, which have a real 'vocation' for agricultural production and where the average targets suggested for the two sectors may not necessarily be the most efficient use of

national economic resources. Third, I am not in this paper dealing with all the non-material factors which contribute to and determine growth - including political conditions and social structure. These are taken into account at about the existing levels.

Causes for Accelerated Growth - Classical Explanation

Economic analysis has traditionally ascribed the gross national product as being the combined output of the three production factors - land, labour and capital. This analysis as applied to a stationary state or a static model is an accurate one, and is of help in deciding on allocation of scarce resources as between the three broad competing areas of inputs. But when gross national product is viewed quantitatively or dynamically, over a time period, a seeming paradox arises. When comparing the gross national product of the United States over a 40-year period, for instance, as between the years 1919 and 1957, it is found that the increase in land, labour and capital investment during this period should have produced only one third of the increase in the gross national product that was actually produced in this period. Again, in the United Kingdom, studies of the increased investment of the three factors in a group of manufacturing industries, during a six-year period, seem to account for 25% of the increased output of these production units during that period. In the Soviet Union, analysis ranging over a 30-year period has established some 20-30% of the national income, as not being imputable to the physical factors. Alternately, in the past decade, 1950 to 1960, in Japan, there was almost no increase in investment of the traditional three factors in agriculture - save a mere 2% increase in cultivated land - but a 20% increase in rice production is registered. Again, Israel, during the past decade, with an increase of 10% of investment in the classical factors, has neveraged a 60% increase in her agricultural production in that period. Mexico, with an increased investment in the traditional sense of 22% in her agricultural sector during the period 1945-1960, has more than doubled her agricultural output.

Accelerated Growth and the missing factor-Human Resources

Here then is the apparent paradox of production. What accounts for two-thirds of the increase in the gross national product which has taken place in the United States during the period 1919 - 1957? What is the reason for three quarters of the output of the U.K. manufacturing industries during the six-year period referred to earlier? What accounts for 20-30% of the annual national income in the Soviet Union? How can the residual tenfold increase in the rate of rice production in Japan be explained? What explains the 80% increase in agricultural production in Mexico and the 50% increase in Israel? The increases referred to here for the six countries, which are a fair sample on the basis of available statistical studies, are increases in their production which are over and above the appropriate allowance for increase in investment of the three traditional factors of production.

It is clear that these increases in the gross national product can only be explained adequately and for the main part, as the return to the very heavy investment which all countries undertake at all times in the development of their human resources. This includes all expenditures - capital and recurrent - on all forms of formal education which invests human resources with knowledge and skill, on all forms of training which transmits a particular skill to an individual, on all forms of mass media which circulates knowledge over a wide area, and all forms of development and research which extend, innovate and improve our stock of knowledge and skills. In this context, I am assuming the important annual investment in Health - outside of its being a part of human resources - made by every country, which is the essential infra-structure to human resources development. Of course in the analysis on education, training, development and research, the health component is included. The other part of the national investment in health is taken as a given factor, along with others not the subject of this paper. It is known that every country invests about 3-4% of its gross national product in all forms of formal education, and if training, mass media and development and research were included, the average of the gross national product invested in this sector- the development of human resources - would average around 4-5%. In fact, the accelerated growth instances which have been noted earlier can only be explained in terms, largely of investment in human resources of the countries. We are, therefore, left with the presumption that somewhere between one-third and three-quarters of the increase in the gross national product of the countries is attributable in major part to the investment in human resources. In other words, accelerated economic growth is, to a large degree, a function of adequate and commensurate development of human resources.

Human Resources Development Viewed as a Consumption Component

If the greater part of accelerated economic growth is thus due to investment in human resources in each country- why has this factor been overlooked until recently? The reason for this is that this group of expenditure, particularly that on formal education, has been in general treated entirely as consumption expenditure. Going to school has been like going to a restaurant. If you wanted a good Burgundy with your bird, you went to a Mayfair restaurant. If you wanted Greek and Latin with your history and literature, you went to Westminster or Winchester where you paid much more than at the LFA school. The whole expenditure on education - whether by the individual or state - was treated as a consumption item - and a somewhat costly, extravagant and wasteful consumption item at that.

At this point, a corollary of this fact was also accepted and that is the canon of foresight and frugality, namely that one consumes only as much one can afford. If you could afford the price of a Mayfair restaurant, you could go there - though even so you were abjured to pause and weigh the satisfaction of a Mayfair meal with red wine against that of a durable pair of shoes or a new suit.

Similarly, an individual should go in for as much schooling as he and his family could 'afford'. Even there, in the case of girls, for instance, the advantages of further schooling against the advantages of a sizeable marriage endowment in the form of a dowry, had to be carefully weighed. Further, it is not many years since the children of the cock, the chauffeur and the gardener were exhorted not to 'have their heads turned' by going to school or college, 'to remember their station in life' etc. And for nations, as a whole, the same injunctions to economy, prudence and the natural order of things applied. Nations were 'poor' or 'rich', in accordance with their gross national products. Poor nations should not 'waste' their resources on education. They should have only as much education as they can 'afford'. At best, quantitatively, they should not have more primary, secondary or higher education than is 'needed' to run their public services. Qualitatively, that system should be so devised - cut, reduced, economized and made into a multi-purpose hodge-podge, seeming to serve all kinds of mutually contradictory purposes at the same time - that it cost the country and its resources the minimum possible, preferably nothing at all. (A recent critique, in the Times Educational Supplement, of the 20-year African Educational Development Programme drawn up by the African States last year - known commonly as the Addis Ababa Plan - is an illuminating illustration of this thesis.)

Human Resources Development as a Major investment Item

Now neither for the individual nor for the nation or community, is education solely a consumption item. It is a non-durable consumption item for the individual only to a very small and limited extent. This must have already been glimpsed at when victory or defeat at the Waterloos or the Trafalgars of those days came to be attributed to Eton and Rugby playing-fields. Even here, it is not without significance that the playing-field and not the class-room or the library is referred to. This seeming anti-intellectual attitude has come right down to the present. I can recall my life as a student here when, following tradition, I took elaborate precautions to be sure that I was seen regularly, on the hockey or cricket field, or punting in the backs; I would rather be found dead than be caught in the library or anywhere on the college grounds with a book in my hand. This was only apparently so, for I am aware here of the shades of Newton. My point is that, for the individual and the nation, education is not primarily a consumption item. It is dominantly an investment item.

An item of investment is one where resources are expended today with a view to obtaining equivalent or enhanced resources in the future. In all expenditures connected with human resources development - whether in formal education, training, in mass media or in development and research - there are these two elements present. There is the postponement of present consumption, and this is done in a double sense. Let us take formal education to illustrate this. First, the funds spent on education by the individual and the family (fees to the school, board, lodging and clothing for himself, together with books, school equipment etc.) and those spent on education by

the State or private groups (buildings, teachers' salary, equipment, libraries etc.) could have been spent by both groups on some other item of consumption. Second, there is the postponement of consumption, present in this case, in the sense of foregoing for the individual and the community, an income which could have been earned during the years spent in school and college. This loss of income foregone is heaviest at the university and post-university levels of education, next at the second level, and last - but still quite sizeable to the community because of the numbers involved - at the primary level of education, specially in its last two years. I have reason to believe that, in a developed country like the United Kingdom, the proportion of income which could have been earned but foregone through education is about two-thirds of what it spends on education and that in a developing country like India, it is about 120% of what it invests in education.

A second feature in an investment item is the expectation that returns in the future will be higher than the invested current resources. Applying this test to investment in human resources development, the expenditure in formal education, in training, in mass media and in development and research, thus lead to increased returns both to the individual and to the community. To the individual, schooling is a definite means of increasing his future earnings. Different calculations have been made in application of this truth in the Soviet Union, United States, Europe etc. as to the effect on earnings of a 6-year primary school, a 6-year secondary school, and a 4-year university. As a general guide, I suggest that there is reason to believe that the returns of education of a 12-year period, to the individual, expressed in terms of the relation between the amount invested by him and or his parents and his higher earnings in the future, can be averaged at 16% gross, and if allowance is made for income foregone while at school or college, the average would be a 11% net. Similarly, a two-year training course, increases future earning by around 6% gross or 3% net. In the case of investment in mass media and development and research, while the investment benefit to the individual is not inconsiderable, it is to the community that one must look, in making final judgments on these sectors of the development of human resources. In this regard, there is the dramatic case of the spectacular returns of investment in hybrid corn research. In the United States, it gave rise to 900 million dollars of additional income in 1955 as a result of 131 million dollars of past investment in development and research in hybrid corn. This gives a 700% return on this investment.

Taking formal education alone, no precise calculation has yet been made as to the contribution which investment in it makes to the growth in the gross national product. There is still a speculative area where much work is being done in Europe and North America particularly. Unesco is in the process of developing certain norms which are being applied to educational development programmes in Asia, Africa and Latin America. Some of the norms now being developed and applied to these regions which might help (indirectly) to answer the question raised earlier are:

1. Total Public Expenditure
Gross national product
2. Public (or Total, if available) Education expenditure
Gross national product
3. Public education expenditure
Total public expenditure
4. Public (or Total) Education Expenditure
Total Investment
5. Education Investment
Total Investment
6. External Aid
Total Public Expenditure

These relationships are linked and in most cases form a recognizable pattern, e.g.

$$\text{low \% } \frac{\text{Budget}}{\text{GNP}} = \text{low \% } \frac{\text{Educ. expenditure}}{\text{GNP}} = \text{low \% } \frac{\text{Public expend. educ.}}{\text{Total public expend.}} \left. \begin{array}{l} \text{) Unless} \\ \text{there i} \\ \text{heavy} \\ \text{externa} \\ \text{aid} \end{array} \right\}$$

If one or other of the proportions is very high or low, the reasons are being investigated. The norms are, therefore, of value in assessing the educational effort of countries on a fairly comparable basis, and they also form a convenient index for comment on the relationship between educational investment and total national resources.

Subject to further light which these studies may throw on the question, I have reason to suggest that, in industrialized countries, the contribution of the educational investment to the growth in the gross national product, would be at around 25%, and that in developing countries it could account for anything up to around 50% for the rate of growth. In fact I believe that the only way developing countries can break out of their vicious circle of stagnating poverty, disease and ignorance, is to concentrate heavily their investment, for a decade or a decade and a half, on a massive development of their human resources. In one sense, from the point of view of economic growth, no country in Asia, Africa or Latin America can have too much education. They may have the wrong kind of education, but that is a separate issue that I will deal with later. I also know that there is the theoretical possibility of overweighted investment in education, resulting in sub optimum allocation of resources. But the real danger today is the opposite one - of neglect of human resources. And so I repeat that human resources development and its accompaniment

of human capital formation are the only solid groundwork for bringing developing countries during the development decade to the take-off point and so to the stage of self-sustaining growth.

Thus there is a close relationship between investment in human resources and the rate at which economic growth as measured by the gross national product moves forward in any country. This means that there is need to abjure individuals and nations to be even more prudent in postponing present consumption, in tightening their national belts and deferring some short-term high return investments in favour of investing in education and other means of developing human resources and forming of human capital, as is done in aiding them with the formation of physical capital.

Human Resources - An end in itself

All this is not in any way to deny or abridge the cultural, social and humanistic ends and functions of education. Education is an end in itself. It is good, even if it does not pay. It is a right, a human right which stands on its own without reference to costs or returns. It is also a consumption item, unique in not being subject to the law of diminishing returns. Its purpose is to develop the human person, to preserve and transmit cultural values and a sense of history. All these ends and purposes of education are, however, not only quite compatible with the fact that education is the major instrument in the entire complex of human resource development and so of economic growth. Further, in attaining the right to education, each nation has to plan the realization of that objective in light of its scarce resources. I see no contradiction here. In fact I further believe that only an educational system grounded in humanistic values and sound social purposes is also the most effective means of developing human resources for the business of increasing the gross national product, human welfare and social happiness. And conversely, only an educational system which is economically efficient can make real the humanistic ends and goals of education.

Economic Growth and Skilled Human Resource - A Case Study

One way of looking at the component elements of human resources is institutional - formal education, training, mass media and development and research. Another way is to look at the human resources needed in terms of skills. From this point of view there are:

- (a) knowledge and skill resulting from the education given in the formal school system at the second and third levels;
- (b) specific skills resulting in some cases in specialized training programmes established after formal education;
- (c) skills of overall national importance arising from development activities and through research programmes;

(These three cases are what are called skilled human resources)

- (d) semi-skilled and unskilled resources, requiring, in some cases, certain primary and adult education programmes and the dissemination of knowledge through mass media.

The investment effort in human resources is in large measure related to the group of skills designated under (a), (b) above. (d) requires some investment in primary and adult education and mass media.

In most of the developing countries, it is found that there is a large stock of unskilled labour force with accompanying features of unemployment, underemployment or disguised unemployment; an acute shortage of skilled human resources grouped under (a), (b) and (c) above and some unemployment of secondary and university graduates and, in some cases, even of primary school leavers. In fact the unemployed graduates of India are so very often held up as the awful example of investment in education being wasteful of scarce national resources, extravagant in view of the country's poverty, and a luxury causing social unhappiness.

It might, therefore, be useful to pursue the case of India because, among other things, it has been such an obstacle, in recent writings, to the understanding of the place of education and human resource development in economic growth. The Government of India in the third and fourth five-year plans, which cover the decade 1960 to 1970, aim at 10 to 12% growth rate in industry and 5 to 6% in agriculture and other sectors. To achieve this, a threefold increase in the group designed (a) to (c) above, is envisaged for the decade 1960 to 1970. That is, in place of the present 800,000 in that group of skilled human resources, there will be some 2.5 million by 1970. This proportion of skilled human resource either to total population or labour force is somewhat higher in India than similar ratios for Germany, United Kingdom or Soviet Union. This is because of India's larger population which inflates the number of its teachers and other miscellaneous groups of skilled personnel, making China in this respect the only other country with which India can be properly compared. In turn, this involves nearly doubling the enrolment in the last three years of the high school, (4.5 million now and 8 million in 1970). University enrolment will move up from 900,000 in 1960 to 1.8 million in 1970, of which 60% are to be students specializing in Science. The broad lessons conveyed by India's 3rd and 4th 5-year plans, which happily coincide with the UN Development Decade, are clear. First, the two plans aim at a 5 to 6% overall annual growth rate during the decade. Second, investment plans are being geared to increase threefold the skilled human resources in the country during this decade. This will involve an annual outlay of 4% of the gross national product in the educational, training and research sector of the economy. Thus, India provides a case study for growth rates and their implications for human resource development in developing countries. For India, the development decade will see :

- 1) a 70% increase in gross national product,
- 2) a 30% increase in its skilled human resources to bring about this 70% increase in its gross national product; and
- 3) a 40% gross national product investment over the decade in the human resources sector.

Yet there is even today in India a curious paradox reported. Needing such an increase in skilled human resources during the coming decade, there is still a considerable number of unemployed or misemployed university graduates. This is because, while the country is short of scientists and engineers, and provision is being made at the second level and higher institutions for education in these areas, substantial numbers of secondary school graduates are still being channelled into law, arts etc. These latter disciplines have a large absorptive capacity as far as educational facilities are concerned, but limited demand elasticity as far as employment opportunities are concerned. The position is, however, changing as may be judged from the steadily increasing proportion of students taking up science, engineering and professional studies.

Human Resources and the Need for Planning

This leads me to set forth the major limitative condition in the thesis advanced in this paper - that accelerated economic growth is to a large degree a function of adequate or commensurate development of human resources, and that increase in the investment in Education. That limitation is that all investment in human resources to be productive, all expenditure in education to be paying, must be the result of a system of rational and integrated educational planning as part of an overall and social development programme in a country. This involves mapping the demand for trained and educated personnel over the requisite period of time, indentifying the educational sectors which are hindering economic growth either through, under or over supply of skilled personnel, concentrating investment in those sectors which need to be expanded, bearing in mind the inter-related character of the different levels of education and the educational pyramid; undertaking a qualitative appraisal of the content of education and training programmes and gearing them both to the humanistic values and traditions of society and to the development demands of the growing economy, particularly its innovation mindedness; reducing rapidly and finally eliminating all forms of waste in the educational system, including reforming the system so as to reduce the drop-out rate to the minimum; fixing the levels of remuneration of teachers and administrators so that their important and key professions can attract their share of creative minds; investing in the new technologies of education so that the cost of education may be kept low and even more important, the manpower supply be made adequate to the exploding demands for teachers and educational administrators that will be faced in the coming decade; making special provision for exploiting more adequately, if not to the full a crucially important but much neglected human resource - the contribution of women and girls; rationalizing and coordinating the techniques, contents and

end objectives of the education, training and research programmes of the country; investing adequately in a system of mass media which will assure the circulation and spread of knowledge and skills within the community. This is the broad area which planning for human resource development covers. All countries - developed and developing - must engage in some kind of planning for human resource development along these lines, if the objectives of the development decade - raising per capita national income by 50% - is to be achieved.

Framework of current decisions on human resources development

There exists today a body of inter-governmental decisions on human resources development for the different regions - Asia, Africa, Latin America, Europe and North America. These decisions have arrived at so far without reference to the specific objectives and the targets of economic growth of the development decade. It will not be too difficult a task, however, to undertake a review of these decisions and bring them into line with the objectives of the development decade, once these objectives are quantified. This is already being done for the Latin American region.

A s i a For Asia, during the current decade, 1960-70, in the area of formal education, about 50% of the children of primary school age will be in primary school, (or about 90% of the children in the age group 6-11 will be in 5-year primary schools). Continental decisions concerning other levels of education have not been made as yet, but on the basis of information available in national plans, it looks as if 50% primary school graduates will go through second level schools 20% to trade and agricultural schools and 30% to apprenticeship courses and to work directly. Adult and various training programmes will aim at an annual 3.5% upgrading in productivity in both agricultural and industrial sectors; research developments are generally planned to meet production targets, but mass media investments, are given low priority and may account for the low productivity curve forecast in many national plans. Investments in these sectors will involve an annual outlay of 4-5% of the gross national product, all plans assuming a very large amount of foreign aid.

A f r i c a For Africa, by 1970, primary education will have moved from 40 to 70% of the children of the age group 6 to 12, second level education will move from the present 3% of the age group to 15%, and university education from the present 2% to 4% of the age group. Adult education and training programmes are just maturing in the continent. Mass media development for the continent has just been planned by Unesco, which has established that the cost of expanding material, press, radio broadcasting and film facilities from their present to the minimum level set forth by Unesco, is around 360 million dollars. The minimum level calls for 10 copies of daily newspapers, 5 radio receivers and 2 cinema seats per 100 inhabitants. Research programmes are furthest away in terms of conception and planning. For the educational sector, the governments have decided to increase their present investment from internal resources of 3% of the national income to 4% by 1970, while total investment in education will rise

from about 4% to about 9% of the national income. The achievements of the targets assume a foreign aid of about 5 billion dollars during the decade.

Latin America For Latin America, the inter-American conference at Punta-del-Este, in August 1961, decided that by 1970, all children of primary school age will be in six-year primary schools; paralleled decisions with regard to other levels of education are to be made at a conference called by Unesco jointly with E C L A. That conference has before it an analysis which suggests that, by 1970, 34% of the age group will be in second level schools, and 4% of the appropriate age group will be in universities. Adult education programmes and training programmes have been developed to liquidate illiteracy and upgrade productivity. This educational programme will involve an average annual investment of 5% of the gross national product of the countries of the region plus 365 million dollars in foreign aid. Research programmes for the region have been charted, together with a programme for the development of mass media, with fair prospects for their implementation.

Europe and North America For this region a meeting of educators in Europe in mid-1960 and an inter-governmental conference in the USA towards the end of 1961, reached remarkably similar conclusions on the development of education in this region during the forthcoming decade. Their general conclusions were paralleled to those of other regions. It was the general consensus of opinion that there will be, during the coming decade, a doubling of investment in education in this group of countries. That is, somewhere between 6 to 8% of the gross national product will be invested in education. In the USSR, it is currently over 7%. Secondly, higher education is very expensive and will continue to become more so as science and technology become predominant. Thirdly, education is a major consumer of skilled human resources, taking up over half the annual output of higher education, for teachers, educational administrators and research personnel. Fourthly, there are different technologies in the teaching process as there are in any production process. There is a large range of capital and labour combinations in the process of education calling for choices. Fifthly, from the point of view of meeting the increasing demand for skilled personnel which a growing economy makes, a full second level education system for all up to 17 years of age would seem to be a paying proposition. And so, generally the countries will have to provide the kind of broad-based high quality education their growing economies demand and aid and support the other regions in reaching similarly appropriate standards.

Methodology of Educational quantification

In arriving at these inter-governmental decisions, Unesco, which has sponsored the conferences in Asia, Africa and Latin America where these decisions were made, has been evolving an interesting methodology of educational quantification. This developing methodology is aimed at providing quantitative data with regard to the rate

of necessary and desirable expansion of education at its various levels and the part of the gross national product which must be invested in the educational sector to bring about that expansion. Earlier, the question had been posed as to what are the indications of the effort of a given rate of investment in the development of human resources on the growth rate of the gross national product. The other part of this question is what is the necessary and desirable level and growth rate of investment in the educational sector of a country's economy - from all points of view but more particularly from the point of view of the growth of the gross national product. It is here that Unesco's pioneering methodological studies and their application are of interest.

At the first conference, which was for Asia, in Karachi, in 1959, a 'regional educational methodology' was used. The educational goals for the region were defined as carefully as possible, on the basis of the results of national educational surveys and the programme costed, without relation to the economic resources and the current and potential educational investment of the region. At the second conference, organized by Unesco jointly with ECA, for Africa, in 1961, 'a regional educational cum economic methodology' was used. The educational goals were established, in light not only of national educational surveys, but also of the current and projected gross national product and the resulting educational investment possible in this period, together with a corollary as to the external aid needed, if the educational targets are to be achieved. In this case, the educational goals, the present and future gross national product and consequent estimate and forecast of educational investment and the assistance needed, were established for the region as a whole, first for the target year 1980, from which the analysis works backward to 1960. Unesco and the African countries have now decided to set up continuing machinery to apply this plan to each individual country's national plan, programme and resources, and to work out the annual financial implications of the educational targets for each country. The third Unesco approach is a recent one, proposed for the Latin American Conference in Santiago, in March 1962, where a 'sub-regional educational cum economic methodology' has been used. In this case, the Latin American region has been divided into three sub-regions, on the basis of national surveys, using the current second level school enrolment ratio as the criterion. Group 'A' consists of 4 countries where that enrolment ratio is from 4-8% of the appropriate age group, Group 'B' 7 countries with the ratio from 9-13% and Group 'C' 9 countries with the ratio from 14-38%. The educational targets for the 'Alliance for progress' decade, 1960-1970, for each of these three groups are varied in accordance with their current educational achievement and indirectly with their educational investment possibilities, and moves forward from their present position. But the costing of the ten-year educational plan 1960-1970, and the estimates of gross national product and educational investment for that period, are still made on a continental basis. Finally, Unesco is planning to propose to a conference of Asian Ministers of Education to be held in Tokyo in April 1962, in association with ECAFE, 'a

national educational cum economic methodology' which will require some 4 years to be applied to the 18 countries who are grouped together in the Karachi Plan. Under this suggested procedure, in each country a national survey will be made of the existing educational achievements by levels; from this base, projections will be made for the 20-year period on the basis of expected growth of the gross national product and the educational allocations made in the current and future national economic plan of each country. A further conference of Asian Ministers, with representatives from their Planning and Economic Development Ministries, will be organized jointly by Unesco and ECAFE in 1966, to put together these national surveys and forecasts to form the Asian educational development plan as part of the overall economic development programme of the region.

You will note the gradual refinement in the methodology of educational quantification being developed by Unesco. The main current elements of this methodology are:

- a) The individual state, rather than a region, or a group of states, is the base starting point;
- b) The current enrolment at the four levels of education - Primary, Second level, Third level and adult - and the current educational investment from both public and private sources in each country, provides the second base.
- c) The cost of the educational programme at different levels is computed as actual and projected costs for each country.
- d) The gross national product is estimated for the plan period (20 years in the case of Asia) on the basis of the overall national plan and its targets and forecasts for each country.
- e) The educational targets proposed for each country during the plan period is a function of (i) national political decisions, (ii) the normal inter-relationships between the various levels of education, which studies in comparative education, express in terms of alternative models of the educational pyramid; (iii) the demand for various types of skilled human resources that the primary, secondary and tertiary sectors of the national economy call for (which are forecast where requested, with the help of ILO and Unesco); (iv) the growth of the gross national product and the part of it which can be reasonably expected to be allocated to the educational sector, in light of the national development plan.

This methodology requires joint planning and work by educators and economists, Unesco and the regional economic commissions, the Ministry of Education and the Ministry of Economic development, and the planning commission in each country. It also provides a

firm basis for computing the quantum of external aid needed by each country and for the region as a whole in developing its educational system and its human resources.

Human Resources: a Forecast for the Development Decade

On the basis of the analysis of the problem and the available information thereon, the broad framework of human resources development during the current decade may be summarized as follows:

1. All regions are aiming at an annual average increase of 5 to 6% in their gross national products.
2. To achieve this rate of growth, skilled human resources will be expended by around 300 to 400% during the decade.
3. This expansion of skilled human resources will call for an annual investment of 5 to 6% of the gross national product in the educational sector and another 1% in the training, research and mass media sector of the country.
4. All developing regions, Asia, Africa and Latin America, will continue to rely heavily on external aid, for this sector of their development - human resources development. In terms of technical assistance, and pre-investment to this sector, external aid from all sources - multilateral, regional, bilateral and private - to these three regions will have to increase from the present 500 million dollars a year to over 1 billion dollars by 1970, if the objective of the Development Decade is to be met.

Contribution of the United Kingdom to the Development Decade

The contribution of the United Kingdom during the past decade 1950-1960 - through the United Nations Technical Assistance and Special Fund programmes, which are multi-lateral efforts aimed at helping countries to develop their human resources, is shown in attached TABLE 1. This contribution is not only in the experts and fellowship facilities shown in the Table, year by year, it is also in some very valuable demonstration and training equipment, on which information is provided for part of the period, for which it is available. It will be noted that the 1960 equipment figures are high because that is the first year of Special Fund expenditures, which are heavily concentrated on the equipment area.

For TABLE 1 please turn over

ED KINGDOM EXPERTS, FELLOWSHIP FACILITIES AND EQUIPMENT PROVIDED THROUGH U.N. PROGRAMMES DURING 1950-1960

Experts (no. of)

Fellowships (no. of)

Equipment (expressed in Thousand Us \$)

Industry and Management			Vocational Training and Social Security			Agriculture			School, out of school education and science research			Transport and Communications			Health			T O T A L		
(a)	(b)	(c)	(a)	(b)	(c)	(a)	(b)	(c)	(a)	(b)	(c)	(a)	(b)	(c)	(a)	(b)	(c)	(a)	(b)	(c)
91	86	66	59	54	637	83	30	326	54	136	481	27	22	2	163	306	85	477	634	160
103	88	40	57	48	6	81	42	22	50	97	44	28	29	1	180	271	58	499	575	17
104	103	55	53	72	23	98	34	67	56	73	122	29	12	2	189	252	174	529	546	44
120	107	16	53	31	21	105	45	49	56	37	94	25	32	2	156	249	74	515	499	25
104	96		71	32		105	40		46	54		21	33		149	141		496	396	
67	149		50	72		96	45		29	50		22	37		84	204		348	557	
60	86		37	39		64	46		24	38		20	5		63	140		268	354	
60	130		55	38		78	25		28	28		15	7		72	177		308	405	
55	227		33	48		62	46		25	50		10	16		60	44		245	431	
0	17	121	7	5		39	4		12	13		9	20		18	2		102	165	

Table I as a picture of UK contribution to human resource development in the developing regions is woefully incomplete as it summarizes only its multilateral contribution. This information should be supplemented by the contribution made by this country through bilateral and regional arrangements, such as the Colombo Plan, the SEATO and CENTO pacts, the Colonial Welfare and Development Fund, the Commonwealth Exchange Programme etc.

For United Nations purposes, however, a very rough projection can be made, of what would be required in the way of multi-lateral contribution from the United Kingdom towards realization of the objectives of the Development Decade. In this connection, I would like to make one important caveat. The Secretary-General of the United Nations is in the process of undertaking the studies required of him to quantify the objectives, means, needs and required resources of the Development Decade. The conclusions and statistics that I am using here, are subject to revision, in light of the studies by the Secretary-General and the decisions of the Economic and Social Council and the General Assembly.

With that reserve, Table 2 shows, what at this stage, I believe the United Kingdom might reasonably be expected to contribute through the United Nations family to the Development Decade. I am leaving out of account the financial contribution of the United Kingdom to the U.N. multi-lateral programme. That is a political decision which Her Majesty's Government will arrive at, in light of the discussions and recommendations of the General Assembly and the followup actions by Member Governments. I am here concerned with the real contribution - as distinct from the money contribution - which the United Kingdom could make to the Development Decade - in experts, fellowship facilities and equipment. Table 2 attempts to show the order of magnitude for each of these three contributions, together with some breakdown of the field of specializations that United Kingdom experts will be called upon to possess. This table is simply a projection of the historical experience recorded in Table 1, and is roughly based on the assumption that a 50% target increase in the gross national product, that a 300-400% increase in skilled human resources will call for a 50% increase in experts going out from this country and fellowship facilities offered in training institutions in this country. Further, Table 1 figures will have to be roughly doubled because the Special Fund programme which technically began in 1958, had no time to make its mark on the statistics of the past decade. The health field is the only area where the two programmes diverge considerably and allowance is made for this in the forecast in Table 2.

For TABLE 2 please turn over

T A B L E 2

AVERAGE ANNUAL ESTIMATED REAL CONTRIBUTION OF THE U.K. TO THE DEVELOPMENT DECADE
IN EXPERTS, FELLOWSHIP FACILITIES AND EQUIPMENT

industry and management	Vocational Training and Social Security	Agriculture	School, Out of- school education and science research	Transport and Communications	Health	TOTAS
170	104	172	91	47	186	770
238	96	78	236	47	297	992
180	1,800	1,000	1,500	10	100	4,590

S
(of)

SHIPS
(of)

MENT
Thousand
\$)

There is one element which is something of an imponderable - that is, the very heavy and quantitatively staggering demand for expert and executive personnel from Africa, during the current decade. This is not reflected in the Tables because most of Africa has come on the international scene after 1960. If African plans are implemented as presently conceived, there will be a sharp falling off in this demand for expert and executive personnel, on behalf of Africa, after 1970 and it will cease after 1980 - in the sense that there will be no more than the normal technical and cultural exchange personnel in Africa. This means that sufficient allowance and flexible planning is needed for the development decade bulge as far as Africa is concerned. (This bulge is even more pronounced for the French-speaking countries of Africa). Secondly, this is a bulge in the sense that it is a ten-year short-term demand and must be conceived in those terms, both in devising means of action and executing them.

Reviewing the estimates of technical assistance and pre-investment aid by the United Kingdom to the development of human resources in the developing countries during the Development Decade, as set forth in Table 2, I want to make two general observations without expanding on them in this paper. The first relates to the financial contribution, through the United Nations, to this sector of development which the United Kingdom will be called upon to make. I have said that the precise contribution of this country is not a matter which I would want to discuss. In 1960, the United Nations programmes contributed a little over 100 million dollars from various sources to human resources development in developing countries. I have estimated that the total from all sources - UN and non-UN - will have to rise to 1 billion dollars by 1970. Of this target, the UN component should be gradually increased to around 400,000-500,000 dollars by 1970. It will be necessary for the United Kingdom both to support such an increase in the multi-lateral programme and contribute its share to this gradually expanding total.

The second comment relates to the nature and content of the contribution of the United Kingdom expressed in real terms. Looking at Table 1 and related information on this country's bilateral and regional arrangements, one can be satisfied with the trend in the fellowship and equipment field. It is in its contribution of expert and specialized personnel, that I feel that the United Kingdom is lagging behind. This is of crucial importance in relation to the objectives of the Development Decade because, as I have shown in other papers and places, the bottleneck to development today - and particularly to human resources development - is not finance but expert and specialized personnel. In this context, the developing countries want men and not simply money. I believe the U.K. contribution to expert personnel can be considerably increased if three steps are taken. First, in any manpower and human resources planning in the U.K. - particularly in its educational and research structure - the contribution that this country is being called upon to make to the developing countries needs to be taken into account. Planning and forecasting in this country must assume that somewhere around 3-4%