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DEVELOPMENT AND UTILIZATION OF HUMAN RESOURCES IN DEVELOPING COUNTRIES

Report of the Secretary-General (first part)

Note. The first part of the report (E/4353) contains the introduction, a section on the nature of the problem, and some main conclusions. The second part (E/4353/Add.1), which is based upon contributions and proposals submitted by the organizations concerned in the United Nations family, in particular the United Nations, the ILO, FAO and UNESCO, begins with a brief review of the current activities of the United Nations family in the field of the development and utilization of human resources (chapter I), followed by a discussion of the various specific topics proposed for intensified concerted international action (chapters II-IX).

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ABBREVIATIONS

ACC Administrative Committee on Co-ordination

ASFEC Arab States Fundamental Education Centre

CREFAL Regional Fundamental Education Centre for Latin America

ECA Economic Commission for Africa

ECAFE Economic Commission for Asia and the Far East

ECLA Economic Commission for Latin America

ESAPAC Advanced School of Public Administration for Central America

FAO Food and Agriculture Organization of the United Nations

FLACSO Latin American Social Science Faculty (UNESCO)

IAEA International Atomic Energy Agency

IBRD International Bank for Reconstruction and Development

ICAO International Civil Aviation Organization

IDA International Development Association

IDB Inter-American Development Bank

ILO International Labour Organisation

IMCO Inter-Governmental Maritime Consultative Organization

IMF International Monetary Fund

ISCO International Standard Classification of Occupations (ILO)

ITU International Telecommunication Union

OECD Organization for Economic Co-operation and Development

UNCTAD United Nations Conference on Trade and Development

UNDP United Nations Development Programme

UNESCO United Nations Educational, Scientific and Cultural Organization

UNHCR United Nations High Commissioner for Refugees

UNICEF United Nations Children's Fund

UNIDO United Nations Industrial Development Organization

UNITAR United Nations Institute for Training and Research

UNRWA United Nations Relief and Works Agency for Palestine Refugees in

the Near East

UPU Universal Postal Union

WFP World Food Programme

WHO World Health Organization

WMO World Meteorological Organization

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INTRODUCTION

- l. Resolutions on the development and utilization of human resources were adopted by the Economic and Social Council at its thirty-ninth session and by the General Assembly at its twentieth session. $\frac{1}{2}$
- 2. By its resolution 1090 A (XXXIX), the Economic and Social Council:
 - "1. Requests the competent organs of the United Nations, the International Labour Organisation, the United Nations Educational, Scientific and Cultural Organization and the other agencies concerned to increase their activities connected with the development and utilization of human resources;
 - "2. Expresses the hope that the competent organizations of the United Nations family will continue to take concerted steps to prepare programmes of action for promoting training and utilization of human resources in the developing countries;
 - "3. Requests the Secretary-General, after consultation with the International Labour Organisation, the United Nations Educational, Scientific and Cultural Organization, the other specialized agencies concerned, the International Atomic Energy Agency and interested institutes, to submit to the Council, at its forty-third session, a report on measures calculated to intensify concerted action by the organizations of the United Nations family with regard to the training of national personnel for the economic and social development of the developing countries."
- 3. The General Assembly, in paragraph 3 of its resolution 2003 (XX), requests the Secretary-General:
 - "(a) To take whatever measures he considers necessary so that the discussion of his report envisaged in Economic and Social Council resolution 1090 A (XXXIX) may culminate in a comprehensive evaluation of the experience gained so far by the United Nations family in the development of human resources;
 - "(b) To make all necessary arrangements for a thorough discussion of this problem at the forty-third session of the Economic and Social Council, with the participation of the specialized agencies concerned in particular the International Labour Organisation, the United Nations Educational, Scientific and Cultural Organization, the World Health Organization and the Food and Agriculture Organization of the United Nations and the International Atomic Energy Agency and the United Nations Institute for Training and Research."

Resolutions on the role of human resources in development were also adopted by the International Labour Conference at its fiftieth session, in 1966, and by the General Conference of UNESCO at its fourteenth session, in 1966 (see the annex to the present report).

- 4. The Sub-Committee on Education and Training of the Administrative Committee on Co-ordination, meeting at Geneva from 2 to 4 February 1966, considered the implementation of these resolutions. While final responsibility for the report would rest with the Secretary-General of the United Nations, it was agreed that all the interested organizations in the United Nations system should participate at all stages of its preparation. The preparatory work for the report was entrusted to an inter-secretariat Working Party, based on already existing inter-secretariat machinery (ILO/UNESCO Working Parties on Technical Education and Vocational Training and on Manpower Assessment and Educational Planning) with a membership extended to cover all interested organizations in the United Nations system. The Division of Social Affairs of the United Nations Office at Geneva was made responsible for convening meetings of the Working Party and for co-ordinating the preparatory work on the report.
- 5. It was agreed that the report should take stock of the efforts made by the United Nations family of organizations in the various fields pertaining to the development and utilization of human resources in the developing countries, should attempt to measure these efforts against the need for assistance and should propose a number of specific topics where intensified concerted action by the international organizations concerned would yield the greatest benefits in view of existing bottlenecks and strategic needs.
- 6. In the time available for the preparatory work, a comprehensive study of the problems and all conceivable aspects of human resources development could not be made. Attention has been concentrated primarily on education and training and on utilization of personnel. Even within this more limited scope the report does not cover, by far, all the activities and possibilities for action of the organizations in the United Nations system, but only those which offer the best prospects for intensified concerted action, in compliance with the request of the Economic and Social Council in its resolution 1090 A (XXXIX) referred to above.
- 7. The international organizations have already co-operated in a number of reports bearing on the development and utilization of human resources. A particularly relevant example is provided by the Secretary-General's report on the

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training of national technical personnel for the accelerated industrialization of the developing countries which, on the basis of a general evaluation of the needs concerned in developing countries, outlines recommendations in the fields concerned for the developing countries and for international organizations to develop their activities whether through research or technical co-operation. The present report differs from that report mainly in its broader coverage of the fields of development activity and in its emphasis on further international concerted action.

Concerted international action

- 8. In the context of this report, concerted international action refers to activities in the development and utilization of human resources involving more than one of the organizations in the United Nations system. In the fullest sense, concerted action implies joint objectives, joint planning, joint implementation and joint evaluation. Such complete co-operation in specific programmes is in practice often not possible or necessarily desirable. For an action to be concerted it suffices that it has an objective of common interest to several organizations, with any one of them carrying out the action, possibly alone. Concerted action means acceptance of common objectives and definition of a common framework for action. It may also mean improving the sequence of projects undertaken by different agencies, ensuring any necessary complementary action and developing common working tools, such as common terminology, statistical data, and evaluation procedures.
- 9. The stress in the present report on concerted action should in no manner diminish the importance of the numerous programmes carried out at all stages by individual agencies. The rationale of concerted action in the field of human resources development lies in the complexity of the problems to be solved, the failure of problems or solutions to fall neatly into the domain of one single agency, and the benefits that may accrue from meeting such composite challenges by pooling the competence, skills and experience of all the organizations of the United Nations system. Concerted action can often minimize duplication and waste of the resources available to the organizations. Yet care is needed, since certain

^{2/} Prepared in response to General Assembly resolution 1824 (XVII); see Official Records of the Economic and Social Council, Thirty-seventh Session, Annexes, agenda item 12, documents E/3901/Rev.1 and Add.1 and 2.

types of concerted activity may add to costs or may seriously slow down or even inhibit action. Here as elsewhere the yardstick must be the actual benefits to the developing countries accruing from co-operation.

- 10. The proposals made in the report are based upon suggestions made by various organizations concerned for possible intensified or new concerted action and are subject to further and closer examination by the appropriate bodies of the organizations with regard to their feasibility, importance and possible inclusion in the respective work programmes. On many problems there is not yet sufficient reliable information on the basis of which proposals for action programmes could be made; in these cases studies have often been indicated, and the question of further concerted action has been left for later consideration, when the findings of such research become available. In any case, in view of the dynamic situations with which development programmes have to deal in the field of human resources, the concerted action of the organizations involved has to be reviewed from time to time, and the Economic and Social Council might wish to revert to the matter at a later session.
- ll. In view of the wide scope of the present report it has been necessary to deal with the problems of development and utilization of human resources in developing countries and the types of concerted action relevant to them in rather general terms. It is recognized, of course, that the problems and the appropriate action are not the same for all developing regions and countries and that generalizations are often not permissible. Detailed considerations are therefore necessary, particularly at the regional and country levels. The United Nations regional economic commissions, the regional bodies of the specialized agencies concerned and relevant regional institutions can play a major role in examining further the topics dealt with in this report and take an active part in the formulation and implementation of proposals for intensified action.

Definition of human resources

12. There does not appear to exist any generally accepted definition of the term "human resources"; as with any other concept its connotation depends upon the purpose for which the concept is established. The following definition of human resources, as an interpretation of the resolutions of the Economic and Social Council and the General Assembly (referred to above), would seem to be appropriate

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in the context of their development and utilization in developing countries. Human resources, as distinct from material resources, comprise the skills, knowledge and capacities of all the human beings actually or potentially available for economic and social development in a community. They are not limited to the resources of the working population but include also the actual, potential and prospective contribution to economic and social development of other persons. In this way, the concept of human resources comprises both men and women, whether technically they belong to the labour force or not, by virtue of the goods, services and care they provide, actually and potentially. The concept comprises not only quantity, in terms of the numbers of persons involved, but also quality, in terms of their abilities and their capacity to participate in the development process in different social and economic roles.

13. It is recognized that economic progress and social advancement must proceed together, as they are mutually dependent and each must contribute to and can benefit from the other. If this report seems to place emphasis on the development of human

The term "manpower resources" comprises groups (a) and (b) above. The statistical concept "working age population" used later in this report is defined as the total population, whether working or not, within certain stipulated age limits, usually the age group 15-64 years.

Many, or perhaps most, of the married women in developing countries work, often very extensively in subsistence or commercial farming or in other types of economic activity. Of the women who are strictly "housewives", variable proportions were in the labour force before marriage, or until childbirth interrupted their employment, and appreciable numbers may hope or expect to return to work, usually when the duties of caring for children have lessened.

^{3/ &}quot;Human resources" is defined to include:

⁽a) Working population (also called economically active population or labour force), comprising all individuals who are employed - that is, those who are taking part in the production of goods and services, including unpaid family workers in an economic enterprise - as well as those who are unemployed but seeking or wanting to work;

⁽b) <u>Potential manpower</u> made up of persons who are economically inactive and are not seeking work, due to lack of opportunities, to family responsibilities, to social discrimination, to temporary medical handicaps, etc.;

⁽c) Prospective manpower consisting of:

⁽i) pre-school population (as prospective resources for school education and future work);

⁽ii) children of school age, whether enrolled at school or not;

⁽iii) persons above school age undergoing education and training for later work;

⁽d) Non-economic activities including actual or potential contribution to economic and social development through domestic work, unpaid voluntary work and community activities.

resources for economic progress, it is because more immediately available measures have been developed in that field, on the basis of past experience. It does not imply that the economic aspect of the question is considered to be paramount; increasingly, the importance of the social aspects is being recognized.

14. Social advancement is a more complex concept and one much less easy to define and evaluate than economic progress. Nevertheless provision for stimulating its development in such fields as health, nutrition, education, housing and social welfare, and for artistic, cultural and intellectual stimulation must be made if the full implications of the Economic and Social Council and General Assembly resolutions are to be realized. The development of the socio-economic infra-structure and the promotion of necessary social measures call for wider and deeper consideration than it has so far been possible to give, and members of the United Nations family should give still further attention to this aspect of the problem in their individual and co-operative endeavours for the development of human resources.

THE NATURE OF THE PROBLEM

Human resources and development

- 15. Until recently the major constraint in economic growth was generally considered to be the shortage of capital. Within the past decade, however, it has been increasingly realized that the knowledge, skills and capacities of the human beings in a society are equally important for development. The experiences of some industrialized countries have illustrated that economic development can be due more to improved skills and management than to capital. Major attention is now being focused on the development and utilization of human resources, and primary emphasis is being placed not so much on production as such but on fostering the capacity for development.
- 16. From the standpoint of education and training, which is the main focus of this report, the human resources problem in the developing countries can be stated in the following simple terms: There are too few skilled persons and too many unskilled. The number of people without skills or with few skills is large and

in some areas increasing, and at the same time there is a critical and often very extensive shortage of specialized manpower, skilled workers, entrepreneurs and other highly educated personnel needed for development.

- 17. As the shortage of skilled manpower appears to be world-wide and exists even in industrialized countries, in spite of their many educational and training facilities, few surpluses are readily available for transfer to meet the needs of the developing countries. The situation in these areas is further aggravated by the fact that, scarce as their skills are, some loss takes place through emigration to the developed countries.
- 18. Shortage of skills is thus a very acute problem in the developing countries; while it is difficult to express in precise quantitative terms, it would appear that the gap in skills between the developing and the developed countries is greater than the gap in per capita income or in the level of living.
- 19. Although increasing efforts are being made to extend educational and training programmes, in many developing countries the number of people without education and training is increasing from year to year. At the same time the number who are unemployed and, more particularly, under-employed, is soaring. Also, many of those who are employed could be utilized more directly and more effectively for development and many of those who are not in the labour force could be drawn into a multitude of development tasks.

Prospective population trends

20. The expected future rapid population growth and increase in manpower supply in developing countries add dramatic emphasis to the urgency of the problem and to the need for channelling the activities of a greater number of people into the development process and for enabling them to make the maximum contribution. The United Nations population projections indicate that the total population in the developing countries will increase from 2,300 million in 1965 to 4,700 million by the end of the century, or will double in about thirty-five years. This estimate is based upon the assumption ("medium") that a considerable decline in fertility

Developing countries are here understood to include the following areas: Africa, Asia (excluding Japan) and Latin America (excluding temperate South America).

^{6/} The "medium" variant in United Nations projections is intended to represent the future trend that appears "most plausible".

will take place. If, however, the assumed dissemination of family planning does not occur and the present level of fertility continues, the population in the developing world will be nearly 6,000 million, or nearly 1,300 million more, by the end of the century, that is, an increase of 165 per cent over the thirty-five-year period.

21. It is estimated that the population of working age in the developing countries will increase very rapidly in the coming years and more than double its present size before the end of the century. Up to around 1980, the increase will be about the same as the increase in the total population; after 1980 it is expected that it will grow more rapidly than the total population, but by the end of the century it will still constitute a ratio of the total population considerably below that prevailing in the more developed regions today.

22. At the present time about two-thirds of the world's total manpower resources are in the developing countries, and projections indicate that by the end of the century the developing countries will have about three-fourths of the total. 8/
The trends are determined partly by demographic and partly by socio-economic factors. The demographic factors in question include the future rate of population growth and the sex and age composition of the population. Among the socio-economic factors affecting trends in the working population are school attendance, extension of higher education, retirement benefits and other factors influencing the rates of entry into and departure from employment. In the developing countries the demographic factors now play, and will continue to play for the remainder of this century, a dominant role, accounting for about nine-tenths of the increase in the working population.

Population and labour force projections available in <u>World Population Prospects</u> as assessed in 1963 (United Nations publication, Sales No.: 66.XIII.2); and in: "Future Trends in World Population Growth", paper submitted by the United Nations to the Interregional Seminar on Long-term Economic Projections for the World Economy, Elsinore, Denmark, 1966; and J.N. Ypsilantis, "World and Regional Estimates and Projections of Labour Force", paper submitted by the ILO to the same seminar.

In the period 1965-2000, there will be an estimated increase of 126 per cent, according to the "medium" variant of the United Nations projections. "High" and "low" variants have also been prepared representing the upper and lower boundaries of the area of greatest plausibility. However, the size of the working age population, at least up to 1980, is not subject to much uncertainty as the persons concerned are already born.

- 23. In the developing countries, owing to the high level of fertility, the proportion of the total population in the working age range (15 to 64 years) is considerably smaller than in the developed regions. The dependent population (children and old people) is in the developing countries four-fifths of the working population, while in other areas it is less than three-fifths. This ratio will in the developing regions by the end of the century still be considerably above the level prevailing in the more developed areas today in spite of the assumed decline in fertility. The large number of children in the developing countries is an especially heavy dependency burden in the developing world there are on the average two children under the age of fifteen for every three adults in the productive age group, while in developed countries the ratio is only one to three. As the increase in the coming years in the working age population in developing countries will be mainly in the younger age groups, training programmes for young workers and measures to ensure that they are fully utilized are all the more important.
- 24. Similarly, the importance of educational programmes and of measures for the development of pre-school children is strikingly underlined by the large increase expected in the child population in the developing countries. The number of children under five years of age is expected to increase from around 244 million in 1965 to almost double that figure, 462 million, by the end of the century. The school age population, that is, children aged 5 to 14 years, will increase even more rapidly, from nearly 400 million in 1965 to nearly 800 million by the year 2000. The total child population which now constitutes around 45 per cent of the total population, will continue at approximately the same percentage until 1980 and only then decline.

Manpower trends

25. The consequence of the prospective rejulation trends will be that the manpower resources of the developing countries will grow at very rapid and increasing rates

^{2/} Excluding China (Mainland) for which information on the age distribution of the population is very limited.

^{10/} The increase will be considerably larger if the decline in fertility which is assumed in the "medium" variant of the projections to take place in the majority of the developing countries, particularly after 1980, should not materialize.

in the coming years. $\frac{11}{}$ While in the decade 1950-1960, the working population increased at an annual rate of 1.4 per cent for men and 1.2 per cent for women, it is now increasing at the rate of 1.8 per cent and 1.7 per cent respectively, and it is anticipated that in the decade 1970-1980, the annual rate of increase will rise to 2.1 per cent and 1.9 per cent respectively. The manpower situation will be further affected by the expected increase in the length of working life as a result of the continuing decline in mortality. It is estimated that in the developing countries the average number of working years for men will increase from 35.6 in 1960 to 38.9 in 1980 and 39.3 in the year 2000. Around 1960 the working life for men was reduced on an average by 9 years as a result of mortality, but in 1980 the reduction on account of mortality will only be 6 years and at the end of the century only 4 years. Were it not for the effects of the expected future decline in mortality, the length of working life would tend to decline slightly in the developing countries as a result of modernization and industrialization. From the point of view of development planning it is the current additions to the working population rather than the total working population which are of

^{11/} Except at the younger and older ages, it is not anticipated that the population of economically active persons at the various age levels will change to any great extent in the next few decades. Extension of primary and secondary education, improvements in educational facilities, lengthening of the period of school attendance, and greater emphasis on vocational training and higher education are likely to bring about a considerable decline in the proportion of young persons at work. It is estimated that in the developing countries as a whole the percentage of young men economically active at 15 to 19 years will decline from 69 per cent in 1965 to 62 per cent in 1980 and to 58 per cent by the year 2000; for young women the decline will be from 45 per cent in 1965 to 35 per cent by the end of the century. With regard to older workers, two opposing tendencies are apparent. While the future decline in mortality has the effect of increasing the number of years of working life, an expansion of retirement and the development of social security schemes, as well as the growth industrialization, will tend to bring about a decline in the participation rate in the higher age groups.

particular importance. The annual net increase in the working population in developing countries will, in 1975-1980, be nearly double the rate of increase in 1960-1965 and it will triple before the end of the century. In 1960-1965 the rate of growth of the working population in the developing countries was one-third higher for men and twice as high for women as in the developed countries; by 1975-1980 it will be more than double for men and three times for women, and before the end of the century three times higher for men and nearly four times for women. 27. The rate at which new workers enter the labour force in developing countries is now such that new job opportunities have to be created for almost half of them. In the future this ratio will increase still further and after 1980 about two-thirds of all the jobs required for newcomers will have to be created. In the developed countries, too, at the present time the number of new jobs which have to be created is nearly half the total needed, but in contrast to the developing countries this ratio will tend to decline in the coming decades. 12/

28. Along with the rapid expansion of the labour force in the developing countries, in the future it is expected that there will be important changes in the occupational pattern. Tentative projections of the future occupational distribution, based upon estimates of prospective trends in population, in growth of national income and in the relationship between per capita income and the occupational structure of the economy, seem to show that in the period 1965-1980 the most rapid growth will occur in the professional, administrative and clerical groups and that employment in these groups will nearly double in fifteen years. In the same period, the employment of industrial workers, including miners, communications and production workers is estimated to increase by 82 per cent.

nearly three to one. Although the present ratio in the developing countries as a whole is only slightly higher than in the developed countries, by the end of the century it will be nearly trice as high

the century it will be nearly twice as high.

While at present in the developing countries new entries into the labour force are rather more than double the losses through departures, by 1975-1980 the ratio will be more than two and a half to one and by the end of the century

J.G. Scoville, "Occupational Structure of Employment, 1960-1980", paper submitted by the ILO to the Interregional Seminar on Long-term Economic Projections for the World Economy, Elsinore, Denmark, 1966. The projections can give only an indication of the magnitude of prospective changes in occupational patterns as they are based upon assumptions selected within a wide range of possibilities.

The smallest increase is expected among farmers and farm workers, where the projected increase is only 16 per cent, although this population group will continue to be by far the most numerous occupational group. These trends seem to indicate a direct relationship between the future increase in employment and the level of qualifications required and therefore to underline the vital and growing importance of education and training for the future of the developing countries.

Socio-economic infra-structure

Although this report focuses on education, training and utilization of human resources, numerous other factors enter the problem of human resources development and affect the crucial role played by human resources in the development process. 30. Among the essential components of the infra-structure needed for development. health and nutrition are vitally important and, with current and future rapid population growth, will become even more crucial. The working capacity and productivity of the labour force is directly affected by health and nutrition conditions. 15/ Adequate health care and food and favourable environmental factors not only do much to ensure the welfare of pre-school children but affect the extent to which they can benefit from the early educative process in the home and the preparation for formal education. The health and well-being of the family, especially of the mother, also have an influence on the quality of care and training which children receive at home. The performance of school children is to a large extent dependent on their state of health and nutrition, and in many instances ill health and malnutrition prevent them from being enrolled or increase the risk of their having to drop out. 16/ For young people undergoing further education or

In spite of the rapid growth of employment in the professional, administrative and clerical groups, they are projected to constitute hardly 6 per cent of the total labour force in developing countries by 1980, as compared with 24 per cent in the developed countries. Miners, communications and production groups are projected to amount to about 15 per cent, and sales personnel and service personnel to about 5 per cent each. The calculations indicate that farmers and farm workers will constitute a declining proportion of the labour force, from 54 per cent in 1960 to 47 per cent in 1980.

Harbison and Myers, in addition to education, training and manpower aspects, include programmes for health development among essential elements in a strategy for human resource development; see Education, Manpower and Economic Growth:

Strategies of Human Resource Development (New York, McGraw-Hill, 1964).

^{16/} See UNESCO, Report of Technical Seminar on Educational Wastage and School Drop-outs, Bangkok, 5-12 September 1966.

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vocational training, health and nutrition factors continue to be important for the successful completion of their studies.

31. The physical and mental fitness of adult workers clearly affects their efficiency and productivity. In the strictly physical sense, the energy output of a worker is dependent on the energy input through food, but this is not a simple relationship since poor health, particularly from such causes as parasitic infections, can adversely affect the conversion of nutrient intake into energy available for work. Deficiencies in the diet result in lowered vitality and reduced output in day-to-day work, while chronic malnutrition leads to illness, impairment of mental and physical efficiency and shortening of the life span, with consequent waste of manpower and economic loss. \(\frac{17}{2}\) Vast numbers of persons in the developing countries have low vitality and low working efficiency because of adverse, often chronic, health conditions that may not be clinically overt. Ill health is almost certainly the greatest single cause of loss of productive man-hours in the developing countries, and is often responsible for the premature loss of experienced workers from the active labour force. The upper age limit of productive capacity is very often determined by health.

52. Adequate housing, water supply, sanitation and recreational facilities are other important elements in the infra-structure, by virtue both of their effects on health and their role in establishing a home environment beneficial alike to the working population and to children and young people still being educated or trained. Basic social security provision and family welfare measures, whether formally organized by Governments or employers, or provided through extended family

See FAO, Nutrition and Working Efficiency, Freedom from Hunger Campaign, Basic Study No. 5, 1962. WHO, Malnutrition and Disease, Freedom from Hunger Campaign, Basic Study No. 12, 1963. WHO, Occupational Health Problems in Agriculture, Technical Reports Series, No. 246, 1962. A. Burgess and R.F.A. Dean (ed.), Malnutrition and Food Habits - Report of an international and interprofessional conference (London, Tavistock Publications, 1962).

See ILO, "Welfare Facilities in Agriculture", PAC. VI. 1(1), 1960. ILO, African Labour Survey, 1958, p. 157. WHO, Expert Committee on Environmental Sanitation, Technical Reports Series, No. 77, 1954, pp. 6-9. E.G. Wagner and J.N. Lanoix, Water Supply for Rural Areas and Small Communities, WHO, Monograph Series, No. 42, 1959. E.G. Wagner and J.N. Lanoix, Excreta Disposal for Rural Areas and Small Communities, WHO, Monograph Series, No. 39, 1958. B.H. Dietrich and J.M. Henderson, Urban Water Supply Conditions and Needs in Seventy-five Developing Countries, WHO, Public Health Papers, No. 23, 1963.

systems, village, community or tribal solidarity, or through various kinds of mutual aid or co-operative societies, are important supporting measures for the welfare of both children and adults.

- 33. Adequate roads and methods of transport are an essential element in development and it will be necessary to build roads (sometimes a bicycle path may suffice) to enable children living beyond walking distance to get to school and to make it easier for workers, particularly in urban areas, to reach their place of employment. The very great structural changes needed in most developing countries to bring about and extend industrialization require considerable labour mobility, adding to the importance both of systems of transport and of communications.
- 34. Evidence from a number of countries points to the extensive use of pay structures and systems of reward and incentives to affect productivity, labour mobility, the acquisition of skills and other aspects of training. In the short run it is thus likely that necessary structural changes in employment can be brought about most directly by an appropriate system of incentives. It is important, however, to ascertain the influence of other factors on the mobilization and utilization of human resources, such as personal preferences for particular occupations, a sense of service and vocation, and environmental conditions at home and at place of work.

Obstacles to change and development

35. Because specific conditions and needs vary greatly between and within developing countries, it does not appear feasible to conceive a generalized model for the development or utilization of human resources in which specific local constraints are identified. In one area, for example, it may be essential to eradicate malaria, in another to provide a basic transport system, in another to improve agricultural productivity so that children can attend school rather than work on the land, and so forth. It is clearly necessary to carry out research so as to identify and so far as possible measure the constraints acting in a particular local context against the full development and utilization of human resources. As

^{19/} See 1965 Report on the World Social Situation (United Nations publication, Sales No.: 66.IV.7), part II.

such research advances the frontiers of knowledge in this field, it may become possible to build up a typology of models and strategies depending on certain determinable factors.

- 36. Shortages in the infrastructure are by no means the only constraints on the development and utilization of human resources. Scarcity of all kinds of resources, capital and natural resources interact with and intensify other shortages and obstacles to economic growth and thus to the provision of further capital needed for economic and social development. The use of scarce resources for non-development purposes, and the inefficient allocation or waste of resources within the multitude of development purposes, can represent very great constraints upon the attainment of the desired social and economic goals.
- 37. Rigidities of every kind oppose the many changes needed for economic and social development. Rigid economic structures may hold back the frequently essential transfer of a proportion of the agricultural labour force to industry and the optimal distribution of manpower within industry and in other major sectors. Rigid social structures may block the social and geographic mobility demanded by change in economic structures. Rigid property structures and land tenure systems run counter to the attainment of more equitable income distribution. Ancient cultures, traditions, customs and habits oppose the introduction and acceptance of social change in the everyday life of nations, cities, towns and villages. Inflexible systems of reward and incentive, based on birth and marriage, counteract the motivations essential to the acquisition of knowledge and skill and oppose strategic mobility of the labour force. Inflexible ideologies and philosophies of life buttress the prevailing patterns of living and thus oppose forces of progress.
- The role of education and training, formal and informal, of children, youth and adults, thus takes on a significance wider than the development and utilization of human resources.

Education and training

39. The educational process in its broadest sense, including the formal school system and out-of-school educational activities, constitutes one of the most

important means of achieving economic and social development. Education and training provide the answer to many of the structural, attitudinal and other obstacles to social change and modernization, for education is not only a means of training people but it is also a way of helping them achieve a good and satisfying life. It is essential, however, that the educational process should be fully adapted in content, phasing and techniques to the needs of economic and social development, and to that end it may well be that profound changes are needed. Sometimes great hopes are placed on the role of formal education alone as a solution to economic development. Some economists have fostered these hopes by attributing the major role in economic growth to a residual factor broadly identified with education. The reasoning has been that expenditure on education yields such high returns that resources applied to this field can hardly be wasted. But it has to be recognized that heavy expenditures on education will not automatically provide a solution to the shortage of skills. The educational process itself makes heavy demands on the scarce numbers of teachers and can be a considerable financial burden in developing countries, where a very large proportion of the population is of school age and where teachers have relatively high salaries.

41. Further, the educational systems of developing countries often suffer from a number of shortcomings. The education provided is often too academic and, as in many instances it derives from systems of the developed world or of previous colonial regions, it is often not geared to local needs. Thus the problem is not only that of providing more education and training, but more particularly of ensuring that the types of education and training given are those that are most urgently needed for the development process and that can actually be applied to development. The whole system of education and training needs to be attuned to the needs of development and imbued with the development spirit.

42. At the university level, status subjects like law, the arts and the humanities often predominate over scientific and technical subjects such as agronomy and engineering. 20/ In many developing countries, liberal and non-technical

For example, in India, 58 per cent of students in higher education and in Uruguay, 52 per cent are enrolled in law, the arts and the humanities, and only 27 per cent and 6 per cent respectively in scientific and technical fields. This is in marked contrast to most developed countries, and particularly to the centrally planned economies; for example, in Czechoslovakia 46 per cent of students, and in the USSR 45 per cent, are enrolled in science and technology.

occupations are considered more attractive because there is more prestige attached to them and because there are not enough incentives in industrial occupations. Those who are educated in science or technology do not always acquire skills appropriate to the development needs of the country and, consequently, their expectations of employment and promotion are often doomed to disappointment or they seek employment in an overgrown civil service or abroad. Training programmes often concentrate too much on problems that are not the most relevant to local needs and give too much emphasis to sophisticated techniques and skills which are unlikely to be applied in the country concerned for a long time: if there are no electronic computers in a country and little likelihood that they will play any significant role in the near future, there is no need to train economotricians in the techniques of their use.

- 43. The earlier stages of education are all too often designed as a preparation for higher education, which most pupils never reach. In many countries where figures of initial school enrolment seem impressive, the drop-out is enormous and many children fail to complete their course, for reasons of poor teaching, overcrowded classes and the lack of books and equipment.
- 44. At the training stage, there is too little emphasis on practical and in-service training, and private and governmental enterprises are not provided with adequate incentives, or subjected to sufficiently strong pressures, to train personnel, in particular, managers and apprentices. As there is very little awareness of the potential importance of intermediate level personnel in development, their training needs tend to be particularly neglected.

Manpower and educational planning

45. Countries aiming at accelerated economic and social development must try to identify the major areas where lack of skills is impeding growth and take steps to increase the supply of skills through educational measures, in-service training, training abroad and the use of foreign experts. Manpower and educational planning has become an important tool in making the best use of human resources by providing estimates of future manpower needs for development and of the educational and training facilities necessary to produce the required educated and trained personnel.

- 46. Increasing attempts have been made to improve the techniques of manpower and educational planning within the framework of general development planning. But at the same time it has to be recognized that the practical difficulties encountered in undertaking such planning in developing countries are still considerable. Among these difficulties are the lack of data, the tentative character of many over-all development plans, widespread failures in the implementation of plans, the lack of responsivity to economic demands (for example because of white-collar bias), and discrepancies between the limited economic demand for certain types of personnel (for example, doctors) and the actual need for them in the light of development targets.
- 47. In most countries, the present statistical basis for manpower and educational planning is particularly weak. Different aspects of manpower statistics need to be co-ordinated and arranged within a coherent framework of national accounts. The basic figures are often out of date and are seldom comparable between countries. Effective planning will require better data on demographic trends, estimates of the need for various types of skills, better analysis of the output of skills through the educational system and through on-the-job training, and better assessment of existing skill structures and wage and salary schemes.
- 48. Despite the difficulties of estimating the implications for education and training of the projected population growth and future manpower requirements, a few examples may be cited as illustrations. Based upon the aggregated manpower requirements, implied by the targets established in the various development plans, an increase from 48 million workers in 1960 to 103 million in 1975 has been estimated in the total industrial employment in the developing regions as a whole. 21/

 •n a similar basis it is estimated that the number of engineers and

In the report of the Secretary-General on the training of national technical personnel for accelerated industrialization of developing countries, the annual rate of growth of industrial employment, according to the development plans, was estimated at an average of 3.1 per cent in Africa, 5.7 per cent in Asia and 4.7 per cent in Latin America (see Official Records of the Economic and Social Council, Thirty-seventh Session, Annexes, agenda item 12, document E/3901/Rev.1/Add.1, para. 61).

scientists required for industrial employment in the developing countries will increase from nearly 150,000 in 1960 to around 550,000 by 1975, which means that between two and three times the total number available in 1960 would have to be trained in a time span of only fifteen years. 22/ The estimated demand for other industrial technicians would involve the need to train nearly 1 million persons in the period 1960-1975, or three times as many as the total supply in 1960. 23/ In the region of South-East Asia, the Asian Model of Educational Development $\frac{24}{100}$ has set the target for enrolment at the primary level of education at 225 million by 1980 as compared with 104 million in 1964, that is, more than double, and at the secondary level at 50 million, which represents an increase of three to four times over 1964; the need for vocational training would be seven times as great in 1980 as in 1964, and the need for scientific and high-level technological education three times as great. To illustrate from the situation in Africa, it has been estimated that the number of students enrolled for higher education in the region of Central Africa will have to be six times as great in 1980 as in 1965 if the requirements for high-level manpower are to be met. 25/

National priorities in human resource development

50. Developing countries are facing a very particular dilemma: on the one hand, they must promote an increase in enrolment for general education in order to raise the literacy and cultural level of the population, and, on the other, they need to develop a nucleus of high-level personnel capable not only of initiating research and innovations in the economy and in the sciences but also of training the future leaders who will in turn be responsible for the furtherance of general education. However, as resources are few, they cannot do both at the same time and difficult choices have to be made.

^{22/} Within the range of an estimated maximum training requirement of almost six times the 1960 supply and a minimum of 115 per cent.

^{23/} Within an estimated maximum of twelve times and a minimum of nearly the same number as the 1960 stock.

^{24/} INESCO, An Asian model of educational development: Perspectives for 1965-1980, Paris, 1966, pp. 49 and 56.

^{25/} UNESCO, The development of higher education in Africa, Paris, 1963, pp. 21-22.

- A distinction may usefully be made between actual human resources, or the stock, and potential human resources, or the flow. Persons of any age already in the labour force, or available for employment, constitute the stock, while persons at any stage of preparation, education or training represent the flow. Thus the stock is, or could be, utilized while the flow is, or should be, in the process of development. While in most countries there is an urgent and immediate need to make better use of the existing stock, it would be short-sighted to ignore the needs of potential resources, in particular those of children and youth, for if adequate efforts are not made now for the development of the rising generation the damage would be irreparable, no matter how substantial the investment might be later on. The distinction between actual and potential human resources is important in the time sense, since measures capable of improving the utilization of actual resources have normally a more immediate impact than the educational and training processes affecting potential resources. Thus, short-term planning in the human resources field may concentrate particularly on actual resources, medium-term planning be concerned with both actual and potential resources, while long-term planning appears to be largely, but not exclusively, relevant to the flow of human resources. Many of the most urgent tasks of development may have to be tackled by the improved utilization and further training of the actual stock of human resources, together with such types of short-term training, in particular vocational training, as can affect the flow of young people entering the labour force.
- 53. However, as many of the skills that a country can have available in the immediate future are those that already exist, it is first of all essential to see that existing human resources are properly used. If this is to be achieved, Governments will have to formulate a general wage and salary policy appropriate to the skill requirements of both the public and private sectors. They will have to ensure that adequate career prospects, status and working conditions and other incentives are created for the people needed. Special measures may have to be taken to face the problem of loss of trained personnel through emigration and to induce expatriates and students who are abroad to return. Also, it will be necessary to review the existing occupational structure to see whether it is genuinely functional and to ensure that it has the right balance between personnel with various types of training. A particular problem in a number of developing

countries is that highly skilled personnel are being used for functions which could more appropriately be performed by persons with a more limited and more practically oriented training. In order to reduce the present wastage of human resources among the largest population group in developing countries - farmers and farm workers - it will be essential to provide basic structural and institutional changes in agriculture, including land reform, price stabilization, transport, marketing and credit arrangements, etc.

54. High priority is given in most developing countries to the elimination of illiteracy and universal primary education, but this can only be a long-term objective. In the short run, efforts may have to be concentrated on making maximum use of possibilities for promoting in-service training, retraining and part-time courses. Special attention should be given to types of training which have the greatest multiplier effect, such as the training of teachers, training personnel, managers, advisers, extension workers, community development personnel and Similarly, in promoting development projects, industrial maintenance staff. particularly for untrained personnel, emphasis in the initial stages should be placed on those that have a built-in capacity for providing sustained and continuous employment, especially in localities with vast reservoirs of unemployed or under-employed manpower surplus and with heavy population pressure on the land. The problem of establishing priorities in human resources development is a difficult one both for political and social reasons. The solution does not rest entirely on government action but requires the active co-operation of all sectors of the economy. As responsibility for human resources development is often spread over several ministries, with the result that major aspects of the problem are not clearly identified and there is no over-all view and policy, Governments should have a central agency responsible for human resources planning and policies. be stressed, however, that successful human resources development calls not only for good planning but requires close attention at the ministerial level to ensure the effective implementation of the plans and measures decided upon.

International co-operation

56. One of the simplest ways in which the more developed countries can help the less developed in the field of human resources is by providing funds for capital projects for training and education. This is already done to a limited extent.

Assistance in the provision of educational equipment can also be of value, as most developing countries have a serious scarcity of relevant textbooks and suffer from poor library and laboratory facilities. These difficulties help to explain why advanced studies often take place abroad. The developed world can also help more directly by sending people abroad as experts, and by providing facilities for visiting students and trainees. However, the developed countries cannot fill more than a part of the gap in skill requirements, since in many fields they themselves are short of skilled personnel. Besides, for a number of reasons, developed countries have not found it easy to build up rapidly the supply of technical assistance experts. People who possess the skills needed in the developing countries may not be familiar with the problems and conditions of these countries and may have difficulty in adapting their knowledge to the local situation. Also, many technical experts have little facility in imparting their knowledge and skills, as their expertise is operational and not pedagogic.

- 57. Besides the limitations on the supply side, there are limits which are not always recognized on the capacity to absorb foreign expertise. Foreign experts should not be so numerous that local people are shielded from the learning process, for, in many occupations, the daily discipline of heavy and urgent responsibilities is the best form of training. Also, as they will require housing, office space, secretarial help, transport and local supplies, they consume scarce local resources which may make their over-all impact negative. More important still may be the fact that they take up a good deal of the time of ministers and senior officials.
- 58. The efficient use of foreign skills and training is not given adequate attention in many developing countries. These extremely scarce resources are usually neglected by planners, although in some developing countries they cost more than the total education budget. In particular, planners should take into account the fact that, although many foreign experts are paid for by the developed countries, they may make large demands on the limited resources of the country which receives them. Another problem is that, with the multiplicity of sources for the transfer of skills through technical assistance and the relatively small

size of each transaction, the whole process is hard to plan and difficult to organize efficiently. 26/

The easiest option for a developed country that wants to help with the provision of skills to the developing world is to give scholarships for academic or practical training in its own institutions or firms, or to make places available for foreign students, which usually involves a disguised but substantial subsidy of their fees. There are probably about a quarter of a million people from developing countries receiving formal or practical training in the developed world every year. This kind of technical assistance can be extremely valuable if it is properly managed and if the students are well selected, and its cost is not high compared with other kinds of technical assistance. To the developing countries, studies abroad are often cheaper per student year than studies at home.

60. The benefits of foreign training, however, cannot be measured by the number studying abroad, but rather in terms of the number of graduates who return and put their training to use. A major source of wastage from the standpoint of developing countries is the non-return or prolonged absence abroad of students who find jobs or scholarships that are more attractive than work at home. Often the prolonged exposure to a different milieu and the acquisition of knowledge in a framework suited to the needs of developed countries will produce an elite whose skills are not adapted to the needs of their home country and whose thinking and research interests may not be geared to the problems of the developing world.

In 1962 the cost of all foreign experts was about \$4 billion, that is, an average of about 1.6 per cent of the Gross National Product of developing countries combined (besides expenditures on study and training abroad of about \$600 million). About \$1 billion was financed by technical assistance programmes, but more than half of the rest was probably financed by the developing countries themselves. Within the total picture the role of multilateral agencies was relatively modest. In 1963, they provided only about 8,000 experts of the total flow of 100,000 under various technical assistance schemes. Among multilateral agencies the United Nations family was the main contributor, about \$120 million out of around \$150 million coming from this source. (A. Maddison, Foreign Skills and Technical Assistance in Economic Development, OECD Development Centre, Paris, 1966.

- 61. Some of these problems of foreign training can be met by better selection of students, by exerting, both in the country of origin and the country of training, greater pressure on students to return when their studies are finished, and by reorienting training programmes to the specific needs of developing countries.

 More important still is the need to build up the quality of secondary and higher education in developing countries. In particular, it is necessary to ensure that more of the world's best universities and research centres are created and nurtured in the developing world. This may well seem a luxury, but the usefulness of such institutions cannot be measured by any narrow cost-benefit calculations. High-quality universities will often be beyond the resources of individual developing countries, but there is no reason why they should not serve students from many neighbouring countries, just as do the great universities of the developed world. Developed countries can do a great deal to help build up higher education and promote research in the developing world; and this is a most rewarding kind of aid for both parties.
- 62. While this report deals mainly with policies of the United Nations and the specialized agencies in providing assistance to developing countries in building up and using their cadres of trained and other personnel, the human resource problem remains primarily one for each developing country to tackle. Assistance from external sources for the development of human resources will always fall far short of needs. There is no point, for example, in supplying expensive foreign technical assistance personnel to fill a gap in human resources which might better be filled by the more efficient deployment of existing trained personnel. The problems can be dealt with in an effective manner only if a greater over-all effort is made by the developing countries themselves. They must ensure that all available resources are efficiently utilized towards the fulfilment of their long-term aims.
- 63. In seeking to make the best use of resources, it is especially important to ensure the best possible co-ordination of all the various programmes affecting the development and utilization of human resources. The need for co-ordination within each developing country applies also to the advice and assistance of various kinds which are provided from all external sources through international and bilateral programmes. Without careful administration of scarce resources and close co-ordination of all activities by the national authorities in the developing countries, the proposals made in this report for intensified concerted action by members of the United Nations family may have little real impact.

MAIN CONCLUSTONS

- 64. In chapters I to IX of this report (see E/4353/Add.1), a number of suggestions are made for intensified concerted action by the United Nations system to support the efforts of the developing countries in the field of human resources development. These proposals are made in view of the vital role of human resources in development and of the need to intensify international action in this field, as noted in resolutions of the General Assembly and the Economic and Social Council and as embodied in the principles of the United Nations Development Decade. Although these recommendations are for action to be taken within the United Nations system, they are also of interest to the developing countries themselves and to other organizations and institutions providing assistance to them.
- 65. While the many proposals put forward may require further study by the international organizations concerned, a summary is given below of the main conclusions about action to be taken. The suggestions in this report deal primarily with the training of personnel for economic and social development, as requested by the Economic and Social Council, but the importance of social and health prerequisites for human resources development is fully recognized and it is assumed that these aspects will be given due attention.
- 66. The report recommends that the international organizations should pursue and intensify their concerted activities, particularly in the following ways:
- (a) They should substantially expand all their efforts to help the developing countries to build up cadres of trained personnel, and to this end incorporate in their work, and in their programmes of technical co-operation, a wider range of projects and activities concerned with the development and utilization of human resources. In the execution of projects, there should continue to be close co-ordination between the different international organizations concerned so that the international effort may be as efficient as possible and achieve its maximum impact.
- (b) They should prepare medium- and long-term regional or sub-regional indicative plans of manpower requirements and employment targets based as far as possible upon national data; such plans could serve as guides for international action in developing regional or sub-regional training and employment programmes. They should also increase their assistance to individual countries interested in preparing national indicative plans of manpower requirements.

- (c) They should assist developing countries to inject a stronger developmental emphasis into all stages of their educational systems, and in particular to bring a development approach into the training or retraining of public administrators at all levels. These changes could be brought about by providing special training programmes, through international aid, at universities and other educational and training establishments, as well as through curriculum revision and other reforms in existing programmes.
- (d) They should analyse the respective roles of high-level and intermediate-level personnel in various occupations, in order to determine to what extent intermediate-level personnel can be increasingly employed, thus enabling more efficient use to be made of scarce high-level skills. Increased use of intermediate-level personnel would imply making their training more effective and setting up more training institutions for them.
- (e) They should undertake an inquiry into ways and means of greatly expanding the supply of teaching and training materials in the developing countries, adapted to their particular needs, including their language requirements and their environmental circumstances.
- (f) They should assist Governments in developing countries to incorporate in their development plans a full and realistic consideration of the role of human resources. A common conceptual approach should be worked out and adopted by the organizations concerned, and guidance should be given on the kinds of administrative machinery that would ensure the inclusion of various forms of human resources planning in the formulation of general development plans, and on ways of enlisting popular participation in the implementation of plans.
- (g) They should undertake a review of experience gained in technical education and vocational training, in order to establish guidelines for intensified concerted action. Research should be carried out on the relevance and adequacy to the needs of the developing countries of the kinds of technical education and vocational training now provided, in both rural and urban settings, and in relation to both agricultural and industrial production. Special attention should be given to including the new approaches to education and training that are required to promote the application of science and technology to development.
- (h) They should carry out a reappraisal of international fellowship programmes and of international aid to regional institutes and to national training, with an

assessment of the relative advantages and disadvantages of different types and locations of training.

- (i) They should intensify action to assist developing countries to reduce barriers to economic and social progress, in particular among rural populations, by identifying more effective means of reaching these populations with new ideas, of changing their attitudes and their methods of production and of involving them more directly in development projects.
- (j) They should accelerate efforts to expand the training of personnel required for development by assisting countries to set up or to improve training facilities, including regional or sub-regional facilities, to develop incentives for training, to prepare teachers, to select students and to organize and adapt curricula and syllabi.
- (k) They should intensify concerted efforts to involve youth more fully in national development through special youth schemes, programmes providing an effective transition from school to work for young school leavers, and other measures. The international organizations concerned should develop an agreed approach and, in appropriate cases, carry out joint field projects involving youth.
- (1) They should undertake concerted action with a view to ensuring that educational and training programmes take due account of the needs of girls and women, in particular in rural areas, so as to make it possible for them to take full advantage of the new opportunities for them resulting from economic and social development; and promote, as appropriate, other measures, including family planning and child care services, which would enable women to carry out their role in the family more effectively and to participate more fully in the life of the community.
- (m) They should promote the education, training and employment of other important population groups, including refugees, which would enable such groups to participate more fully in development projects at the local level and to make their contribution to the economic and social life of the country.
- (n) They should examine the possibilities of setting up programmes to assist in providing children, including pre-school children, in developing communities with greater opportunities for intellectual stimulation and for experience of mechanical processes, which will help lay a foundation for school success and for the acquisition of modern technological skills.

- (o) They should promote the collection, standardization and analysis of data on human resources questions in developing countries, including an assessment of the needs of these countries in the development and utilization of their human resources and of the major problems and bottle-necks encountered by them in developing these resources. Regional conferences should be convened to examine the findings of such studies and to make recommendations for international action.
- (p) They should carry out basic research on the magnitude and scope of the drain of highly skilled manpower from the developing countries, studying the countries and individuals involved and the motivations for this phenomenon and examining the implications for development of this drain and the remedial measures taken in some countries to deal with the problem.
- 67. Following its consideration of the present report, the Economic and Social Council may wish, among other actions, to request the Secretary-General:
- (a) To transmit the present report to the specialized agencies concerned, to the regional economic commissions and to other appropriate United Nations organs, including in particular the Commission for Social Development, the Population Commission, the Industrial Development Board, the Advisory Committee on the Application of Science and Technology to Development, the Executive Board of UNICEF and the Governing Council of UNDP, for their comments and recommendations;
- (b) To initiate discussions with the specialized agencies through the Administrative Committee on Co-ordination, with a view to examining in detail the proposals made in this report and, as appropriate, to preparing recommendations on ways and means of executing them;
- (c) To report to the Economic and Social Council at a future session on the progress made with regard to (a) and (b) above.