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THE FINANCING OF EDUCATION AND HUMAN RESOURCES
TRAINING IN LATIN AMERICA

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1. Introduction

The object of the present note is not to make a systematic analysis of the subjects normally associated with discussion of the problem of financing for education: the amount of resources currently allocated, the sources of funds, the distribution of financing by type and purpose of expenditure, the efficiency with which funds are applied, the scale of future requirements and the additional resources that must be mobilized.

Of the several arguments that may be adduced in favour of a different angle of approach to the problem, only two of a highly practical nature need be cited. In the first place, paradoxical as it may appear in view of the importance of the end pursued and the magnitude of the financial resources involved, the data available in Latin America afford but a shaky factual groundwork for consideration of all aspects of the topic. Secondly, even if the requisite data were obtainable, it is doubtful whether the conclusions to be derived from such an analysis would be viable in so far as they were based on the traditional guiding principles, organization and operational patterns of the region's educational systems.

Accordingly, although some numerical data of a mainly hypothetical character may be used for illustrative purposes, it would seem preferable to outline a few tentative ideas resulting from an effort to situate the subject of financing for education in the context of Latin America's broader economic and social development problems. This does not mean that no attempt will be made to define certain concrete lines of action that could be undertaken over the short term; on the contrary, some highly specific conclusions may be drawn, while at the same time an indication will be given of the handicapping effects of approaching the problem solely from the standpoint of the operational aspects of educational systems, regardless of other basic questions that do not fall within the strictly "sectoral" sphere.

/Up to

Up to a point, the observations formulated in the present note are side-views - primarily from the financial implications angle - of the considerations put forward in a previous ECLA secretariat study, in which the subject of education and human resources training in relation to the economic and social development of Latin America^{1/} was more extensively discussed. The content of the document in question represents the foundation for the ideas added here, which are set forth without reference to background data and analyses presented in full detail on that earlier occasion.

Needless to say, therefore, the views expressed in the present note must not be regarded as properly matured and substantiated. What is attempted is rather to suggest questions that may usefully be examined in the technical discussion of a matter that will undoubtedly come to the fore whenever Latin America's policy is defined in the future, and may perhaps call for a special effort of the imagination to devise the most effective ways and means of smoothing out the incompatibilities between legitimate aspirations and the stringent limitations of the resources that can be mobilized to fulfil them.

2. Nature and scope of the problems relating to the financing of education in Latin America

It often happens in Latin America that when the question of the financing of education and vocational training is raised, attention is concentrated on the inadequacy of the resources earmarked for these purposes and the need to increase the allocations concerned so that educational services can be extended to broader sectors of the population.

With all due deference to the validity of this line of thought, it is easy to see that satisfactory solutions will not be forthcoming unless so narrow an angle of approach is broadened sufficiently to afford a more over-all and objective picture of the wide range of factors which play a

1/ Human resource training in the economic and social development of Latin America (UNESCO/MINEDECAL/9), prepared with the co-operation of the Latin American Institute for Economic and Social Planning, and presented at the Conference of Ministers of Education and Ministers Responsible for Economic Planning in Latin America and the Caribbean, Buenos Aires, June 1966.

direct or indirect part in shaping the problem. As in every other question bearing on levels of living and social conditions, the matter goes far beyond the legitimate and universal desire to seek solutions that are ideal in both quantitative and qualitative terms, the willingness to allocate whatever volume of resources may be necessary, and even the readiness to introduce such operational reforms as will be conducive to a high degree of internal efficiency in the educational system.

In other words, the financing of education in Latin America must be viewed in the context of the over-all development situation. This leads inevitably to the definition of the problem as a structural phenomenon, inherent in under-development, and further aggravated by conjunctural and operational factors.

The first basic obstacle derives from the difficulty of reconciling the imperative need to extend educational services to new population sectors and ensure that they meet development requirements with the scantiness of the investment resources available in general, and in particular for educational purposes. However high the priority assigned to education, funds cannot be earmarked for it without due regard to the levels of economic development concerned; educational targets must be appropriate to the stage of development reached, and must be evaluated in the light of other objectives which have every right to compete for the allocation of resources that are limited from the outset. The characteristic inadequacy of public sector budgets for education and human resources training is simply one more manifestation of the general lack of funds peculiar to under-developed countries, and is therefore part of a comprehensive structural situation for which low levels of production and income, together with other key aspects of development, are responsible. The same financial shortages that affect educational budgets make themselves felt in other fields such as industrialization, agricultural production, generation of energy, transport, and the living conditions of the population in general; and if the resulting levels of education are unsatisfactory, so also are the over-all standards of nutrition, public health, housing, and municipal and social security services.

/It should

It should not be concluded that nothing can be done until more advanced stages of development are reached; what can be inferred, however, is the need to take a broader view of the problem than is implicit in the mere establishment of uniform schooling targets, or proposals to allocate a specific proportion of public expenditure or national income to the education sector.

From another standpoint, the priority assigned to public expenditure on education must be compatible not only with other alternative budget allocations but also with the capacity of the population to "purchase" educational services and make effective use of them, assessed in the light of the level and distribution of national and family income. These latter must be compared both with the direct costs of educational services and with the indirect costs represented by the maintenance of the school-age population and the renunciation of immediate gainful-employment opportunities. The chronic inability of a majority of Latin American households to afford these costs accounts for the failure of a large proportion of the school-age population to take full advantage even of the limited educational services at their disposal -- a state of affairs which is reflected, inter alia, in the high percentage of dropping-out at all levels that characterizes the operation of the Latin American educational systems and leads to the consolidation or expansion of the already wide margin of illiteracy and lack of vocational training.

Thus the real cost of education is much higher than the amount represented by specific budget allocations. Moreover, in so far as the aim in view is to strengthen the role of education as a factor making for social and economic mobility, by opening up real educational opportunities to the lower income strata, an increasing proportion of the indirect cost referred to above will gradually have to be transformed into direct costs borne by the educational services (through the provision of more scholarships, and other forms of assistance).

Accordingly, the requirements deriving from the quantitative expansion of educational services are augmented by other needs whose incidence on the direct costs of the services in question will inevitably grow heavier. Yet a third factor must be added; the expansion in question involves not only

/an increase

an increase in the population served, but also constant changes in the relative importance of the various levels of education, at which costs per pupil differ. A more rapid rise in enrolment figures at the secondary level (where costs per pupil are probably equivalent to four times the average primary-level figure) and also in higher education (where the same costs ratio may reach 1 to 10) will carry financial implications that will increase at rates much higher than the growth rate of the total school-age population.

These factors intensify the above-mentioned basic incompatibility between the need for a progressively expanding educational structure and the scantiness of the resources available for its maintenance. Hence very careful consideration must be given to the yield obtained from those resources, to the rationality of the educational system and to the efficiency with which it operates. But these again are questions beyond the scope of a "sectoralized" analysis of the problem.

The first area of concern in this connexion is the extent to which educational systems are adjusted to development conditions and requirements, and the degree in which their guiding principles, organization and operational patterns may be merely transplanted from developed countries rather than genuinely adapted to Latin American conditions. One of the most important and difficult tasks deriving from the need for this adaptation is to determine the most appropriate relationship - in Latin America's present circumstances - between the infrastructure represented by general education and culture for the individual and the community, and the superstructure constituted by the equipment of the labour force with the skills needed to meet economic development requirements. As will be suggested in later paragraphs, the existing educational system does not seem to be properly balanced in this respect apart from the necessity of establishing satisfactory relationships not only between the educational infrastructure and superstructure, but also among the various branches of the latter.

/However much

However much is done to improve the operation of educational systems, from a general standpoint their level of efficiency will continue to be low unless a similar measure of success is achieved in adapting them to the region's special needs and conditions. This would seem to justify a very broad concept of the "performance" of the educational services, taking into consideration, as a pre-eminent criterion, the measure in which the education provided is compatible with over-all development levels and consistent with vocational training requirements, as well as the adequacy of the training in question to meet development needs. Similarly, it is worth while to reiterate that "performance" in the widest sense of the term is also a function of the extent to which the educational services are adapted to the population's capacity to make effective use of them; and this involves, inter alia, recognition of the potent influence exerted by the educands' low levels of living as an "extra-mural" determinant of the efficacy of the educational system.

It is this broader view that must be taken in order to evaluate the significance of factors directly relating to the efficiency with which resources allocated to education are utilized: bias and content of curricula, teaching processes and methods, textbooks and teaching material, staffing, premises and facilities, techniques and equipment, economies of scale, and administration of educational services.

Unquestionably, there is a pressing need to reduce the high costs of existing educational services, imputable to the low productivity of the resources invested, for which similarly low levels of operational efficiency are responsible. But it must also be admitted that certain extra costs are superadded which derive from failure to bring the educational services sufficiently into line with development conditions and requirements, and from the existence of other institutional factors. The discrepancies between real supply and real demand in respect of educational services, together with the role played by education, throughout the history of many countries of the region, as an instrument linked to social and political structures, have had adverse effects of various kinds

/on educational

on educational costs. In some cases, education has become, in practice, an expensive service constituting a source of private profit; in others, it has been turned into a bureaucratic public activity, with low standards of quality and performance; and in many instances, duplication of educational effort by the public and private sectors has been institutionalized, with the result that the scanty resources available are dissipated and the quality and guiding principles of the educational services lack uniformity.

In later sections there will be an opportunity of dwelling on some of these factors, as well as of assessing on the basis of hypothetical estimates, the amount of resources that will probably be needed in the future and the difficulties of making the educational effort viable, in default of sweeping changes in the traditional set-up. This implies acknowledging that in Latin America the problem assumes special characteristics and nuances, and that both the foreseeable solutions and the operational processes they involve are subject to serious structural limitations deriving from under-development. In this respect the position differs sharply from the situation in the industrialized countries, where the problem is generally confined in practice to the adoption of politico-administrative decisions to increase the funds allocated to education and to apply, in using them, the efficiency techniques characteristic of other processes in the nation's economic life.

To sum up, the problem of the financing of education in Latin America seems to hinge upon several considerations:

(a) In order to accelerate the rate of development, and even to maintain existing trends, the Latin American countries need to expand and maintain a costly structure of education and vocational training, a requirement which implies increasing mobilization of financial resources;

(b) It is doubtful whether enough funds can be allocated to fulfil aspirations in respect of the quantitative expansion of educational services, unless at the same time a major effort is made to improve the productivity of the educational systems;

/(c) A high

(c) A high proportion of the extra costs and low economic productivity that help to aggravate the difficulty of financing educational services derives from the inadequate adaptation of these services to development conditions and requirements in each of the individual countries concerned;

(d) To the factors affecting "performance" in the broadest sense of the term must be added the low levels of organizational efficiency, which are reflected in inefficient utilization of the human, financial and technical resources allocated to education.

3. Volume of resources required for education

The foregoing conclusions can be better substantiated if the problem is considered in quantitative terms, with the help of a few estimates that will be useful for illustrative purposes, although they are necessarily of a mainly hypothetical character.^{2/}

^{2/} Despite the attention that is being devoted to the expansion of educational services and the allocation of the corresponding funds, the information available on the real costs of education in Latin America is scarce and fragmentary, and in many cases not very reliable. Data on current expenditure are often taken from central government budgets, which means that the amounts concerned are under-estimated to an extent proportional to the share of departmental, provincial or local authorities in the provision of educational services; the financing of private education, except in so far as it represents transfers from the central government, is not always included; and data on the resources mobilized for extra-mural or informal educational activities are hard to come by. Moreover, a very high level of aggregation is usually adopted, with no breakdown by types of expenditure; the levels differentiated are usually confined to primary, secondary and higher education, no distinction being drawn within these between various types of education; and data usually relate to total enrolment, so that it is very difficult to evaluate costs per school-leaver or graduate. More serious still is the lack of information on the amount and composition of investment outlays.

/At the

At the present time, the total funds allocated to education probably exceed 3,000 million dollars per annum, including current expenditure on education proper and on welfare services, investment, and other outlays on research and extension work, covering university, secondary and primary education, as well as extra-mural and informal educational activities. The aggregate sum involved represents a little over 3.5 per cent of Latin America's gross domestic product; this is one of the largest proportions earmarked for a specific purpose.^{2/}

About 90 per cent of the estimated total shown in table 1 corresponds to current expenditure on education and student welfare; within the former, the major item is the remuneration of teaching and administrative staff, and the latter probably does not account for more than 5 per cent of total current expenditure. The investment figure given in the same table is a rough calculation based on incomplete data, which in all probability underestimates the real magnitude of the effort that is being made in this connexion.^{4/}

3/ The various pertinent estimates usually display very marked differences, apart from the fact that the situation varies considerably from one Latin American country to another. For example, in its Statistical Yearbook for 1964, UNESCO records, inter alia, the following percentage relationships between public expenditure on education and national income: Argentina (1962), 3.5; Chile (1963), 3.2; Colombia (1962), 3.4; Ecuador (1963), 2.4; Mexico (1963), 3.0; Peru (1963), 4.9; Uruguay (1961), 3.1; Venezuela (1961), 4.8.

4/ The chief component of investment is the construction of primary school buildings. If educational services at the primary level were to expand at an annual rate of 5 per cent in Latin America as a whole, accommodation for 1.5 million additional school places would have to be built yearly; this effort, related to the estimate under discussion, would imply an investment of 80 dollars per school place - a much smaller sum than, for example, that of 300 dollars per pupil at which the cost of constructing primary school buildings in Ireland is estimated (see UNESCO, Methods of Analysing Educational Outlay, 1966).

Table 1

LATIN AMERICA: ESTIMATE OF RESOURCES ALLOCATED TO EDUCATION, 1965
(Millions of dollars at 1960 prices)

	Total	Current expenditure	Investment	Other expenditure
University education	650	560	30	60
Secondary education	930	810	30	10
General		510		
Vocational		260		
Training of primary- school teachers		120		
Primary education	1 520	1 380	120	20
Extra-mural and informal educational activities	100			
<u>Total</u>	<u>3 200</u>	<u>2 830</u>	<u>180</u>	<u>90</u>

The same applies to the figure for "other expenditure", whose main components would seem to be the funds allocated to university research work and extension services; to extension services, experimental farms, etc., at the secondary level; and, at the primary level, to literacy campaigns and continuing adult education. According to these same estimates, primary schooling apparently absorbs a little under half the total resources allocated to education; approximately 30 per cent corresponds to the secondary level, at which in turn about 60 per cent is spent on general secondary education, less than 30 per cent on vocational education and about 14 per cent on the training of primary school teachers. A little over one-fifth of total current expenditure and investment outlays is earmarked for university education. The figure given for expenditure on extra-mural and informal educational activities is intended more as a reminder of the existence of the item than as even a rough estimate, in view of the almost total lack of reliable data in this connexion.

/With due

With due allowance for the largely hypothetical nature of the figures in question, it is enlightening to relate the estimates of current expenditure to enrolment numbers at the levels concerned. The results of this comparison are summarized in table 2, and lead to the conclusion that in present circumstances, in Latin America as a whole, annual expenditure per pupil in the entire educational system probably averages a little over 70 dollars. A preponderant influence on this average is exerted by primary education, which accounts for almost 85 per cent of the total school population; this again suggests that the general tendency of the estimates is to under-estimate the magnitude of the problem.

Table 2

LATIN AMERICA: ESTIMATES OF ENROLMENT NUMBERS AND UNIT COSTS, 1965

	Number of students enrolled (Thousands)	Annual expenditure per student <u>a/</u> (Dollars)
University education	800	700
Secondary education	5 100	175
General	3 300	155
Vocational	1 240	210
Training of primary- school teachers	560	210
Primary education	32 900	42
<u>Total</u>	38 800 <u>b/</u>	<u>73</u>

a/ Current expenditure only, excluding investment and other outlays.

b/ Excluding technical education for girls.

/An annual

An annual outlay of 42 dollars per primary-school pupil appears hardly likely to exceed the truth,^{5/} while the much higher figures estimated for the other levels - 175 dollars in the case of secondary education and 700 dollars at the university stage - imply ratios to expenditure on primary education which seem to be corroborated by other estimates formulated independently.^{6/}

These data may afford a basis for exploration of the future development of financing requirements for education, in default of significant changes in the structure, performance and productivity of the region's educational systems. In very broad outline, such an undertaking involves the selection of a future period of reference; the projection of requirements in respect of the expansion of educational and training services in line with social objectives and the needs deriving from development itself; and the prediction of certain changes in the absolute levels of specific costs, irrespective of any overhauling of the structure or policy of the educational services themselves.

In the first connexion, suffice it to recall the findings of an earlier study ^{7/} in which an attempt was made to evaluate the situation likely to develop by 1980, in the light of probable population trends, reasonable objectives for the expansion of basic education, hypotheses as to the growth of income and changes in the structure of the economy, with their repercussions on requirements in respect of technical and professional personnel at the various levels, and, in short, all the

^{5/} On the assumption that 2 dollars per pupil represents expenditure on welfare services, the annual cost of education proper would be 40 dollars per pupil. If it is further assumed that two-thirds of this figure are absorbed by the remuneration of teachers and that the number of pupils per teacher averages 33, the teacher's monthly salary works out at about 70 dollars, including contributions paid by the State or the private sector to the corresponding social security systems, which in many instances amount to more than 50 per cent of the basic remuneration.

^{6/} See UNESCO, Algunos aspectos del financiamiento de la educación en América Latina, table 5.

^{7/} Human resource training in the economic and social development of Latin America, op.cit.

/factors that

factors that would help to determine the educational profile of the population of Latin America by that date. It was concluded in the study that university education would have to be expanded by 70 per cent in relation to the existing services, apart from the changes that would have to be introduced in its composition by specialities; that a modest increase of 35 per cent would be needed in general secondary education, and a very substantial one (raising the existing figures by more than 200 per cent) in technical education at the intermediate level; and that primary education services would have to be more than doubled in order to fulfil social objectives and provide the indispensable groundwork of general education for those who were to continue their technical training at higher levels. In brief, by 1980 total enrolment numbers in the educational systems as a whole would reach almost 81 million, as against less than 40 million in 1965.

The implications of these projections in terms of demand for financial resources depend not only on the aggregate expansion envisaged, but also on the changes in the composition of the student body by levels and specialities, as well as on factors that will inevitably make for a rise in unit costs.

To take the case of primary education (for which, in present conditions, annual current expenditure per pupil is estimated at 42 dollars, as mentioned above), it must be recognized that in the course of the fifteen years covered by the projections, the real remuneration of teachers will necessarily increase in at least the same proportion as average national per capita income. Some degree of improvement is also to be expected in the composition of primary education by purely basic and complete schooling, with the consequent effects on costs. Lastly, social objectives could not be attained without some increase in the proportion of current expenditure earmarked for welfare services. All this would seem to warrant the fairly conservative hypothesis represented by an annual expenditure of 70 dollars per pupil in 1980.

Secondary education will necessarily be influenced by the same and by other additional factors. The foreseeable modification of the comparative importance of general secondary education as against intermediate-level vocational education - agricultural, technical, commercial - and the training

/of primary

of primary school teachers implies a relatively faster rate of expansion in those branches in which costs per pupil are higher. It is probable that at these levels too an increase in expenditure on welfare services - perhaps proportionally greater - will be required, partly with a view to increasing the number of scholarships, above all for particular specialities such as agricultural and technical education.

Much the same will no doubt take place in university education, especially on account of the increasing relative importance of scientific and technical training, which entails heavier unit expenditure than education in the humanities.

The results of the relevant hypotheses are presented in table 3. In table 4 hypothetical estimates of investment and other expenditure are also presented in which ratios to current expenditure are kept more or less the same as at present, and account is taken of a few additional assumptions that seem warranted from several points of view.^{8/}

Table 3

LATIN AMERICA: HYPOTHETICAL PROJECTION OF ENROLMENT NUMBERS AND
CURRENT EXPENDITURE ON EDUCATION BY 1980

	Enrolment numbers (Thousands)	Total current expenditure (Millions of dollars at 1960 prices)
University education	1 300	1 300
Secondary education	9 600	3 400
General	4 400	1 100
Vocational	4 000	1 800
Training of primary- school teachers	1 200	500
Primary education	70 000	4 900
<u>Total</u>	<u>80 900</u>	<u>9 600</u>

^{8/} In particular, a more rapid increase in allocations for university research is envisaged, and it is assumed that extra-mural and informal educational activities will expand to a very marked extent.

Table 4

LATIN AMERICA: HYPOTHETICAL PROJECTION OF TOTAL DEMAND FOR
EDUCATIONAL FINANCING BY 1980

(Millions of dollars at 1960 prices)

	Total	Current expenditure	Investment and other expenditure
University education	1 500	1 300	200
Secondary education	3 600	3 400	200
General		1 100	
Vocational		1 800	
Training of primary school teachers		500	
Primary education	5 400	4 900	500
Extra-mural and informal educational activities	500		
<u>Total</u>	<u>11 000</u>	<u>9 600</u>	<u>900</u>

In the upshot, total demand for educational financing in 1980 is estimated, on the basis of this series of hypothetical calculations, at an annual sum of about 11,000 million dollars. This would signify not only a very considerable increase over present levels, since it would mean that the allocations registered in 1965 were more than trebled, but also a substantial rise in the proportion of national income represented by the resources in question. Even if the relatively optimistic hypothesis were adopted that in the next fifteen years the total domestic product will be more than doubled, expenditure on education would come to represent no less than 5.5 per cent of the aggregate product.

Stress should be laid on the nature of these quantitative examples. They are not intended to justify a specific objective as regards the allocation of resources to education, for the decision involved could only be based on explicit definitions of several basic aspects of
/development policy,

development policy, and furthermore would have to be adapted to the special - and often widely differing - conditions prevailing in each individual Latin American country. All that is attempted is to foresee certain orders of magnitude which help to place the problem of financing for education in a broader context, in the light of the implications that would derive from the maintenance of the existing structures, guiding principles and operational patterns of the region's educational systems.

4. Difficulties of meeting the demand for resources

To judge from the illustrative estimates presented in the foregoing section, the absorption of the accrued deficit and the maintenance of an educational structure in line with social aspirations and development requirements would represent, in the immediate future, a financial effort that hardly any of the Latin American countries is in a position to tackle for the time being. This confirms the assertion that the difficulty lies not merely in the proportion of budget allocations earmarked for education, but in basic limitations deriving from over-all national income levels.

The countries that are coping satisfactorily with the problem - in Europe and the United States, for example - enjoy per capita income levels six or ten times as high as the Latin American average, and this disparity is necessarily reflected in similarly substantial differences in the resources available for meeting the requirements of development in general and education in particular. In many of the countries in question not only the levels but also the growth rates of per capita income are much higher than in Latin America, and as a rule the proportion of funds channelled through the public sector is also greater.

Population structure itself, from this standpoint, is one of the factors that aggravate the difficulties encountered by the Latin American countries. Whereas the proportion of the total number of inhabitants represented by the school-age population (5 to 19 years) is 29 per cent in the United States and 22 per cent in Western Europe, in Latin America it is nearly 36 per cent. This means that in the last-named region the scanty income of a smaller proportion of economically-active population has to defray the expenses of a larger proportion of school-age population.

/Generally speaking,

Generally speaking, the average dependency rate in Latin America is high: 84 persons under 15 or over 65 years of age to every 100 persons in the 15-64 age group. Such a rate implies that both the family and the State have to shoulder a very heavy burden if young people are to attend school for a sufficient length of time and receive the type of education for which a modern society calls. In practice, most boys and girls enter the labour market at a very early age, so that their earnings may augment the family income. At the same time, the number of children reaching school age every year increases faster than the total population, so that the number of school places must be raised by over 3 per cent per annum merely in order to prevent the existing shortages from becoming still worse.

Thus, demographic characteristics, in conjunction with the handicaps deriving from the absolute level and slow growth rate of income, decisively influence the Latin American economies' capacity to generate a larger volume of resources assignable to education.

Furthermore, the limitations stemming from these factors affect not only the financing of educational services proper, but also the capacity of the population to make use of the services in question. To make matters worse, not only are income levels low in Latin America, but in addition income distribution by population sectors and socio-economic strata shows a much higher degree of concentration than in the more developed countries.

Since the educand plays the twofold role of object and subject in the process of education and vocational training, his "purchasing power" and his possibilities of making full use of the supply of educational services are of course essentially contingent upon his level of living and social status.

Education and vocational training constitute a complex activity, embracing not merely the inculcation of knowledge but, basically, a process of mental and emotional assimilation and transformation that the individual educand must experience and consolidate. Moreover, this process, especially at the primary and secondary levels, claims the pupil's full-time attention, which means that he cannot support himself or defray the wide range of costs involved in his education. In both

/these connexions,

these connexions, the family's income level and living conditions - especially in respect of diet, health, clothing, etc. - are factors of decisive importance for the effectiveness and the standard of performance of educational activities.

The foregoing statement applies particularly to Latin America, where large sectors of the population in the lower income strata are not really in a position to meet the supplementary costs under discussion, or to guarantee the pupil the minimum standard of maintenance necessary to enable him to take full advantage of the educational service to which he has access. The situation is more unsatisfactory still if, as in the case of private schools, the direct costs also have to be covered.

In practice, access to educational services and their full utilization is decisively conditioned by family income levels. This partly accounts for the fact that families in the lower income strata are at the same time those most seriously affected by illiteracy and lack of vocational training, as also by the shortfalls characterizing the other components of their level of living and social situation.

The over-all figures exemplifying the present characteristics of income distribution in Latin America,^{9/} and their significance in terms of the real income levels and composition of expenditure of at least 50 per cent of Latin American households, are matters of common knowledge. In the lower income brackets, and particularly in the so-called "marginal" urban sectors and large rural population groups made up of smallholders and landless workers, more than three-fourths of the tiny family budget is spent on food, so that very little is left for other types of expenditure.

Even if access to educational services without payment of fees is really guaranteed, the sectors in question would find it difficult to meet the supplementary costs of education - school uniforms, textbooks and stationery, etc. - and the indirect costs represented by the minimum level of maintenance appropriate to the pupil's needs.

^{9/} See, for example, the section on "Presumed distribution of income in Latin America" in The economic development of Latin America in the post-war period, United Nations Publication, Sales No.: 64.II.G.6.

/This situation,

This situation, together with staffing deficiencies, explains not only why large population sectors are virtually excluded from the educational system, but also why a considerable proportion of the pupils who do attend school have to repeat each year's course at least once, a state of affairs that reaches its crisis in the higher grades at the different levels of education. For example, although enrolment in the first grades of each level has substantially and progressively increased during the last ten years, this has not resulted in a proportional rise in the number of those completing the educational cycle concerned.

For the public sector to cover the supplementary and indirect costs of education on behalf of the social sectors that cannot do so on their own account would imply a tremendous extra demand for financing, which would aggravate the existing incompatibility between the funds required and the capacity of the national economies to provide them.

5. Guiding principles and structure of educational systems and their effects on the efficient utilization of the resources allocated to education

While part of the gap between investment requirements and the capacity of the economy to provide the necessary resources is due to structural causes, and can be bridged only by the strengthening of the whole development process, a part of it is also attributable to factors of a mainly conjunctural nature, which concerted and sufficiently thoroughgoing action could counteract. Among these, a further distinction must be drawn: some of them are linked, in broad terms, to the incongruities between the guiding principles and structure of the region's educational systems on the one hand, and its social and economic conditions and development requirements on the other; while the remainder are connected with the operational efficiency of the systems themselves.

The latter will be discussed in the next section, while an attempt will now be made to identify some of those that involve more radical structural reforms, implying in the last analysis, the designing of educational systems especially fitted to Latin American conditions.

/(a) Organic

(a) Organic maladjustments in the structure of education

For the purpose of considering how the limited funds allocated to education can be used as rationally as possible, it may be useful to differentiate between that aspect of the pertinent effort whose primary object is to provide the population with a definite groundwork of general education and facilities for the cultural development of the individual and the community, and that which aims at the basic and advanced training of qualified personnel for every type of productive activity. The former may be roughly described as the infrastructure of the educational system, constituted by the general educational services, while the latter is a sort of superstructure, formed by the educational services of a specialized and vocational character. The justification of the effort made is based on different criteria in each case, but in both it must necessarily be related to the over-all level of development prevailing in the community concerned.

As regards the educational infrastructure, a minimum level of requirements may be defined, in respect of which the characteristics of expenditure are similar to those of expenditure on social services in general, and the allocation of resources is dictated by social and political considerations. For example, the minimum level in question might coincide with the primary education targets established in UNESCO Major Project No. 1, including literacy campaigns and the initial stages of a continuing adult education system. Over and above this minimum, any additional allocation of resources would be determined in the light of two criteria: one directly dependent upon over-all income levels, which would justify extensions of general cultural objectives varying in consonance with the economy's capacity to sustain them; and the other linked to the basic educational requirements entailed by the different levels and types of vocational training.

The characteristics of expenditure on the educational superstructure much more closely resemble those of strictly economic investment, and complementarity with the other development factors would be the main criteria for the allocation of the resources concerned.

/A theoretical

A theoretical outline of this kind facilitates the identification of some of the maladjustments that seem to loom large in the educational scene in Latin America today.

A first indicator is afforded by the Latin American population's current educational profile. In the case of a great majority, the level of school attendance is very low, since it does not exceed two or three years in real terms; at the same time, a considerable number of persons receive general secondary education, of which a very high proportion is completely dissociated from any kind of specific training for active life and is mainly geared to a university education to which only a minority will really have access. Later, at the level of higher education, a large percentage of students are given education of a general rather than a vocational type, to the detriment of sound professional training.

Thus, the infrastructure is gradually extending to all levels of education, becoming accessible to a dwindling proportion of young people, and, from this standpoint, turning into a service which bears no relation to the over-all level of development and absorbs resources that could be used to strengthen vocational training.

Apart from the resultant disequilibrium between the educational infrastructure and superstructure, the latter is often characterized by marked disparities in the distribution of resources among its various component branches and the different types of basic and advanced vocational training. Intermediate-level professionals and technicians are disproportionately few in relation to the number of professionals with full university training, and the ratio between the resources allocated to the traditional professions and those earmarked for new specialities or new types of vocational training is such that the gap between training facilities and real development requirements is widened.

In other words, mainly on account of the role traditionally played by education, there is a striking tendency for the structure and objectives of the educational services to constitute an end in themselves. In these circumstances, and particularly in Latin America, the educational effort is essentially channelled towards the inculcation of knowledge and skills intended to satisfy social attitudes, codes of values and aspirations which are not always consistent with national development conditions and requirements.

/Education and

Education and the diffusion of culture unquestionably constitute one of the major objectives pursued by over-all efforts to expedite development; but it is likewise true that such efforts cannot be successful unless education and vocational training are used as instruments to that end. From this point of view, the educational services represent a means of decisive importance, without which the development process cannot acquire the requisite character, tempo and power of consolidation.

One of the results of this maladjustment is that educational and vocational-training activities generate a supply of school-leavers and graduates whose qualifications are largely out of line with real demand on the employment market. This means that many individual aptitudes will be frustrated, while at the same time a substantial share of the all-too-limited funds available is not really being utilized to supply the market demand in question, which in its turn is a reflection of development requirements.

This state of affairs, which in principle seems to be an essentially academic phenomenon, and a matter of educational policy, thus becomes one of the factors generating the financial deficit. While large population sectors are excluded from minimum general educational opportunities, and there are not enough funds for the training of key professionals and technicians for certain activities of strategic importance in relation to development, and of skilled manpower in general, the limited resources available are spent on substantially extending the general education of specific groups and building up big contingents in the traditional "liberal" professions. In addition, this last maladjustment is reflected in a low standard of productivity on the part of the professionals concerned, who usually end up by discharging elementary bureaucratic functions which could be performed by less highly-qualified personnel.

(b) Other institutional factors

Education is assigned a special role and accorded special treatment in every society, in close and direct relation to the nature of the latter's economic, political and social structures. For well-known reasons, the part it has played and is still playing in most of the Latin American countries, and the treatment it is given, constitute an unfavourable factor

/which powerfully

which powerfully affects the problem of financing the educational services. This situation has several peculiar features of its own. In the first place, notwithstanding the progressive increase in State participation, educational activities only in part represent a public service, while a considerable proportion of them display the characteristics of a special service which is the object of market transactions, both in itself and in respect of its principal "inputs". Another aspect of the problem consists in the eminently bureaucratic treatment which the public sector accords to education, and yet another is the parallel operation of educational services run by the public and private sectors.

With respect to the first point, the educational services offered by the private sector have become a significant source of profit in several of the countries of the region. To all that this implies at the level of direct costs must be added the further profits generated in the activities supplying teaching material and equipment, school uniforms, transport and other services, whose prices and tariff rates are not always subject to efficient control.

Where the activities of the public sector are specifically concerned, the costs situation is equally unfavourable. Although in this instance there is no question of speculation, other surplus costs derive from an excess of red tape. Evidence of this over-bureaucratization is to be found in the composition of the educational services' expenditure, and particularly in the proportions corresponding to "indirect current expenditure", including administrative overheads, and to "direct expenditure and investment".

Lastly, costs are also affected by the existence of two parallel educational systems, one public and the other private. Although these are complementary structures serving different social clientèles or meeting different kinds of demand, they usually involve duplication of effort and inefficient utilization of basic equipment, such as laboratories and other special facilities, especially in the case of certain high-level technological and scientific schools and institutes which seldom attract enough students to enable them to operate at a satisfactory level of productivity.

/(c) Social

(c) Social and cultural factors

A considerable proportion of the surplus costs and low productivity of educational services is imputable to social and cultural factors; in particular, the low levels of living prevailing in large sectors of both the urban and the rural population, and their effects on the selection of students.

As regards the first factor, the unsatisfactory levels of health and nutrition handicapping most pupils from the lower income groups give rise to significant problems in respect of educational performance. The educational process calls for a great personal effort and an exercise of physiological and mental faculties such as can only be adequately guaranteed on the basis of a good state of physical and mental health, but the great majority of children and young people from families with low income levels, and a substantial proportion of those from the middle income groups, cannot fulfil this requisite. The educational standards officially envisaged must inevitably be lowered when most of the pupils are underfed and ill-clothed, have to study and rest in very poor functional and environmental conditions, both at home and at school, and are further subject to the inconvenience of unreliable means of transport. Consequently, these low standards are applied to all pupils, including children and adolescents whose living conditions are more favourable, as well as the more gifted who could be required to aim much higher. Thus, the low performance levels deriving from unsatisfactory levels of living are generalized, and hinder the development of a highly productive educational system.

At the same time, the low levels of living are reflected in low standards of personal performance on the part of the educands. Hence, as mentioned above, the systematic repetition of grades and branches of study is a characteristic feature of education in Latin America. This also accounts for the fact that courses and subjects which could be made short work of, necessitate lengthy periods of time and costly teaching processes based on repetition and constant "rubbing-in".

In the light of these circumstances, the difficulty of reconciling educational expansion objectives with the maintenance or improvement of standards of performance and productivity in the educational services emerges as one of the major challenges faced by the Latin American countries in the field of education today.

/The second

The second factor relates to the selection of pupils and its adverse effect on standards of performance. The economic and social marginality of large urban and rural population groups results in unavoidable absenteeism on the part of many children and young people belonging to these sectors, for reasons that have nothing to do with their mental attitudes and abilities. This is particularly true at the intermediate and higher levels of the educational structure. Moreover, the direct, indirect and supplementary costs are too heavy to be comfortably met by families in any but the higher income groups. Consequently, the children and young people who can take part in the educational process and complete their studies satisfactorily are those whose parents' income levels are sufficiently high. When the majority of the student body is drawn only from a relatively small sector of the community, and not exactly on a basis of intellectual aptitude, the average level obviously does not represent that of the most talented pupils, and, as a rule, the average selection is far below the desirable standard. This state of affairs unquestionably helps to determine a low level of performance on the part of the student body and therefore of the whole educational system.

6. Operational efficiency of educational systems and productivity of resources applied

To the extra costs deriving from the above-mentioned disequilibria between the guiding principles and structure of educational systems on the one hand and development conditions and requirements on the other, must be added those existing at the level of the operational efficiency of the systems in question.

Many reports and studies on particular aspects of the problem show that a major proportion of the human, economic, technological and material resources applied in education are generally characterized by very low rates of productivity. The shortcomings in this field affect practically all the links and factors in the educational process. In many instances, the efficiency of the teaching and auxiliary personnel is undermined by lack of proper training, want of motivation or difficulties stemming from the administrative organization concerned. The curricula are usually unsatisfactory in content and orientation, and embody repetition, duplication
/of effort

of effort and inconsistencies that lead to a considerable waste of teaching activity. Current teaching methods often fail to incorporate new techniques based on scientific criteria and methods, and out-of-date textbooks and teaching material are still used. Premises and basic equipment (sometimes of inappropriate design) are put to only partial use for a single institution, programme or course, and no real grasp of the principle of economies of scale is shown. Administrative services are often unnecessarily duplicated, and, in addition, little attempt is made to keep their operational techniques up to date.

Some of these problems are apt to become more serious at the level of higher education, through duplication or inadequate co-ordination of research work, or dissipation of activities among teaching and research centres, housed in scattered premises; such conditions hinder the attainment of higher standards of efficiency in the use of human resources, and lead to under-utilization of laboratories, equipment, libraries and workshops.

In short, despite the substantial volume of resources earmarked for education and the vital importance of its role, this activity usually fails to keep pace with the striking advances achieved in respect of organization and increased productivity on other development fronts in Latin America.

It seems less relevant to the purposes of the present note to dwell on the enumeration of such factors and the evaluation of their effects - topics that require detailed study - than to investigate some of the general causes to which their existence may be ascribed. One of these is perhaps to be found in the widespread prevalence of certain attitudes towards current expenditure and investment for educational purposes.

Although inefficiency is by no means peculiar to the educational sector, since it is also observable in other activities, both public and private, it does seem to be intensified by the absence of a sense of economy or productivity in the operation of the educational services. The concept of education as an end in itself - unquestionably legitimate up to a point - is liable to beguile its adherents into repudiating all criteria for the measurement and evaluation of the system's operational results, and regarding expenditure on education as set apart by its very nature

/from anything

from anything to do with productivity. Hence it seems natural for financing to be granted to institutions and individuals on the sole condition that it be earmarked for educational activities of some kind or other, irrespective of reasonable standards of efficiency in its utilization.

This attitude becomes an important ingredient in the problem of financing education, inasmuch as it helps to prevent the educational systems themselves from doing what they can, by increasing their own internal efficiency, to bridge the gap between educational expansion requirements and the limited amount of resources available to meet them.

The attitude in question, which usually characterizes those discharging the various functions involved in the educational process, finds its counterpart - perhaps more marked and more widespread - in another, different in kind but similar in its effects, adopted by those who use the services. The tendency to accord expenditure on education a treatment so liberal that resources are allocated without any clearly-defined intention of recovering them leads the users of the services to feel themselves exempt from responsibility with regard to the efficiency of the system, both in so far as it depends upon their own activity and in respect of the indirect pressure for its improvement that they could exert. In this sense, a striking difference is noticeable, for example, in the case of expenditure on housing, which is usually recoverable, or in that of social security services, the provision of which is closely linked to the beneficiary's active participation in the production process. The intention underlying this comparison must be clearly understood. What is being advocated is not the establishment of a commitment, equally binding on all users of the educational services, to contribute directly to the defrayment of their costs, since this would be at variance with other considerations to which reference has frequently been made; all that is urged is recognition of the need for an attitude based on a thorough understanding of the problem and reflected in a disciplined sense of responsibility towards the educational system of which the beneficiaries form a part.

/At all

At all events, this phenomenon exerts an obvious influence on the productivity of educational systems and therefore on the economicity of allocations to education. Perhaps a change of attitude might result in the creation of a potential source of additional funds, through the institution or reinforcement of recovery mechanisms that would facilitate the expansion of such resources while at the same time introducing the necessary discrimination between families that could or could not afford to pay for education on their own account. As long as income distribution continues to show as high a degree of concentration as at present in most of the Latin American countries, the non-existence of any obligation to repay for those in a position to assume it deprives the State of a legitimate source of funds for the extension of the educational services themselves, and the indiscriminate provision of "free" education does not necessarily signify effective public action to promote income redistribution.

7. Strategy for the expansion of educational services in face of financing difficulties and development requirements

The foregoing comments on the nature and magnitude of the problem of financing for education and vocational training in Latin America would seem to lead to two conclusions that sum up the whole matter. In the first place, the problem stems essentially from the urgent need for a significant extension of general educational services to larger sectors of the population, and for the expansion and adaptation of professional, technical and skilled manpower training at all the various levels. Secondly, it becomes more complex and assumes more serious proportions as a result of the low level of operational efficiency and the basic structural maladjustments which characterize the services, and are reflected in waste of resources and extra costs, thus detracting from the productivity of the funds allocated to education.

Up to a point, and particularly where wealthy countries are concerned, these two aspects of the problem can be separately defined and tackled. But in the specific case of Latin America, owing to the general shortage of financial resources, the satisfaction of the first requirement is inextricably linked to achievements in the second field. What is more, any effort that

/might be

might be made to augment the available funds would be largely offset by the constant and systematic drain on these resources involved in the unsuitable orientation and low operational efficiency of the educational systems.

Accordingly, it is not enough to base proposed solutions for the educational financing problem on a substantial increase in current allocations. This would be an unrealistic approach in view of the over-all framework of the Latin American economy and the manifold demands that have their origin in every sector of activity and in the various forms of social aspiration. Moreover, in a good many countries the allocations in question have already come to represent significant proportions of total national income and public expenditure, with no consequent development of efficient educational services adapted to the needs of contemporary society. The consequence may be the saturation of specific occupational markets with contingents of graduates who cannot find work suited to their qualifications, and are compelled either to tie themselves down to petty and frustrating administrative jobs or to emigrate to the international labour market; while in the very countries concerned there is a serious lack of specialists in other branches of activity, and particularly of intermediate-level technicians and highly skilled manpower.

It would be difficult to devise entirely satisfactory solutions for the problem of the basic incompatibility between the aim of substantially and rapidly improving educational levels and the limited resources available for its fulfilment, which at the same time would take due account of the requirements of development itself. But at least it seems clear that the approach adopted must be different from the traditional "strategy", and that a transitional or emergency period must be envisaged, during which standards would be accepted for utilization of funds, education and training patterns, and modes of contributing to financial requirements, that might not be desirable on a permanent basis but could be applied as long as the economic situation was inadequate for the maintenance of systems similar in structure and operation to those of more developed countries.

/It seems

It seems advisable for this strategy to be based essentially on three components, inter alia:

1. Introduction of the structural reforms required to bring the educational services more closely into line with development levels and requirements;
2. Thorough overhauling of the technical operation of the educational and vocational-training system, with a view to the rapid improvement of its productivity; and
3. Establishment of an organic system of mobilization of resources for educational development, linking up and drawing in all politico-administrative, economic and social sectors.

(a) Structural reforms in educational systems

The chief points substantiating the first of these recommendations have been discussed in the preceding sections. In the last analysis, what is needed is to define the appropriate expansion of the general educational and cultural services to be offered by the educational system, and of the facilities for basic and advanced training of the professionals, technical personnel and skilled labour that the production system and social progress require and upon whom development depends.

From what has already been said, deductions can be drawn as to the direction that should be taken by changes in the traditional structure of the educational services. In the first place, these services have not sufficed to guarantee the whole population a minimum level of general education; secondly, they have been channelled along such lines that general education is extended to increasingly advanced levels of the educational system - at which a dwindling proportion of the school-age population is being served - irrespective of the stage of economic development reached or of direct vocational training requirements; thirdly, vocational training as a whole seems to be lagging behind general education and development needs alike; and fourthly, there is a persistent tendency in vocational education to lay too much emphasis on certain traditional specialities which entail long periods of training. All this gives rise to marked disequilibria between what have been described as the infrastructure and the superstructure of

/education, and

education, and in the internal composition of each of these. The restoration of a proper balance would be an element of vital importance in a new educational strategy.

Hence specific criteria must be suggested for establishing an order of precedence among major educational targets, and, in consequence, priorities in the use of allocations. For example, certain minimum targets might be adopted, some for the infrastructure and others for the superstructure, which would determine the minimum amount of resources, in absolute figures, that should be allocated to general and vocational education at the various levels.

In institutional terms, this would imply, in the first place, the establishment of minimum targets for primary education in accordance with each country's views on the groundwork indispensable for the cultural development of its population. In the case of general secondary education, on the other hand, the minimum targets would be determined by the secondary-level "inputs" which are essential for the preparation of pupils who are to continue their vocational training at higher levels. Of course, these minimum targets must not be interpreted as setting limits to the educational effort; their adoption does not rule out the possibility of extensions which are unquestionably desirable, although they may not be indispensable in the existing framework of economic and social conditions in a given community. The scope of the additional effort will depend in each case on the economy's capacity to provide the necessary resources. This, incidentally, is consistent with the need for flexibility in defining objectives, which are usually established for Latin America as a whole, although the countries of the region differ substantially in stages of development and income levels.

Much the same is true of basic and advanced vocational training. The minimum targets would correspond to the provision of enough skilled manpower, in both quantitative and qualitative terms, to eliminate the bottlenecks created by the shortage of qualified personnel in categories of strategic importance for economic and social development, in existing conditions. Failure to make effective progress towards minimum objectives implies the presence of a stagnation factor in various fields of national economic and social life, and generates economic losses through inadequate or inefficient utilization of the stock of productive capital.

/Achievements over

Achievements over and above the minimum requirements in respect of qualified personnel may make for an optimum supply of skills, which will facilitate the future acceleration of the growth rate, within the existing framework of material resources, to the point warranted by the real situation of the country concerned.

Needless to say, many difficulties are likely to be encountered in the practical application of criteria of this kind. A case in point would be the definition of the "minimum" and "optimum" vocational training programmes suited to each country's development level, characteristics and prospects. Several of the traditional ideas which formerly constituted the sole basis for the formulation of vocational education plans and the allocation of the corresponding resources are no longer in keeping with the requirements of a modern occupational structure, given the evolution of new educational concepts relating to new callings, the metamorphosis of traditional occupations, and the emergence of up-to-date vocational training techniques, characterized by the use of new teaching media and by the expansion of extra-mural and informal educational activities.

The problem of the distinction between the infrastructure and the superstructure of the educational system is further complicated by the inevitable overlapping attributable to two factors: tendency to include vocational subjects in general education in the later years of the primary cycle; and the frequency with which vocational training curricula at the secondary level incorporate a good deal of general education, directed towards all-round cultural development, and thus partly discharge the role incumbent upon general secondary education.

This latter situation is not only tolerable but highly desirable as a means of ensuring that technically-qualified personnel attain a reasonable standard of general culture. But the same cannot be said of the noteworthy imbalance in the content of certain branches of university education between general subjects and what can be regarded as professional training proper. In some university faculties the disequilibrium is so markedly unfavourable to the teaching of modern vocational techniques and instrumental skills, that in practice these

/higher studies

higher studies are only semi-professional, reaching the point at which their predominant features are characteristic of general education at the university level, rather than of professional training.

In financial terms, the sums expended on this aspect of the educational profile may appear incommensurate with the capacity of communities which are unable to make adequate provision for primary education, and cannot afford to expand their strictly vocational educational services either for boys and girls or for adults. No less significant are the disequilibria within vocational education itself. A particularly noticeable feature is the relatively intensive development of university training for certain professions that enjoy high social prestige, over against the unduly feeble growth of vocational education at the intermediate levels. Similarly, vocational training for highly-skilled operatives and skilled labour in general is comparatively underdeveloped, although in recent years great headway has been made in this field, mainly through systems of informal education.

These maladjustments in vocational training would be still more patent if each of the major occupational specialities were separately subjected to meticulous analysis. A marked imbalance would then be noted between training in the traditional trades and professions and preparation for those modern activities which are linked to the latest advances of science and technology. Broadly speaking, Latin America is lagging far behind as regards the training of qualified personnel at the various levels in specialities that are particularly necessary to meet the requirements of economic and social development, a state of affairs that throws into relief the incompatibility between the occupational and the economic structures.

This incompatibility can be seen not only in faulty structural co-ordination between the general and vocational education systems, but also in the discordance between curricula and in their content. The inevitable waste caused by all these manifestations of incompatibility is reflected, in the last analysis, in a disproportionate expenditure of energy and funds on certain branches of education and in inefficiency at the more advanced stages, which are not based on a sufficiently solid educational groundwork, despite the apparent over-development of general secondary education.

/(b) Technical

(b) Technical operation of educational services

Compliance with the recommendations implicit in the foregoing paragraphs would ensure that the resources allocated to education yielded much more satisfactory returns from the standpoint of the economic and social demands of the community as a whole. But far from curbing the growth of financing requirements, such an effort to adapt the educational services to real conditions in Latin America would in all probability increase these requirements in absolute terms. Hence attention must be much more closely concentrated on efficiency in the internal operation of the educational services.

In its turn, an improvement in the productivity of the resources currently mobilized essentially depends upon the Latin American countries' determination and ability to introduce substantial reforms throughout the entire operational machinery of the educational system; for the low levels of operational efficiency do not represent the fortuitous effects of certain isolated phases of the education process, but are rather imputable to the actual lines on which the educational services are conceived.

The operation of the system should be based on clear awareness of the fact that, owing to the financing difficulties noted above, the problem of expanding the educational services must be solved essentially by increasing the productivity of the resources currently applied, human, economic and politico-administrative alike.

The first step in translating such an attitude into terms of practical action might perhaps be to reorganize the Ministries of Education themselves, together with the whole body of educational and para-educational institutions, with a view to raising their level of operational efficiency. An important aspect of this reorganization would certainly consist in overhauling the budget and the management of funds in general so that it would be easier to relate them directly to development priorities and needs and to establish a clear distinction between capital outlays and current and administrative expenditure. A useful adjunct would be a series of criteria and indicators for measuring the productivity of investment in terms of the quantity and quality of school-leavers and graduates, as a basis for educational investment policy.

/The application

The application of an emergency criterion for the utilization of resources, combined with recognition of the need for a transitional period during which stop-gap solutions would be required, unquestionably calls for efforts to define and promote undertakings of widely varying kinds. It is outside the scope of the present note to enter upon detailed discussion of this topic, which would involve, moreover, the adoption of an imaginative approach to each individual case; the most that can be attempted is to suggest a few possibilities for purely illustrative purposes.

For example, even a superficial evaluation of the current productivity of premises, equipment and other inputs warrants the assumption that various procedures for their more intensive utilization would be viable, and would facilitate the task of supplying the deficit in this field, especially in the urban areas. Furthermore, there seem to be plenty of possibilities of adapting and utilizing certain marginal resources, especially if the organized participation of the community can be counted on. The region can show many examples of schools whose construction and organization were the direct outcome of community initiative and effort, and exemplify patterns of action that might serve as the basis of a new strategy to mobilize resources for education.

Again, the nature and scale of the operations of educational services at the national level afford ample opportunities for the introduction of high-productivity techniques. For instance, large-scale production of textbooks, teaching material and equipment might substantially reduce costs. In such field as this, Mexico has been carrying out a noteworthy experiment in the construction of prefabricated classroom accommodation and in the preparation of textbooks and other teaching material, which may constitute an interesting object lesson for all the countries of the region.

At the level of human resources, too, prospects of improving performance are opened up by the introduction of modern information techniques. Through the rational use of closed-circuit television and of radio schools, the quality of the teaching provided might be raised to a much higher standard, and the productivity of specialist teachers increased. Something similar might be achieved, for certain purposes, through correspondence courses.

/(c) New

(c) New sources of financing for education

The idea of temporary or emergency solutions to reduce the structural incompatibilities between educational expansion aims and needs and the funds available to meet them does not embrace only measures to increase the productivity of the educational system, but may also be extended to the tapping of new internal sources of funds or the strengthening of those that have already begun to make a contribution. As in the former case, the subject is one that calls for research, and the most that can be considered appropriate here is to make a few illustrative suggestions, connected, for example, with the role of the entrepreneurial sector and with self-financing in the higher cycles of education.

The active participation of entrepreneurs in the financing of vocational and skilled-manpower training programmes is fully justified by their twofold role as consumers and beneficiaries of much of the product of these activities and as possessors of some of the equipment and personnel that could be turned to account for instruction purposes. Such an expedient might afford an emergency solution until the public sector is in a position to shoulder the whole burden more efficiently; for example, comprehensive programmes could be organized under the joint auspices of the State and the entrepreneurs, within the framework of each sector of production and on the basis of the specific requirements of the production system.

With regard to self-financing at the higher levels of education, certain types of properly-regulated programmes of combined work and study might be envisaged as a means of enabling young people and adults to defray the costs of such courses with their own earnings. This is particularly feasible in the intermediate and higher cycles, especially if evening classes and night schools are available. A variant might be the establishment of a system of medium- and long-term loans, repayable as soon as the beneficiaries had completed their studies and were incorporated into the production process.

Both these alternative possibilities would appear to be viable in existing conditions in Latin America. A detailed analysis of the situation of university students coming from the lower-income strata reveals that a

/great majority

great majority undertake gainful employment to finance their studies, either by studying and working in alternate years, or by doing part-time jobs which enable them to comply with the minimum attendance requisites for the courses they are taking. As regards the second possibility, a case in point is the Institute for Training Abroad (Instituto de Capacitación en el Exterior - ICETEX) in Colombia, which has operated for over ten years as a bank which finances specialized studies in vocational fields that are of importance for national development, on a basis of regular amortization payments upon completion of the studies concerned.

Lastly, the community as a whole could be drawn into closer contact with the process of mobilizing resources, through assistance in the building and organization of schools and in the upkeep or conservation of school premises. Community construction of educational premises has been habitually undertaken in a number of countries for several years past, particularly through the Community Action (Acción Comunal) and Popular Co-operation (Cooperación Popular) programmes in Colombia and Peru respectively; and in Argentina, participation in the maintenance and running of schools through the "co-operative councils" ("Juntas cooperadoras") has been an established practice for many years.

In this same context, particular importance attaches to the organization and extension of extra-mural and informal educational activities. The consolidation of broad national systems of such services would make it easier to channel concerted efforts on the part of young people and adults, interested entrepreneurs and the government. These systems could be run parallel to the productive activities, making use partly of the workshops and other facilities pertaining to the production system itself, and partly also of the equipment and premises of the ordinary educational services. The entrepreneurs could play their part by authorizing the use of some of their plant and equipment and providing instructors, while the State could act as promoter and organizer of the system. In essence, it would be a matter of extending in-service training throughout the most important sectors of production. The systems could be organized operated through these various sectors, with the collaboration of the trade unions and the government.

/The idea

The idea of a concerted effort on the part of the entrepreneurs, the workers and the State is not a new one in Latin America. As is common knowledge, the National Apprenticeship Service (Servicio Nacional de Aprendizaje - SENA) in Colombia, the National Industrial Apprenticeship Service (Serviço Nacional de Aprendizagem Industrial - SENAI) and the National Commercial Apprenticeship Service (Serviço Nacional de Aprendizagem Comercial - SENAC) in Brazil, the National Institute for Educational Co-operation (Instituto Nacional de Cooperación Educativa - INCE) in Venezuela, the National Industrial Apprenticeship and Employment Service (Servicio Nacional de Aprendizaje y Trabajo Industrial - SENATI) in Peru, and, in Chile, the Technical Co-operation Service (Servicio de Cooperación Técnica) of which a recent offshoot is the National Institute for Vocational Training (Instituto Nacional de Capacitación Profesional - INCAP), have been successfully operating for several years in the field of manpower training. What is now required is to step up the efforts that are already being made and ensure their systematic extension to the major sectors and levels of production.

As regards the training of intermediate- and higher-level technicians, consideration might be given to another emergency measure in the shape of evening classes and night schools for young people and adults who have already joined the labour force, and who could thus pay their own way, while at the same time the economy would not be deprived of productive personnel. This would of course entail substantial lengthening of the duration of each educational cycle, and full adaptation of the curricula concerned to the special circumstances of the student-workers. Thus, cycles that cover three years in the regular educational system could be completed in four or five years, and many eminently theoretical features of the formal educational services could be given a more practical bias. The working day might also have to undergo some modification, and employers might have to grant certain concessions to participants in this educational service, particularly during examinations and periods of special practice.

/By these

By these means, a comprehensive system of informal educational services consistent with the beneficiaries' daily work could be progressively brought into operation, so that young people and adults could pursue their vocational training on systematic and continuing lines, in accordance with their own ability and with national production requirements.

To sum up, the launching of such undertakings as are suggested in the foregoing sections, as well as of others that might be proposed, basically depends upon a change of attitude to education on the part of both the State and the community. It is worth while to stress, however, that the incompatibilities noted do not derive merely from operational difficulties, but, essentially, from the traditional ideas and motivations underlying the whole of the educational system. It may therefore be assumed that until the basis of action is a clear understanding of the need to remedy this state of affairs, such innovations and improvements as may be introduced will not be sufficiently sweeping and efficacious for the attainment of the objectives pursued.

