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# **El Salvador Education Sector Analysis**

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## **Executive Summary - Part II**



**December 1, 1977**

**Agency for International Development  
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BEST AVAILABLE

El Salvador Education Sector Analysis

Executive Summary  
(Part II)

and

Status Report

by

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December 1, 1977

Agency for International Development

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## Status of the El Salvador Education Sector Analysis:

December 1, 1977

(Executive Summary)

### I. Introduction

The September 1 report on the access to, and the efficiency of, basic education, summarized the main findings and policy implications of Analytical Working Documents No.'s 1 through 10. This December 1 report is based on Analytical Working Documents (AWDs) No.'s 11 through 14, and on findings concerning relevance, based on four surveys carried out by the GOES and analyzed by Harvard University. The full description and explanation of feasible combinations of efficiency, access and relevance targets, from 1982 to 2202, will appear in Analytical Working Document No. 15.

### II. Findings and Policy Implications Concerning the Access, Efficiency and Relevance of Education and Training

#### A. Kindergarten

On the assumption that the provision of Kindergarten will help children adjust to the first grade and reduce repetition and dropout, Saturday-Morning Kindergarten was developed and introduced in the rural areas. There are two large cost advantages in Saturday Morning Kindergarten: 1) use of Basic Education buildings involves no additional capital costs; 2) use of Basic Education teachers who receive a salary supplement lowers the per student operating cost. The per-student operating cost for public Kindertarten in 1974 was ¢93.3, almost six times the Saturday-Morning Kindergarten cost of ¢17.2.

Public Regular Kindergarten enrollment would be increased very slightly over the next 25 years, from 27,879 in 1974 to only 40,000 in 2002. Public Saturday-Morning Kindergarten would increase from 2,063 to 104,000 in the urban zone and from 3,284 to 143,000 in the rural zone. The total public Saturday morning Kindergarten enrollment of 247,000 would represent the entire six-year old national population 2002. Enrollment in Regular Kindergarten, both public and private, would represent a portion of the five-year olds. At 1976 constant prices the 2002 operating costs for public Kindergarten would be about ¢9 million, an estimate that would constitute,

in turn, about 1.5% of the estimated public education budget for the final target year. Thus, providing universal Saturday-Morning Kindergarten by 2002 for all 6-year olds would consume a smaller percentage of the 2002 public education budget than is presently employed in providing Regular and Saturday-Morning Kindergarten to an enrollment representing around 26% of today's 6-year olds.

B. Basic Education (Grades 1-9)

1. Access

(See Sept. 1 Executive Summary)

2. Efficiency

(See Sept. 1 Executive Summary)

3. Relevance

The relatively high overall scores on the National Achievement Exams for the grades 2, 3, 5, 6, 8 and 9, in both urban and rural areas are indicators that learning is taking place in both zones. These indicate that the reformed curriculum of 1971 has a sufficient relevance to, i.e., sufficient continuity with, non-school experience for the learning to take place. This does not mean that the curriculum is perfect and that improvements cannot be made. An examination of test items identified the subject (Mathematics), and areas in other subjects that are in most need of attention. But the common statement that "the curriculum is irrelevant" must be flatly rejected in the case of El Salvador.

The fact that basic language and number skills are obtained with six grades of schooling has great bearing for policy aimed at preventing illiteracy from growing. Under the analysis, it is estimated that there are roughly 1½ million illiterate adults. The analysis has offered conclusive evidence that a six-grade schooling opportunity has been denied to the great majority of rural residents, and that rural residents who are offered this schooling master the subjects taught. Obviously, one way to assure literacy among future generations is by providing them with at least six grades of schooling.

The widespread poverty of El Salvador is partially indicated by the 1975 distribution of monthly earnings of the economically active population: 23% earned \$4-\$20; 15% earned \$24-\$32; 22% earned \$36-\$48; 20% earned \$48-\$80; 10% earned \$84-\$120; and only 10% earned over \$120. What effect would an elimination of the rural schooling insufficiency, and an equalizing of educational opportunities have on poverty?

The amount of \$48 can be taken as a cut-off point to see what percentages of 7,963 economically active individuals classified by different levels of schooling attainment had earnings of \$4 to \$48: a) 2,702 had 0 or 1 year of schooling, with 84% of these individuals earning between \$4 and \$48; b) 2,377 had 2-5 years of schooling, with 69% earning \$4-\$48; c) 1,615 had 6-8 years of schooling, with 46% earning \$4-\$48; d) 690 had 9-11 years of schooling, with 17% earning \$4-\$48; e) 463 had 12-14 years of schooling, with 4% earning \$4-\$48; f) 116 had 15 or more years of schooling, with 1% earning \$4-\$48.

If we take these same schooling attainment groups (a) to (f) and indicate the percentage that earned \$48-\$120 and the percentage that earned over \$124, the following percentages are obtained: a) 17% and 3%; b) 27% and 4%; c) 46% and 8%; d) 52% and 31%; e) 45% and 51%; f) 4% and 95%.

Of course, other significant factors, such as residence, sex, family, status and income, accompany the different schooling attainment levels and play their part in determining earnings. Multiple step-wise regression and path analysis were among the techniques used by Harvard to attempt to disentangle and quantify the impact of different factors. It is significant that in aggregate terms the estimated relationship between schooling level and earnings is weaker in the rural than in the urban area. This may reflect two phenomena: 1) the smaller range of earnings in the rural zone where landless laborers apparently predominate (agricultural owners are only 12% of the economically active); 2) concentration in the rural area of the 2,873 working dependents in the analyzed sample of 10,526 economically active individuals, for almost half of the working dependents did not receive earnings. The statistical association between education and fertility in El Salvador is as follows:

Per 1000 women of fertile age with: a) 0-3 years of schooling, 230 live births; b) 4-6 years, 175 births; c) some secondary school, 110 births. Under the path analysis it was concluded that analysis of "the one social and economic variable which seems to affect fertility is educational attainment." Neither employment status, nor rural residence, as such, have a significant relation.

### C. High School

#### 1. Access

From 1960 to 1976 high school enrollment increased at a 13% annual growth rate, with the private schools maintaining slightly more than  $\frac{1}{2}$  the enrollment throughout the sixteen year period. Although the 1976 enrollment represented about 15% of the school-age population, as compared with 6% in 1961, the distribution among departments has been highly unequal: enrollment in the Department of San Salvador represents 42% of the school-age population; the next highest department has 20%, followed by four departments with 18% to 11%, followed by seven departments with 8% to 4%.

A basic policy issue confronting the Ministry is determining which specializations to expand and which not to expand. As recently as 1975, College Preparatory and Commerce and Administration still accounted for 91% of the enrollment (57% and 34% respectively). This was followed by the three more traditional specializations: Industry (4%), Agriculture (2%), Teaching, i.e., preparation of Basic Education teachers (1%). The remaining specializations have all been introduced by the Reform initiated in 1970 (Health, Inn Keeping and Tourism, Navigation and Fishing, Arts, and Vocational Crafts), each one with less than 1% of matriculation. Since the relative "costs" and "benefits" of these specializations, is of central importance for planning, findings that bear on these matters will be examined in the efficiency and relevance sections below.

## 2. Efficiency

Measurement of educational results, using the final 12th grade national exam in Humanities and another one in Science taken by over 4,000 public school students and over 4,000 private school students, showed no significant difference between the public and private students. The comparatively few whole-day students had lower scores than morning only and afternoon only students.

Data insufficiencies prevented satisfactory estimation of both repetition and dropout, although a crude, one-year estimate of the latter is around 17%. The most significant finding concerning operating per student cost is that the public school cost appears to be considerably higher than the private, even when the more costly specialized high schools are excluded. This has highlighted the need for detailed accounting of costs so that the Ministry can exercise control over costs -- an urgent need in view of the large-scale expansion of high school that is bound to take place as a result of increases at lower levels. Savings on the capital side can be realized through fuller utilization of public high school buildings, most of which are utilized half-day.

The high per student costs of the new specializations suggests that these programs should not be expanded without evidence that their present unit costs can be reduced, and that they possess greater relevance in terms of employment and earnings than has been demonstrated to date.

## 3. Relevance

Assessment of relevance was based on a tracer or follow-up survey of High School graduates, utilizing a 770 sample of the 1974 graduating class of 13,100 students, including the first batch of graduates from the new specialized programs. The distribution of graduates by specialization was roughly as follows: college preparatory - 23%; commerce - 16%; industry - 21%; others, 5-8% each. Most of the heads of households to which these students belong earned less than \$160 per month and 56% had not completed primary. The graduates were interviewed in November, 1975, one year after leaving school.

What were the graduates doing in November, 1975? Working - 37%, studying - 23%; working and studying - 19%; looking for a job - 9%; inactive - 11%.

Commerce, Arts, Pedagogy and Vocational had the strongest ties to work, with an average of 50% employed. College preparatory, Industry, Inn-Keeping and Tourism, and Health had stronger links to study with less than 30% employed. Employment after High School graduation was also more likely for students who worked during High School (one-third of the graduates had some practical work in firms as part of their program), and more likely for students who were married and presumably from lower-income families.

The main policy implication is that specialized High Schools (Industry, Inn-Keeping and Health) are not necessarily terminal (graduates do not necessarily go into the labor market). Since they generally represent higher per student costs, a tracer study of them should be maintained for the purpose of determining if this higher cost is justified, either as preparation for a specialized occupation, or because they lead to better performance in a specialized university program. Salaries of employed graduates were registered for January and September, 1975, averaging C200 and C 235 respectively. The two most important factors affecting the salaries of men appear to have been family income (a reflection of the effect of class structure on employment) and a practicum or a field experience during high school. The three most important factors affecting the salaries of women graduates appear to be age, marital status, and practicum. Employers apparently looked favorably upon the High School working experience of the 1974 graduating class but were indifferent to its field or content. It seems reasonable to conclude that the recent specializations should not be expanded unless new evidence emerges which is more favorable than the evidence gathered to date.

## D. Higher Education

### 1. Access

The analysis of higher education in El Salvador has revealed that entry into higher education institutions is at a level that can be considered satisfactory, even high, whereas the overall efficiency and relevance of higher education are at levels that must be viewed as low and unsatisfactory. Demand has risen over the last 16 years, enrollment increasing from 2,229 in 1960 to 29,344 in 1976 -- an annual growth rate of 17%. An examination of the rate of transition or absorption of high school graduates indicated that the acceleration of demand is comparatively recent: the yearly average for 1966-70 was 38%; and 96% for 1970-75.

When the facts described above are viewed in a broader context which includes the comparative efficiency of these technical institutions and the problems of inefficiency and irrelevance faced by the National University, two major conclusions emerge. First, El Salvador has a fairly large assortment of post-secondary 2-3 year technical training entities which appear to be appropriate institutions for absorbing a significant portion of the high school graduates that do not enter the labor market. Second, the fact that only 7% of the higher education enrollment has been absorbed by these institutions strongly suggests that the possibility of increasing enrollment in these institutions should be carefully assessed.

The social demand for access to higher education is not likely to diminish. Even if the rate of transition from high school goes down, the absolute amounts of high school graduates demanding higher education is bound to increase greatly as a result both of the population growth and increases in the transition rates at the lower levels of education. There is an obvious need to anticipate this increase in demand, and to prepare plans for channeling larger proportions of high school graduates away from the university and into the shorter-term, more relevant and more efficient specializations of the technical institutes.

## 2. Efficiency

The cost data available at the University and obtained by ODEPOR reveals considerable variations in unit costs among faculties. However, because of information gaps and a lack of disaggregate data, it was not possible to explain these variations in costs and to identify the areas of waste and the more inefficient procedures. A similar lack of disaggregate data on dropout made it impossible to locate this dropout in terms of faculties and specializations or programs. Obviously, to analyze and solve the problem of dropout in the University, a first step is determining where this dropout is taking place. A very rough global estimate for 1966-76 can be made as follows. The 3,816 graduates recorded during this period represent 29% of the 1960-70 entrants into the university. In other words, the dropout for this ten-year cohort of entrants can be estimated as 71%. If the 1,864 graduates of 1972-76 are divided by the 8,355 new entrants of 1966-70, we obtain a graduation rate of 22%, or a dropout rate of 78%, for this more recent period.

During the last three years national revenues have been 14 to 15% of GDP; public education represents 25% of national revenues; and higher education 25% of public education. Only ten years ago, the higher education share was around 10%. Obviously, increasing the efficiency and relevance of higher education has become a task of crucial importance.

The full-time equivalent per student operating cost for 1976 ranges greatly among the eight faculties with a low of \$352 yearly in the School of Business and Economics to a high of \$2,114 yearly in the School of Agronomy.

The present lack of tabulations concerning entrants, matriculants, repeaters and dropouts by department and by program or specialization stands in the way of effective cost accounting and subsequent cost control. In sum, more detailed data will be needed to carry out the essential management task of increasing the efficiency of the National University through reductions in unit costs and in dropout rates.

### 3. Relevance

According to the 1975 CONAPLAN survey there were about 30,900 individuals, not currently studying, with some higher education. Of these 22,567 were economically active. This represented about 2% of the labor force. There were 7,333 individuals with more than four years of higher education. These were classified as "professionals". They constituted about 0.7% of the economically active population. There were 15,034 individuals with less than four years of higher education, and these were classified as "higher-level technicians". Since the technical institutes have been established fairly recently, and since they now represent only 7% of higher education enrollment, it is obvious that most of the persons classified as "higher-level technicians" were previously university dropouts of one kind or another. Using the CONAPLAN nine economic sector breakdown, and the Central Reserve Bank 1976-82 growth rate targets for these sectors, estimates were made of 1982 high-level manpower requirements. These estimates had to be based on assumptions that are so crude, I will not specify them here.

A much clearer and more disaggregate picture can be obtained on the side of supply. A first and obvious anomaly lies in the fact that the technical institutes with only 7% of higher education enrollment appear to be producing a larger number of graduates each year than the National University with 82% of the enrollment (the Catholic University has the remaining 11%). For example, in 1973 the National University graduated 302 students, whereas the larger four of the 11 technical institutes graduated 390 students. Unfortunately, graduation statistics for the 11 institutes was not obtained for 1973 or for subsequent years, but it seems likely that the level of graduates was over 400, whereas the graduates from the National University were as follows: 1974-482; 1975-352; 1976-398.

This inefficiency of the National University in producing graduates is particularly alarming when viewed in the light of the resources allocated to it. In 1976, the total amount of funds utilized for public education operating expenses was 149,611,832. (\$1 = 2.50) Of this amount, 31,090,560 represented the transfer to the National University utilized for its operating expenses. Although the National University spent 20.8% of the total operating funds, it produced only 398 graduates.

Conceivably, problems of relevance are in part creating these problems of inefficiency. Are students entering the careers or specializations for which they are best suited? Is the distribution of entrants among specializations relevant? Does it correspond to national and individual needs? Is the distribution between the longer and presumably more difficult specializations and the shorter and presumably less difficult specializations the appropriate one?

After examining the 1975 distribution of the enrollment, classified in terms of seven areas, one is tempted to give a negative reply to every one of these questions. And it is significant that specialization pattern that is, broadly speaking, irrelevant is associated with an extremely high rate of overall dropout. This points to relations that should be explored.

The present pattern of enrollment and specialization in the National University of El Salvador appears to be a reflection of uninformed student choice. Students are not enrolling in academic programs which they have a reasonable probability of completing. These academic programs are not preparing students for interesting, useful and remunerative employment. Students are continuously undergoing the frustration of unrealized expectations. This frustration often leads to violent protests which place new obstacles in the way of rational solutions. It is common knowledge that improving the planning and management of the universities is a complicated task. However, it is not as commonly known that one of the conditions for this improvement is a continuous analytical process which identifies, quantifies and explains defects and deficiencies.

E. Out of School or Non-Formal Education and Training (NFE)

1. Access

Six "sources" were utilized under this analysis for carrying out what is clearly a very partial and preliminary review of NFE. Four of these sources were studies carried out by the State University of California at San Jose under the guidance of ODEPOR, and embodied in documents dated February, 1975. Two of the original sources were surveys carried out for this analysis under the direction of ODEPOR. These were a survey of workers and employers concerning training, conceived and in large part designed by the ODEPOR Director, Carlos Heymans, and a survey of citizens concerning their preferences for NFE programs designed mainly by ODEPOR analysts.

One of the San Jose documents is dedicated mainly to a review of the MOE programs. Although the document in question describes nine GOES NFE programs, and makes certain judgements about their comparative merits, the author points to the insufficiency of data. There is apparently not enough data for making firmly grounded judgments as to whether any given program should be expanded, maintained or phased out.

Review of the available information on other major public and private programs leads to conclusions that are similar to those that followed the review of the diversified programs at the level of high school and higher education. The great diversity of institutions and programs should be recognized as a highly desirable development. The identification of a very large assortment of skills training to marginal groups has led to the establishment of many institutions and/or programs for covering or addressing these needs.

Are the more basic NFE needs addressed? Is the coverage or access adequate? Are the programs effective and efficient? Are total public resources properly allocated among programs?

The difficulties confronted in answering these questions should be surprising to no one. No nation, developed or developing, can provide fully satisfactory answers. And yet, if NFE is to expand in the LDCs, better criteria will be needed for determining needs and designing programs, and for assessing the access, efficiency and relevance of ongoing activities.

Conceivably, improvements in NFE data collection should begin with the large-scale public sector programs, with emphasis on data bearing on coverage, cost, and the successful completion of programs. But whatever priorities and sequences are established, it is clear that if a comprehensive NFE policy is desired, a national or central depository for the storage, retrieval and dissemination of NFE information is an inescapable need.

Thus, any measurement of present NFE access or coverage must be rudimentary at best. The Harvard analysis of the workers-employers survey which had over-representation of industry and under-representation of farms, suggests that almost all workers (about 1,500 interviewed) and employers in firms believed they had received or given "employment training." but that a very large part of this was simply supervision on the job: of all the workers, 91% said they had had "work-experience training." On the other hand, of all the workers, 29% said they had received job rotation "training;" 26% had participated in courses; 12% in conferences; and 6% in seminars. Eighty percent of the "training" was on company premises; 20% outside. The "trained" employees were classified as follows: a) professional and top management, 22%; b) white collar workers, 23%; c) skilled and semi-skilled workers, 20%; d) unskilled workers, 36%.

Perhaps the most significant finding concerning the amount or duration of access or training that employees in the firms received is the fact that it is highly correlated with education. The more education employees had, the more training they were likely to receive.

Data on need for, and participation or enrollment in, the MOE large-scale NFE programs, focused on skills training and the development of broader social capabilities, are woefully inadequate. This is also true of the 12 major and very different NFE programs, such as Fe y Alegria, Insafocoop, Universidad Campesina, etc..

## 2. Efficiency

Measurements and comparisons of the efficiencies of the many NFE programs will obviously require major efforts in the area of data collection, processing and analysis. It will be necessary to obtain information about the programs' total cost, and to estimate per-student costs, taking the duration of programs into account. Some assessment of educational and training results through judicious sampling would also be desirable.

## 3. Relevance

Analysis of the workers-employers survey indicated that employers, particularly in the large firms, were more interested in providing training to skilled and unskilled workers in what were classed as the social skills (the spirit of cooperation and service, loyalty to the firm, dedication to work, etc.) than in perceptual-dexterity skills. Skilled and unskilled workers were provided more training than white collar employees and professional-management with surprising emphasis on the social skills just mentioned. Indeed, insofar as the acquisition of skills were rewarded by raises (and the analysis itself casts doubt as to whether the connection can be conclusively demonstrated), it was the acquisition of social and relationship skills which seemed most likely to be rewarded by these raises, and the acquisition of clerical and analytical skills the least likely to be so rewarded. Apparently, employers realize that harmony in the plant and manual dexterity on the machines is important for productivity. That analytical skills can improve planning and management which will lead, in turn, to productivity increases, may be less obvious to employers in developing countries. In this area many employers may need a certain amount of education and guidance.

Were the firm-level training programs relevant? Did they increase productivity?

The most simply tabulated results were as follows: a) 30% acquired new skills and got raises; b) 13% did not acquire skills and got raises; c) 36% acquired new skills and got no raises; d) 21% did not acquire skills and did not get raises. At first sight it does not seem possible to claim a relationship between skill acquisition and raises. After application of regression and path analysis techniques it was still impossible to claim the relationship.

"If one had a great deal of confidence in the Raise measure (which we do not) the conclusion would be that training and learning are not particularly relevant for increases in productivity. The other possibility is to doubt the Raise as a productivity proxy."

Under the Audiencia survey, over 7000 individuals were asked 88 questions about:

- 1) their present knowledge of subjects in various areas;
- 2) their desire for more information; 3) their access to, and preferences for, the mass media that might be utilized to convey this information. Respondents were asked if they had "much, little or no desire for information" concerning the different subjects. "Much, little and no" were scored as 1, 2 and 3 respectively.

Although sampling and questionnaire problems made findings less generalizable, varied and detailed than originally hoped and expected, some of these may be useful for designing NFE programs. In general, the respondents felt they had "little" to "no" knowledge of the fifteen subjects (overall mean, 2.351). In general, the demand or desire for this knowledge is high (overall mean, 1.677).

The respondents claimed to possess greatest knowledge about food and nutrition, preventive medicine, home economics, spectator and participative sports. The three subjects for which there was greatest demand were food and nutrition, preventive medicine and diseases and illnesses.

With respect to media, over 75% of the respondents had access to radio, newspaper and mail, and over 95% had access to radio. Over 50% had access to telephone, TV, magazines, and newspapers in that order. With respect to institutional access, 92% had access to schools, 89% to public address vehicles, and 75% to hospital health units.

Over 80% of the respondents made TV and radio their first choice for receiving NFE. Libraries, religious organizations and local authorities were the first institutional choice for 65% of the respondents. It is significant that schools were not ranked first by a single one of these adult respondents.

III. Education and Training Targets: 1982-2002

To estimate the feasible schooling attainment targets for the final years of El Salvador's five-year planning periods -- 1982, 1987, 1992, and 2002 -- it was necessary to estimate the funds available for ten Ministry of Education activities. Five of these are referred to as "the non-linked activities", and five are the schooling activities that are linked to one another by accreditation and entry requirements. The procedure for estimating the available funds is described in the attached status report. The increase in total MOE expenditures from 216 million colones in 1976 to 598 million colones in 2002 represents an average annual increase of only 4%.

Of this total amount it is estimated that the expenditures for the five non-linked activities will be about 85 million colones, or around 4.3% of the total. These five non-linked activities are: 1) general administration and technical services; 2) ETV; 3) youth, culture, and sport activities; 4) NFE; 5) kindergarten.

It follows that an estimated 513 million (\$205.0 million) will be available for the five linked activities: Cycle I (grades 1-3), Cycle II (grades 4-6), Cycle III (grades 7-9), high school, and higher education. By means of a procedure also described in the status report, it was determined that a uniform rate of improvement in transition between grades of 38% would consume these 513 million colones. Using this base, High, Medium, and Low improvement rates of 76%, 38%, and 0% for each one of the five activities were established. Computer runs then calculated enrollments, the amounts of resources required by these enrollments, and the capital and recurring costs of these resources.

Of the various combinations of high, medium, and low improvements that proved to be financially feasible, the following solution was one of the best as far as: 1) satisfying Ministry priorities; 2) increasing educational attainment levels; 3) achieving greater equality of opportunity in urban and rural zones; 4) likelihood of attainment.

	Grades 1-3	Grades 4-6	Grades 7-9	High School 10-12	Higher Education
Rural	76%(H)	76%(H)	76%(H)	38%(M)	0%(L)
Urban	76%(H)	76%(H)	76%(H)	0%(L)	0%(L)

These improvements in reduced dropout translate into the following cohort achievement levels.

Percentage of Cohort <u>Reaching</u> Grade										
	Grade 3		Grade 6		Grade 9		Grade 12		Graduates Higher Education	
	1976	2002	1976	2002	1976	2002	1976	2002	1976	2002
Nation	64.66	91.85	38.37	82.76	33.90	72.31	14.65	30.65	1.19	3.94
Urban	71.78	93.94	57.84	90.33	61.66	91.81	29.20	49.44	2.02	8.00
Rural	56.70	90.00	18.55	75.88	5.66	54.37	0.00	12.94	0.00	0.00

The enormous progress that is represented by the estimates schooling level attainments in 2002 is one of the highly encouraging findings of this sector analysis. In the rural area entry into Grade - 6 would increase from 18.55% of the cohort in 1976 to 75.88% in 2002; entry into Grade - 9 from 5.66% to 54.37%; entry into Grade - 12 from 0.00% to 12.94%. Increases in schooling attainment levels in the urban areas would also be very large, not only in Cycles I, II, and III as a result of selecting high targets in the transition improvement rate, but also in Grade - 12 and Higher Education, due to increases in transition at the lower levels. It should not be forgotten that these large increments in percentages of individuals entering the last grade of each level represent a 2002 school-age population that is much larger than the 1976 school-age population. It is evident that El Salvador can offer schooling to large portions of the population that are not presently participating in the education process.

IV. Major Findings, Data Needs, and the Advantages of Collaborative Analysis

Three major overall findings have emerged from the El Salvador education sector analysis. 1) The analysis has identified substantial inefficiencies and relatively easy ways of eliminating these inefficiencies in basic education, which consumes about  $\frac{1}{2}$  of the budget, and which has over 90% of the enrolled students. (September 1 Executive Summary). 2) The analysis has shown that a large scale expansion in the access to education and training over the next 25 years, to drastically reduce inefficiencies in basic education, and to attain considerably higher levels of schooling for the growing population, is a financially feasible goal. 3) The analysis has highlighted the need for expanding data collection and for making additional improvements in analysis and planning so that the opportunities represented by the first two findings can be successfully exploited.

Even though at the start of the project, ODEPOR was a superior planning office, there still is a need in El Salvador to improve data collection, analysis and planning. This fact strongly suggests that there is indeed a great need to improve planning offices in most other LDCs.

Disaggregate analysis of the education systems of the developing countries helps identify the inequities and imperfections, and the reforms that should be carried out.

Without needed changes in the education and training systems of the LDCs, large-scale international resource transfers may contribute to a strengthening of existing distortions and imperfections. All education programs are, by definition, "good," and in the absence of analysis and evaluation, there is a serious lack of sound criteria for allocating scarce resources among them. When such criteria are missing, there is a tendency for projects to proliferate; and proliferation places new obstacles in the way of rational policy formulation and effective management. Perhaps foreign assistance agencies should be less insistent on getting certain policies adopted and more interested in establishing a good policy-making process.

Participation in a collaborative analysis of education and training provides various benefits to AID. It involves AID in a learning process that contributes to the development of a memory that is not a mere collection of unrelated facts, but one that incorporates understanding. It contributes to AID's assessment of the extent to which the LDC is committed to improving the productivity and the welfare of its poor majority. And it helps AID decide whether an education budget is sufficiently large, and whether it is being fairly distributed and efficiently managed.

V. The Major Policy Issues

The central policy issue concerning education in El Salvador is whether or not to provide opportunities in the rural areas that will place these on a level that is equal, or nearly equal, to the urban areas. The September 1 report explained that "dropout" and repetition -- the major inefficiencies in basic education -- are concentrated in the rural zone and are largely the consequences of insufficiency, or inadequate access. It also described how the increase in the double-shifting of classrooms and teachers could contribute to reducing per student cost, and presented evidence supporting the contention that this double-shifting would have positive effects on drop-out and repetition, and would not have negative effects on academic performance.

As has been shown, over the next 25 years a major expansion of schooling services that would increase schooling-level attainment rates in both the rural and urban zones by very large percentages is financially feasible. The percentage of the cohort reaching grades 6, 9, and 12, and graduating from higher education, in 2002, would be 76%, 54%, 13%, and 0% for the rural zone, and 90%, 92%<sup>1/</sup>, 49%, and 8% for the urban zone.

The implication of these increases in transition rates for enrollments for the grades in question in 1976 and 2002 appear in the three tables below.<sup>2/</sup>

Table 1: The Nation

	Grade-3	Grade-6	Grade-9	Grade-12	Higher Education Graduate
1976	106,392	56,182	35,352	13,927	1,132 (est. 1977)
2002	226,197	190,389	150,819	58,609	6,647

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<sup>1/</sup> The grade-9 percentage is still greater than the grade-6 percentage in the urban zone due to the remnant of commuting of rural residents.  
<sup>2/</sup> It should be kept in mind that the population of El Salvador in 2002 will be more than twice the amount in 1976.

Table 2: Rural Zone

	Grade-3	Grade-6	Grade-9	Grade-12	Higher Education Graduate
1976	47,218	16,533	2,780	0	0
2002	117,466	91,433	59,025	12,729	0

Table 3: Urban Zone

	Grade-3	Grade-6	Grade-9	Grade-12	Higher Education Graduate
1976	59,174	39,649	32,572	13,927	1,132
2002	108,731	98,956	91,749	45,880	6,647

It may be useful to display, once again, the hypothetical targets, i.e., the rates of improvement in transition involved in these enrollment estimates.

Table 4: A Feasible Combination of Hypothetical Targets

	Grades 1-3	Grades 4-6	Grades 7-9	Grades 10-12	Higher Education
1976	76%	76%	76%	38%	0%
2002	76%	76%	76%	0%	0%

A percentage improvement in the rate of transition which increases gradually over a 25-year period for Cycles I, II, and III to attain a 76% improvement over the 1976 transition rates should present no major difficulty in the rural zone. In the urban zone a 76% improvement in the transition rate is a target more difficult to achieve. Although there is also considerable overcrowding and space shortages in the urban zone, contributing to a matriculation loss or spurious "dropout" that can be easily remedied by increasing supply, it is fairly likely that a cohort target as high as 90% also calls for reduction in genuine dropout, and may be more difficult to achieve.

Of course, the High, Medium, and Low targets represent first approximations which must be subsequently adjusted, but that is not the issue at hand. If the Grade-6 urban cohort rate in 2002 turned out to be 85% or 80% instead of 90%, the enrollment increase in this grade would still be very large compared to 1976, partly because of improvements in transition and partly because of population growth.

The important fact is that elimination of the insufficiency in Cycles I and II, and a reduction of the insufficiency in Cycle III, will bring about large increases in enrollment in High School and Higher Education, as well as in Basic Education, even if transition rates into and within these higher levels do not increase. The feasible combination of hypothetical targets displayed in Table 4 calls for 0% transition rate improvement beyond the ninth grade in the urban zone; and for only a Medium or 38% transition rate improvement into and within High School, and a Low or 0% improvement rate into Higher Education in the rural zone. These extremely low post-Basic Education targets notwithstanding, national enrollment in Grade-12, or the last year of High School, increases from 13,927 in 1976 to 58,609 in 2002, and Higher Education graduates increase from 1,132 to 6,647. This is why deciding whether or not to eliminate the Basic Education insufficiency, and especially the rural insufficiency, is the central education policy issue. If, over the next 25 years, all children are given the opportunity to complete the sixth grade and proportionately many more than at present are given the opportunity to complete their "basic education" (Grade-9), there will be a considerably larger demand for admission into High School and Higher Education.

Will these graduates get better employment and higher earnings than they would have obtained had they withdrawn from the schooling system at lower levels? This is a social, economic, and political issue, as well as an issue for education.

The findings concerning Basic Education, High School, Higher Education, and NFE indicate large problems in the area of relevance. In the rural area the relationships between education and earnings is weaker than in the urban area, suggesting, among other things, that a completed primary education (Grade-6) or a completed basic education (Grade-9) do not have rewards as high as in the urban area. A tracer study of High School graduates indicated that a fairly small portion of the students had entered the labor market, only a portion of these were employed, and only a portion of the employed were in their field of specialization. The high transition rate between High School and Higher Education is powerful evidence that High School is not functioning satisfactorily as a point of entry into the labor market. Finally, the pattern of specialization in Higher Education possesses a shockingly high degree of irrelevance.

Obviously, nothing would be more misleading in this situation than to assume that there is a labor and manpower "market" that is functioning properly. Supply is not adjusting to demand, and economic demand is not reflecting need. If the GOES continues to rely on this "market" to the extent that it has relied on it in the past, demand and need, as well as supply and demand, will continue to be in disequilibrium. To have its maximum effects, the education and training policy must be supported by economic and social policies which have the indirect

effect of generating employment in the private sector, and the direct effect of establishing needed technical and professional positions in the public sector.

Whether or not to eliminate the primary education (Grades 1-6) insufficiency, and to begin eliminating the insufficiency of Cycle III (Grades 7-9) is the central education issue that faces the GOES. Although the analysis has shown that this task is financially feasible, it has also served to heighten the need to improve relevance (especially the pattern of specialization) to increase efficiency (especially reducing "dropout" and per student cost), and to assure useful and remunerative employment of graduates.

The future levels of overall employment and the amount of technical and professional employment will depend primarily on GOES policies and actions, and marginally on the support and guidance by the foreign assistance agencies. The GOES policies and plans aimed at satisfying Basic Human Needs in agriculture and health are obviously central issues. If, after adequate prior analysis, land tenure patterns were changed, and new labor-intensive methods for increasing food production were introduced, large increases in the number of primary and basic education graduates in the rural areas and significant increases in the preparation of agricultural technicians and professionals would constitute support to the new agricultural policy. Similarly, if health services are extended on a large-scale basis to the rural areas, substantial amounts of individuals with a completed basic education, and with middle-level and professional training in the various health disciplines, will be needed.

If sound macroeconomic policies that generate production and employment in the private sector, and sound agricultural and health policies that address Basic Human Needs, and that generate middle and high-level employment opportunities in the two sectors involved, as well as increasing overall rural employment are not designed, or are not well carried out; what would be the proper overall policy for education and training?

Conceivably, the GOES could maintain the present Basic Education schooling insufficiency by increasing rooms and teachers at a rate no higher than the population growth rate, and in this way preserve the present shape of the education pyramid: i.e., in this way maintain the present rates of matriculation loss. Another option would be to eliminate the Basic Education insufficiency and to establish testing procedures and admissions requirements at the High School and Higher Education levels, making entry into these two levels a selective process. Thus, the current amounts of entrants could be maintained or slowly increased, as the transition rates are lowered. Obviously, changes in the pattern of higher education specialization, with much larger proportions of students entering technical programs, should accompany the new admissions policy.

Many observers have claimed that the reform of the national university is an essential condition for placing all education and training on a sound development basis. I am in fundamental agreement with this position so long as reform is viewed as a process that is based on continuing analysis that takes into account external and internal factors.

A third overall policy option would be to eliminate the Basic Education insufficiency and to allow enrollments to increase significantly but not indiscriminately, at the secondary and higher education levels by making entry into these levels selective.

To provide a Basic Education to all of its citizens is a declared goal of the GOES. It is a feasible goal. Entry into higher levels could then be controlled, with program levels based on manpower needs, and selections of candidates based on merit. The improvements in analysis, planning, and management required to achieve these goals are efforts well worth making if this is the policy that El Salvador needs.

Status of the El Salvador Education Sector Analysis:  
December 1, 1977.

I. Introduction

The first part of this December 1 status report describes the main policy findings for increasing the access to, the efficiency and relevance of kindergarten, high school, higher education, and out-of-school or non-formal education and training. It also gives some attention to the relevance of basic education. The second part of this report describes the implications of the findings of the cross-sectional analysis in terms of feasible combinations of targets over the next 25 years.

The September 1 report on the access to, and the efficiency of, basic education summarized the main findings and policy implications of Analytical Working Documents No.'s 1 through 10. This December 1 report is based on Analytical Working Documents (AWDs) No.'s 11 through 14, and on findings concerning relevance, based on four surveys carried out by the GOES and analyzed by Harvard University. The full description and explanation of feasible combinations of efficiency, access and relevance targets, from 1982 to 2002, will appear in Analytical Working Document No. 15.

II. Findings and Policy Implications Concerning the Access, Efficiency and Relevance of Education and Training

A. Kindergarten

The justification usually given for providing public kindergarten in developing countries is that it helps the children adjust to the first grade, reducing repetition and dropout at the lower levels of primary education. In El Salvador, the ages of 4, 5 and 6 years are presently considered the eligible ages for the two kinds of Kindergarten: Regular Kindergarten and Saturday-Morning Kindergarten. In 1974, there were 32,592 children in Kindergarten. The private schools, which were all Regular Kindergartens located in the urban zone, represented 13% of the enrollment.

There was much greater access in the urban than in the rural zone. Urban school enrollment, mainly in Regular Kindergarten, represented 30% of 4, 5 and 6 year-old urban residents, and rural school enrollment represented around 2% of 4, 5 and 6 year-old rural residents, mainly in Saturday-Morning Kindergarten. In terms of the provinces or Departments, distribution was also unequal. The highest urban access or coverage was in Cabañas and San Salvador with 38%, and the lowest in Sonsonate with 19%; the highest rural coverage was in Santa Ana and San Salvador with 2.8% and 2.7%, and

the lowest was in San Vicente with 0.5%.

Access was selected as the central policy issue for analyzing Kindergarten. It has been assumed that the provision of Kindergarten to children will help them adjust to the first grade and thus reduce repetition and dropout. On the basis of this working assumption, Saturday-Morning Kindergarten was developed and introduced in the rural areas. There are two large cost advantages in Saturday-Morning Kindergarten: 1) the use of Basic Education buildings means that there are no additional capital costs; 2) the use of Basic Education teachers who receive a salary supplement lowers the per student operating cost. The per student operating cost for public Kindergarten in 1974 was  $\text{Q}93.3$ , just as much as the Basic Education per student operating cost; whereas for Saturday-Morning Kindergarten this cost was  $\text{Q}17.2$ . About six Saturday-Morning Kindergarten students can be enrolled for the price of one Regular Kindergarten student.

Slightly over 2% of the total operating educational budget has been spent on Kindergarten. This was  $\text{Q}2.7$  million in 1974. If the entire 4, 5 and 6 year old population had been given Regular Kindergarten in 1974 it would have cost around  $\text{Q}32$  million. Had it been given to the 6 year olds only it would have cost about  $\text{Q}11$  million. It was concluded that large-scale extension of public Regular Kindergarten, aiming at universal coverage over the long-range, was not a feasible solution and that the expansion of this pre-primary schooling should be carried out by means of Saturday-Morning Kindergarten. The national planning agency, CONAPLAN, has made high, low, and medium population projections for El Salvador. The medium projection was used in setting enrollment targets and estimating their financial implications. It was decided that public Regular Kindergarten enrollment would be increased very slightly over the next 25 years, from 27,879 in 1974 to only 40,000 in 2002. On the other hand, public Saturday-Morning Kindergarten would increase from 2,063 to 104,000 in the urban zone, and from 3,284 to 143,000 in the rural zone. The total public Saturday morning Kindergarten enrollment of 247,000 would represent the entire six-year old national population in 2002. Enrollment in Regular Kindergarten, both public and private, would therefore represent a portion of the five year-olds. At 1976 constant prices the 2002 operating costs for public Kindergarten would be about  $\text{Q}9$  million, an estimate that would constitute, in turn, about 1.5% of the estimated public education budget for the final target year. In short, providing universal Saturday-Morning Kindergarten by 2002 for all 6-year olds, and a rather modest amount of Regular Kindergarten to some five-year olds, would consume a smaller percentage of the 2002 public education budget than is presently employed in providing Regular

and Saturday-Morning Kindergarten, to an enrollment representing around 26% of today's 6-year olds.

So much for the potential costs of Kindergarten. What about the "benefits"? Obviously, there are questions concerning the comparative benefits of both Regular and Saturday-Morning Kindergarten which need to be explored. Since Saturday-Morning Kindergarten is not a custodial service, some judgments need to be made concerning its contribution to emotional adjustments and learning in the first grade. Gladys Escobar de Perez, the main author of the AWD on Kindergarten, proposes that Vindelman's "social maturity" and Laurence Philo's "maturity for Reading" test be applied to three groups of first grade students: 1) those who have had no Kindergarten; 2) those who have had Regular Kindergarten; and 3) those who have had Saturday-Morning Kindergarten. The insight into Kindergarten's effects on adjustment and learning in the first grade that is provided by this research should constitute additional criteria for the planning and management of Kindergarten.

## B. Basic Education (Grades 1-9)

### 1. Access

Measurements of current access to Basic Education were specified, and obstacles to this access were described, in the Executive September 1 Summary. Feasible access targets for the year 2002 will be specified in Section III.

### 2. Efficiency

The analysis of the efficiency of Basic Education was also summarized in the September 1 report.

### 3. Relevance

This presentation of policy findings concerning the "relevance" of Basic Education has two limitations. In the first place, the term "relevance" is extremely broad, referring to many more social, political, and economic and cultural factors and relations that can be dealt with in any single study. In the second place, only one of the four surveys analyzed by Harvard provided data of utility for analyzing Basic Education. The present summary of policy implications is necessarily a selection from, as well as an interpretation of, the more extensive Harvard study.

No special survey to assess the relevance of Basic Education was designed for the analysis. Nevertheless, there are various findings that bear upon relevance. First, the overall scores on the National Achievement Exams for grade 2, 3, 5, 6, 8 and 9, in both urban and rural areas, are indicators that learning is taking place in both zones. This also indicates that the reformed curriculum of 1971 has a sufficient relevance to, i.e., sufficient continuity with non-school experience for the learning to take place. This should not be taken to mean that the curriculum is perfect and that improvements cannot be made. Indeed, under this analysis, an examination of test items identified the subject (Mathematics), and areas in other subjects that are in most need of attention. However, the statement that is so often made without evidence, that "the curriculum is irrelevant" must be flatly rejected in the case of El Salvador.

Second, the fact that basic language and number skills are obtained with six grades of schooling has great bearing for policy aimed at preventing illiteracy from growing. Under the analysis, it is estimated that there are roughly 1½ million illiterate adults. The analysis has offered conclusive evidence that a six-grade schooling opportunity has been denied to the great majority of rural residents, and that rural residents who are offered this schooling master the subjects taught. Obviously, one way to assure literacy among future generations is by providing them with at least six grades of schooling.

Since the central policy issue or option concerning Basic Education is whether or not to provide opportunities in the rural areas that will place these on a level that is equal, or nearly equal, to the urban areas, the relevance of basic education in the rural areas is of particular interest. On the other hand, the fact that internal migration is from rural to urban areas means that the productivity of the urban labor force probably has been, and probably will continue to be, affected significantly by the level of schooling in rural areas.

Of the four surveys examined for their bearing on relevance, the most appropriate to Basic Education is the 1975 National CONAPLAN survey of households. This survey consists of 33,000 individual records, of which 10,526 represent economically active individuals. Agriculture is by far the largest sector of economically active individuals with 41.2%; followed by personal services, with 10.3%; retail trade and software manufactures, both with over 9%; hotel with 5.6%; public social services, wholesale, construction, public administration, each with over 4%; transport 2.7%; metals, other 1.7%; mining, utilities, financial, commercial service, and international, each with less than 1%. Although 60% of the population is rural, only 41% of the labor force is rural, an indication, perhaps, of considerable disguised unemployment in the rural zone. Of course, the overall level of individual earnings and standard of living or lifestyle in the rural area is much inferior to the urban area (See page 6 of the Sept. 1 Status Report).

The widespread poverty of El Salvador is partly indicated by the 1975 distribution of monthly earnings of the economically

active population: 1/ 23% earned \$4-\$20; 15% earned \$24-\$32; 22% earned \$36-\$48; 20% earned \$48-\$80; 10% earned \$84-\$120; and only 10% earned over \$120.

I consider the following to be the major policy question concerning the relevance of Basic Education: what effect would be had on poverty by an elimination of the rural schooling insufficiency, and by an equalizing of educational opportunities?

Before examining some additional findings of the CONAPLAN survey it may be useful to point out that education and training are necessary but not sufficient conditions for eliminating poverty. For example, the future effects of a completed primary education on earnings are not necessarily the same as its past effects. Obviously, its future effects will depend partly upon other social and economic developments, including sectoral developments that have their own impacts on production and employment. A policy to complete primary education in the rural area will have its greatest impact on, say, food production and rural development, when it supports, and is supported by a sound agricultural policy that is helping eliminate non-education constraints on food-production and rural employment. 2/

There are many ways to indicate the strong association between monthly earnings and education. For example, \$48 can be taken as a cut-off point to see what percentages of 7,963 economically active individuals classified by different levels of schooling attainment had earnings of \$4 to \$48: a) 2,702 had 0 or 1 year of schooling, with 84% of these individuals earning between \$4 and \$48; b) 2,377 had 2-5 years of schooling, with 69% earning \$4-\$48; c) 1,615 had 6-8 years of schooling, with 46% earning \$4-\$48; d) 690 had 9-11 years of schooling, with 17% earning \$4-\$48; e) 463 had 12-14 years of schooling, with 4% earning \$4-\$48; f) 116 had 15 or more years of schooling, with 1% earning \$4-\$48.

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1/ According to Section I, "A Profile of the Poor Majority" of the El Salvador Health Sector Assessment, the Gini coefficient for El Salvador metropolitan area is .60, as compared with .43 for Costa Rica and a coefficient between .30 and .38 for the United States.

2/ Obviously, a prior analysis of the sector which identifies, quantifies, and interrelates these constraints increases the probability that there will be such a policy.

If we take these same schooling attainment groups (a) to (f) and indicate the percentage that earned \$48-\$120 and the percentage that carried over \$124, the following percentages are obtained: a) 17% and 3%; b) 27% and 4%; c) 46% and 8%; d) 52% and 31%; e) 45% and 51%; f) 4% and 95%.

Of course, other significant factors, such as residence, sex, family status and income, accompany the different schooling attainment levels and play their part in determining earnings. Multiple step-wise regression and path analysis were among the techniques used by Harvard to attempt to disentangle and quantify the contribution of the different factors for which data was collected. It is significant that in aggregate terms the estimated relationship between schooling level and earnings is weaker in the rural than in the urban area. This may reflect two phenomena: 1) the smaller range of earnings in the rural zone where landless laborers apparently predominate (agricultural owners are only 12% of the economically active); 2) concentration in the rural area of the 2,873 working dependents in the sample, almost half of which did not receive earnings. It is not surprising that the relation between education and earnings is much stronger for heads of household than for working dependents, most of whom may be working for their parents. Besides, the relation of education and earnings is a comparatively short-lived relation in the case of dependents, and younger workers generally.

The path analysis reveals a slight negative effect of sex in access of females to education, especially among older women who are heads of households. The effects of sex on access to occupations is to enhance the chances of women entering professions, but these are generally the lower rungs of the professions, and this access is not reflected in earnings by women.

Leo Morris, a bio-statistician who has been working with Salvadorans and AID on demographic problems, has provided me with the following statistical associations of education and fertility. Per 1000 women of fertile age with: a) 0-3 years of schooling, 230 live births; b) 4-6 years, 175 births; c) some secondary school, 110 births.

Under the path analysis it was concluded that analysis of "the one social and economic variable which seems to affect fertility is educational attainment." Neither employment status, nor rural residence, as such, have a significant relation. The report wisely

asserts that the relation of education and fertility is not strong enough to be relied upon as the sole technique for lowering fertility rates and that "other direct action in family planning would have to accompany the education policy."

As previously pointed out, the potential "benefits" of schooling are usually multiple and not necessarily fully described or defined by measurements of its past relations to selected factors, such as earnings and fertility. For example, the political consequences of schooling and the social, economic, and cultural effects of these political consequences are often overlooked when the "relevance" of Basic Education is being considered. In 1976 the National Assembly of El Salvador passed an agrarian reform bill involving land redistribution with compensation, which apparently had the support of the President, but which was so strongly and effectively opposed by conservative forces, the Assembly proceeded to repeal its own bill. Had the peasantry been a literate and organized interest group, rather than a largely illiterate and disorganized body, it is possible that the bill would now be the law of the land. I think this possibility has considerable bearing on the policy issue as to whether or not to provide Basic Education opportunities to the rural zone that will place these on a level which is equal, or nearly equal, to opportunities in the urban zone.

### C. High School (Grades 10-12)

#### 1. Access

During the last 16 years there has been a considerable increase in both public and private high school enrollment. Total enrollment grew from 8,000 in 1960 to 59,000 in 1976 -- an annual growth rate of 13% -- with the private schools maintaining slightly more than  $\frac{1}{2}$  the enrollment throughout the sixteen year period.

The 1976 enrollment represented about 15% of the school age population, as compared with 6% in 1961. However, this expansion of High School opportunities has not been equally distributed geographically. First, there are no High Schools in the rural areas. (Although many urban High School entrants are rural residents that commute, it has not been possible to estimate the amount.) Second, distribution among departments has been slightly unequal: enrollment in the department of San Salvador represents 42% of the school age; the next highest department has 20%, followed by four departments

with 18% to 11%, followed by seven departments with 8% to 4%. If equity is measured as the proportion of 9th-grade graduates that enter the 1st year of High School, the same ranking emerges: San Salvador High Schools absorb 126% of Basic Education graduates, the next five departments from 116% to 66%, the last seven from 63% to 31%. In planning the future expansion of High School, these and still more geographically disaggregate measurements of equity should be taken into account.

A basic policy issue confronting the Ministry is determining which specializations to expand and which not to expand. As recently as 1975, College Preparatory and Commerce and Administration still accounted for 91% of the enrollment (57% and 34% respectively). This was followed by the three more traditional specializations: Industry (4%), Agriculture (2%), Teaching, i.e., preparation of Basic Education teachers (1%). The remaining specializations have all been introduced by the Reform initiated in 1970 (Health, Inn Keeping and Tourism, Navigation and Fishing, Arts, and Vocational Crafts), each one with less than 1% of matriculation. Since the relative "costs" and "benefits" of these specializations, is of central importance for planning, findings that bear on these matters will be examined in the efficiency and relevance sections below.

## 2. Efficiency

It would have been desirable to examine the efficiency of High School from as many perspectives, and in as much disaggregate detail, as in the analysis of Basic Education. This would have allowed greater identification and more precise quantification of imperfections, and fuller determination of the most effective points of intervention or treatment. However, the collection and tabulation of the additional information needed for a disaggregate analysis of the efficiency of High School (less than 5% of the Ministry's operating budget) would have reduced the professional time that was spent on the analysis of the efficiency of Basic Education (over 50% of the Ministry's operating budget). Besides, the procedures developed for analyzing the efficiency of Basic Education can now be applied to High School much more cheaply and expeditiously.

In Basic Education national achievement exams in four subjects for six grades, were prepared for the first time by the Ministry. For High School, Gladys Rodriguez de Vanegas, the main

author of the AWD, substituted this measurement of educational results by the final 12th grade national exam in Humanities and another one in Science taken by over 4,000 public school students and over 4,000 private school students.

There was no significant difference in scores between public and private school 12th grade students. Among specialities, there were variations in the combined score for both tests, with Industry and Pedagogy obtaining the highest score, and students of Commerce and Administration the lowest. It is worth noting that college preparatory students ranked near the bottom in the public and private sector, a reflection, perhaps, of the larger enrollment. Possibly, the most significant finding concerning educational results, from the point of view of efficiency, was that morning-only and afternoon-only students had the same composite score, whereas all-day students scored 4 points below these half-day groups. From the point of view of curricular content, teaching and/or test construction, the most significant finding is the surprisingly low average score that all groups had on the tests. The overall average score of correct responses was 51% on the Humanities test and 37% on the Science Test. Assuming that the level of difficulty of each test was not excessively high, and that each test was a faithful reflection of curriculum requirements, there is an obvious need for continued testing and analysis to improve the curriculum and High School teaching-learning process.

Analysis of repetition and dropout at the High School level is not yet adequate due to the unreliability of certain kinds of data, and to the lack of certain other kinds. For example, information on repetition is not gathered. This not only removes repetition from the analytical arena, it also impedes estimation of the inter-annual or between-year dropout that proved to be so very large in the case of Basic Education. Overall annual dropout (the dropout that occurs during the school year) appears to hover around 10% of the initial matriculation, with the private sector slightly higher than the public sector. In 1976 grade 10 enrollment represented 48% of the 7 year old urban cohort in 1966 and grade 12 enrollment repetition 31% of the 7 year old urban cohort in 1964. This points to a total dropout (annual and interannual) of about 17%, but this measurement is only a crude, one-year approximation. The process of determining the causes of dropout, must therefore await fuller information, beginning with better measurements and better location of repetition and interannual dropout.

Although the analysis of cost for High School was also less detailed than it was for Basic Education, and focused only on operating costs, some significant findings emerged. Cost information was obtained for 70 of the 116 private High Schools; as well as for the 64 public High Schools. For the 70 private schools in 1975 the average per student cost was £190, and for the public schools it was £277, i.e., operating per student cost for the public schools was about 1/3 more than the 70 private schools. This surprisingly large difference in cost between private and public does become smaller when the comparison is limited to College Preparatory and Commerce and Administration -- the two specializations accounting for the bulk of the private school enrollment. Public school operating per student cost in this case was £234, i.e., operating per student cost for the two specializations in the public schools was around 20% more than the per student cost in the 70 private schools.

Although public High School is now a small part of the education budget, it will represent a much larger portion in the future. At present about 15% of the national cohort of back-dated 7 year olds is graduating High School. For the year 2002 the medium target is 30%, the high target 52%. Whichever target is selected, the public bill for High School will be considerably larger than it is, in both absolute and relative terms.

What appears to be a comparatively high cost in the public sector should therefore be taken as a warning that additional analysis is required -- a point of view that is reinforced by the large variation in per student cost across public sector specializations. These range from a high of £828 per student in Navigation and Fishing to a low of £220 in Commerce and Administration. Ignoring the amount of enrollment by specialization, the new specializations average £486, as compared with £350 for old specializations. This may reflect a normal delay in achieving certain economies of scale; it may reflect greater equipment maintenance costs (although agriculture and industry which are equipment-intensive are included in the old specialization); it may reflect lower student-teacher ratios (now impossible to estimate because of data gaps).

I think the fact of most significance for policy is the following. For this kind or level of education -- indeed, for all kinds and all levels -- there is no system of cost control in the Ministry of Education. Estimates of private, public, and specialization per student costs had not been made prior to the analysis. Of course, these estimates are only a first step. The

analysis has helped the Ministry identify the kinds of information it needs to collect, store and tabulate in order to determine why one specialty is more expensive than another.

At the High School level, where part-time teaching and payment by the hour prevails, effective accounting is a comparatively difficult task. Nevertheless, this detailed information must be obtained and tabulated, for without it there can be no effective cost control, much less a search for possible economies. If we believe that the public entities in charge of the national enterprises can and should be held accountable for their expenditures, and that the present waste of resources can and should be reduced, we should help the LDCs eliminate the obstacles that now stand in the way of effective cost control.

Finally, although information concerning capital investment and amortization costs was not obtained, a very important fact bearing on these was discovered: most public high schools are utilized only half-day, or in the mornings and nights. Making full utilization of the physical plant is an obvious way of expanding services without additional construction costs.

### 3. Relevance

Attempts to measure and explain the "relevance" or "external efficiency" of education and training programs, in both developed and developing countries, lead to disputes concerning concepts and methodology more often than they settle policy issues. This is so for many reasons. Measurement and explanation are difficult partly because education has numerous legitimate objectives and, therefore, numerous aspects or dimensions of "relevance." Measurement and explanation are difficult partly because many of the examined relations, such as the relation of a specialized program and employment or income, vary greatly over time. Nevertheless, there is a continuing need to obtain more complete and more objective criteria than is usually available for initiating, expanding and reducing programs. This is of crucial importance for all countries, and particularly for nations with limited resources.

A tracer or follow-up survey of High School graduates was one of the four surveys studied by Harvard. The study is based on a 770 sample of the 1974 High School graduating class of 13,100 students, including the first batch of graduates from the new

specialized programs. The distribution of graduates by specialization was roughly as follows: college preparatory - 23%; commerce - 16%; industry - 21%; others, 5-8% each. Most of the heads of households to which these students belong earned less than \$160 per month and 56% had not completed primary. The graduates were interviewed in November, 1975, one year after leaving school. I think that if we keep in mind that the findings specified below reflect no more than one year's experience of one graduating class, the value of updating the data and of continuing the process, initiated by Harvard, will become manifest.

What were the graduates doing in November, 1975?

Working - 37%, studying - 23%; working and studying - 19%; looking for a job - 9%; inactive - 11%. If the last 2 groups are lumped together, and classified as a 20% "unemployment rate," this is higher than the national rate, but this fact I think is insufficient ground (too small a group and too short a time) to justify a generalization about the "relation" of High School and employment. Work information on 245 graduates was obtained: in community or social services or public administration - 77 graduates; in manufacturing - 69; in trade - 62; in agriculture - 34; in fishing - 3.

Commerce, Arts, Pedagogy and Vocational had the strongest ties to work, with an average of 50% employed. College preparatory, Industry, Inn-Keeping and Tourism, and Health had stronger links to study with less than 30% employed. Employment after High School graduation was also more likely for students who worked during High School (one-third of the graduates had some practical work in firms as part of their program), and more likely for students who were married and presumably from lower-income families. On the other hand, although the men who worked reported lower family incomes than the men who did not (£350 vs. £367), the difference was not significant. Perhaps, the only policy implication that can be drawn from these facts is that specialized High Schools (Industry, Inn-Keeping and Health) are not necessarily terminal (graduates do not necessarily go into the labor market) and since they generally represent higher per student costs, a tracer study of them should be maintained for the purpose of determining if this higher cost is justified, either as preparation for a specialized occupation, or because they lead to better performance in a specialized university program.

Whether the market demand for middle-level technicians is an adequate reflection or indicator of need is another issue that can be raised in the case of most LDCs. El Salvador has health

problems of great magnitude, and extremely inadequate health services, particularly in the rural areas. It has among the lowest nutrition levels in the hemisphere. It would therefore appear proper to view the employment of health technicians, as a demand problem, as well as a supply problem: i.e. there appear to be serious imperfections in the structure of demand and employment for middle-level health technicians. Conceivably, there is a need for more public and private health services, the human resources component of which might be identified, at least in part, by an analysis of the health problems of greatest incidence in the country.

Although fraught with difficulties of interpretations, the relation of salary levels to education is the most utilized indicator of relevance. Salaries of employed graduates were registered for January and September, 1975, averaging £200 and £235 respectively. I think consideration of the Harvard finding concerning earnings should begin with the fact that, in the case of the men, multiple regression coefficients, using 13 variables, including important status or household factors, such as family incomes, could account for only 14% of the variance in September salaries, and in the case of the women for 26%. Under path analysis, 8 of the variables accounted for 11% of the variance for men, and 6 variables accounted for 20% of the variance for women.

The two most important factors for men appear to be family income and a practicum or field experience during high school. All these findings can be taken to mean "that much of the content and structure of the High School program is not relevant from the perspective of the labor market, i.e., employers do not offer higher wages to students on the basis of their academic performance, the kind of school they attend, or program pursued ... apparently they are interested in graduates who come to them with some practical field experience."

The three most important factors affecting the salaries of women graduates appear to be age, marital status, and practicum. The September salaries are "mainly a function of having a field experience in High School and having attended a program with a high proportion of students going on to the University. Older women and those with better educated parents are likely to have high salaries ... Salaries in September were higher for graduates who had courses with a field component, who obtained low grades in Spanish, who were married, who obtained employment recently, and who came from smaller families.

These women seem to hold on their practicum employment and trade grades for it."

Under the preceding section concerning efficiency, examination of per student cost by specialty led to the conclusion that the higher cost of the new specialties could be taken as grounds for at least postponing expansion. The relevance findings provide support to this policy: employers apparently looked favorably upon the High School working experience of the 1974 graduating class but were indifferent to the nature of it.

It is, I think, significant that two different groups of people -- those analyzing the efficiency of high school (ODEPOR and AID/BUCEN) and those analyzing its relevance (Harvard) arrived independently and from different viewpoints at the same general policy position: the recent specializations should not be expanded in the absence of new evidence which is more favorable than the evidence gathered to date.

The rapidity of employment, the kind of occupation, and the level of earnings, are three ways of measuring the relevance of High School for those graduates who enter the labor market. The relevance of High School for those who go into higher education can be viewed in various ways. The relation of grades to admission, and the degree of continuity of specialization, were two approaches used. There was no significant association between grades and higher education admission for the 1974 graduating class. The general finding concerning the link between high school and higher education specialization is somewhat more positive. Though the evidence is mixed for some specializations, graduates in industry, health, commerce and administration and agriculture that entered higher education, tended to demonstrate continuity, enrolling mainly in engineering, medicine and nursing, business and economics, and agronomy, respectively. It should be noted that only health is a new high school specialization, and that 30% of the students in art, navigation and fishing, and vocational crafts went on to the university.

Educators throughout the world have had relatively little success in appraising and improving continuity and reinforcement among education levels, or in identifying reliable ways to increase learning within a given level. Perhaps attempts in these areas should place greater emphasis on obtaining student views.

Mathematics was identified, under the study of basic education efficiency, as the subject most in need of further analysis, both from a curricular and instructional viewpoint. Among the high school graduates interviewed, mathematics was the subject about which most dissatisfaction was expressed (161 mentions). The fact that mathematics is a problem subject at both these levels of education would appear significant. It is also worth noting that math was followed by physics (158 mentions) and chemistry (120 mentions). Since the scores on the Science test were considerably lower than on the Humanities test, this dissatisfaction may also be indicative of defects in either curriculum or instruction, or both. A follow-up analysis of these identified problem subjects is an obvious next step.

In sum, the need for various changes in policy and management have emerged from the analysis of High School: 1) the need to achieve greater geographic equity in the extension of high school, with emphasis on the rural areas, and the less-favored departments; 2) the need to make full use of high school physical plant not being presently utilized in mornings or afternoons, especially when services are expanded; 3) the need to hold up extension of the new specialized high schools and to reconsider this option in the light of additional information on costs and relevance; 4) the need for periodic tracer studies of high school graduate classes concerning the comparative relevance of specializations -- a relevance likely to undergo change over time; 5) the need for continuous collection and tabulation of detailed cost information to achieve cost control and to compare the costs, as well as the benefits, of the various specializations; 6) the need to tabulate and analyze the test scores of the High School final exam on a yearly basis, to effect improvements in curriculum and teaching. Finally, it should be noted that making data collection, tabulation and analysis a regularized, systematic process, should serve to expedite these activities and to reduce their costs.

D. Higher Education

1. Access

The constantly increasing demand for higher education in developing countries can lead to very serious social, economic and political problems if, at the planning stage, it is not mediated by estimates of national, regional, and local needs for professional and high level manpower, and if, at the management or implementation stage, it is not channeled effectively into the pattern of specialization that corresponds to these manpower needs. The methodological difficulties confronted in assessing these needs, as exemplified in the growing recognition of the inadequacy of current techniques, such as rate of return estimates and manpower projections, is much too frequently used as a pretext to avoid dealing with this fundamental problem altogether. In higher education, extremely important opportunities are constantly being taken or missed, specific options prevailing as the result of deliberate choices, or as the result of the failure to make such choices. In other words, higher education "policy" is always being made, either by commission, or by drift and omission.

Sound policy is policy that is based on analyses of existing conditions, and on estimates of future needs. Obviously, the analyses should be made by the developing country itself, and periodically updated and refined. To deal effectively with the more important problems of education and training, the processes of analysis, planning and management must be self-correcting processes that incorporate procedures for review and improvement. Determining the proper pattern of the future specialization of higher education is one of the more important problems of education confronted by the developing nations.

The analysis of higher education in El Salvador has revealed that access (viewed as entry into a higher education institution) is at a level that can be considered satisfactory, even high, whereas the overall efficiency and relevance of higher education are at levels that must be viewed as low and unsatisfactory. Demand has risen over the last 16 years, enrollment increasing from 2,229 in 1960 to 29,344 in 1976-- an annual growth rate of 17%. An examination of the rate of transition or absorption of high school graduates indicated that the acceleration of demand is comparatively recent: the yearly average for 1966-70 was 38%; and 96% for 1970-75. Even a 70% transition rate for the entire 1966-75 period appears high when compared to other countries (U.S. about 50%). This high rate may indicate insufficient labor market demand for high school graduates-- a provisional conclusion that could have been drawn, as well, from the analysis of high school relevance.

In 1976, 93% of the higher education enrollment of 29,344 was in the two universities, 24,061 in the National University and 3,202 in the Catholic University. The 7% or 2,081 students in non-University higher education were in the following institutions: a) the Centroamerican Technological Institute-809 students; b) School of Agriculture-310; c) School of Nursing-275; d) The School of Higher Education (Preparation of High School Teachers)-197; e) The Technological Institute of San Salvador-178; f) School of Social Workers-102; g) the Centroamerican Institute of Telecommunications-100; h) the Higher Education Schools of Art, Inn-Keeping, Tourism and Physical Education, each of the four with less than 50 students.

When the facts described above are viewed in a broader context which includes the comparative efficiency of these technical institutions and the problems of inefficiency and irrelevance faced by the National University, two major conclusions emerge. First, El Salvador has a fairly large assortment of post-secondary 2-3 year technical training entities which appear to be appropriate institutions for absorbing a significant portion of the high school graduates that do not enter the labor market. Second, the fact that only 7% of the higher education enrollment has been absorbed by these institutions strongly suggest that attention should be given to the task of determining why enrollment in these institutions is not greater than it is.

The social demand for access to higher education is not likely to diminish. Even if the rate of transition from high school goes down, the absolute amounts of high school graduates demanding higher education is bound to increase greatly as a result both of the population growth and increases in the transition rates at the lower levels of education. There is an obvious need to anticipate this increase in demand, and to prepare plans for channeling larger proportions of high school graduates away from the university and into shorter-term specializations of technical institutes in which the probability of successful completion and accreditation has been much greater than in the National University, and the probability of personal frustrations correspondingly lower. AWD No. 15 will present alternative global targets concerning entry into higher education over the next 25 years, and a hypothetical change in the percentage distribution of post-secondary specializations.

## 2. Efficiency

The disaggregate analysis of Basic Education efficiency was carried out in terms of four components: a) academic performance;

b) dropout; c) repetition; and d) per student costs. Due to the lack of needed information, the analysis of the efficiency of Higher Education was necessarily much more modest in scope, focusing mainly on costs and dropout at the National University. Moreover, the analysis of the costs and dropout of the University turned out to be rather inadequate, as a result of information gaps that are not peculiar to El Salvador, but broadly characteristic of developing countries. For example, the cost data available at the University and obtained by ODEPOR reveals considerable variations in unit costs among faculties. However, because of information gaps and a lack of disaggregate data, it was not possible to explain these variations in costs and to identify the areas of waste and the more inefficient procedures.

A similar lack of disaggregate data on dropout made it impossible to locate this dropout in terms of faculties and specializations or programs. Obviously, to analyze and solve the problem of dropout in the University, a first step is determining where this dropout is taking place. Oddly enough, it appears that some fairly minor changes and additions in the university's data processing procedures would make this information available on a firm and regular basis.

Using presently available data, there appears to be no fully reliable way to calculate National University dropout, on a firm and disaggregate basis. However, a very rough global estimate for 1960-76 can be made as follows. The 3,816 graduates recorded during this period represent 29% of the 1960-70 entrants into the university. In other words, the dropout for this ten-year cohort of entrants can be estimated as 71%. If the 1,864 graduates of 1972-76 are divided by the 8,355 new entrants of 1966-70, we obtain a graduation rate of 22%, or a dropout rate of 78%, for this more recent period.

For purpose of comparison, and taking the four most recent years for which data was available, the average yearly dropout rate for four of the five largest technological institutes was estimated. All of these had lower rates than the National University. The School of Social Workers had an annual dropout rate of 64%. The School of Agriculture had a yearly rate of 39%; the School of Nursing 29%; and the Centroamerican Technological Institute 29%. In terms of the dropout it is clear that the National University performs very inefficiently in both absolute and comparative terms. Tabulating dropout at the disaggregate level of specialization will facilitate determination of where and

why it occurs, and whether measures such as admission and aptitude examinations and counseling procedures are likely to reduce it.

To have dropout estimates which are both current and disaggregate it is necessary to have current and disaggregate estimates of repetition. This difficulty is even greater at the university where repetition must be distinguished from the part-time status that is not a factor at other levels of education. For the 1975-76 academic year, available data on course registrations made it possible to estimate full-time student equivalents for each one of the eight University Schools (Facultades). By dividing the full-time equivalents of each school by the matriculants in that school a percentage measure of the average course-load is obtained. (Were all students to take a full course-load the percentage would be 100%). The highest course-load average was in the School of Medicine with 78% and the lowest in Science and Humanities with 60%. The changes and additions in tabulation procedures that were mentioned previously would allow the relation of part-time status and dropout to be fully quantified and explored.

A general idea of the resources employed by public higher education may be obtained from the following facts. During the last three years national revenues has been 14 to 15% of GDP; public education represents 25% of national revenues; and higher education 25% of public education. Only ten years ago, the higher education share was around 10%. Obviously, increasing the efficiency and relevance of higher education has become a task of crucial importance.

The full-time equivalent per student operating cost for 1976 ranges greatly among the eight faculties with a low of \$352 yearly in the School of Business and Economics to a high of \$2,114 yearly in the School of Agronomy. In view of the fact that, with full course-load, program completion takes an average of roughly 5 and 1/2 years, and in view of the probability that the overall dropout of over 70% is not uniformly distributed among schools, departments or specializations, the variation in the cost per graduate may be very great indeed. Data concerning expenditures by departments was obtained by ODEPOR from the university, but the present lack of tabulations concerning entrants, matriculants, repeaters and dropouts by department and by program or specialization stands in the way of effective cost accounting and subsequent cost control. In sum, more detailed data will be needed to carry out the essential management task of increasing the efficiency of the National University through reductions in unit costs and in dropout rates.

### 3. Relevance

The relevance problems of higher education are probably the most complex problems of education, the ones most difficult to solve, and the ones that are given the most partial, inadequate, and intermittent treatment. The problem or issue of "relevance", i.e. the issue of existing and potential relations of higher education to the larger society, is, of course, many issues, or, if one prefers, an issue of many aspects or facets. Analysts and planners are inclined to focus on only one or two of these aspects, ignoring the rest, and to propose policies which tend to be one-sided and partial.

The university can be taken as an example. Partiality here frequently arises from one of two diametrically opposed conceptions of the university, both of which represent one-sided, distorted positions. At one extreme is the view of the university as a wholly autonomous, self-enclosed entity that over the long run should be determining the nature of society. At the other extreme is the view that the only function of the university is to be a passive, completely obedient supplier of the high-level manpower that the other institutions demand.

To deal properly with the issue of relevance at the level of higher education we must avoid both of these extreme positions. As a priori positions, usually strong-defended they are particularly harmful in developing countries where there tends to be much discussion concerning what the university should be doing, and comparatively little interest in carefully determining what, in fact the university is doing.

When focusing on the central issue of the high-level manpower needed for development in a specific country, the following questions may help identify the problems that should be analyzed: 1) what are the major high-level manpower needs in the different social and economic sectors? 2) what are the best procedures for identifying and quantifying these needs? 3) to what extent are the needs of each one of the sectors being reflected by the current market demand of employers? 4) to what extent are the institutions of higher education supplying or planning to supply this demand? 5) to what extent are the universities helping determine high level manpower needs? 6) to what extent are the universities using these determinations to help inform employer demand?

Since a major function of higher education is to provide needed technicians and professionals, and since the proper discharge of this function depends on prior progress in understanding problems which are relatively complex, it should be obvious that

analysis of these problems should be a continuing process, and not a single, one-time attempt. In other words, the meagre findings of the present analysis concerning the relevance of higher education should represent a first step-- the initiation of a continuing process.

Effective planning of high-level manpower rests on a fairly detailed understanding of phenomena on the side of need and demand, and on the side of supply. Measuring need and demand faces great difficulties. These are due, inter alia, to discrepancies concerning methodology. My personal view is that techniques, such as rate of return and manpower planning, which are based in great part on over-simplified assumptions, and which extrapolate existing, highly imperfect relations, provide results worth examining, if their limitations are kept clearly in mind. I believe the approach to assessing need on the one hand, and demand on the other should be a synthetic one. In the case of need, particularly, analysis of sectors, such as agriculture and health, and the identification of the major manpower bottlenecks in these sectors, should complement the more traditional methods.

According to the 1975 CONAPLAN survey there were about 30,900 individuals, not currently studying, with some higher education. Of these 22,367 were economically active. This represented about 2% of the labor force. There were 7,333 individuals with more than four years of higher education. These were classified as "professionals". They constituted about 0.7% of the economically active population. There were 15,034 individuals with less than four years of higher education, and these were classified as "higher-level technicians". Since the technical institutes have been established fairly recently, and since they now represent only 7% of higher education enrollment, it is obvious that most of the persons classified as "higher-level technicians" were previously university dropouts of one kind or another. Using the CONAPLAN nine economic sector breakdown, and the Central Reserve Bank 1976-82 growth rate targets for these sectors, estimates were made of 1982 high-level manpower requirements. These estimates had to be based on assumptions that are so crude, I will not specify them here.

A much clearer and more disaggregate picture can be obtained on the side of supply. A first and obvious anomaly lies in the fact that the technical institutes with only 7% of higher education enrollment appear to be producing a larger number of graduates each year than the National University with 82% of the enrollment (the Catholic University has the remaining 11%). For example, in 1973 the National University graduated 302 students,

whereas the larger four of the 11 technical institutes graduated 390 students. Unfortunately, graduation statistics for the 11 institutes was not obtained for 1973 or for subsequent years, but it seems likely that the level of graduates was over 400, whereas the graduates from the National University were as follows: 1974-482; 1975-352; 1976-398.

This inefficiency of the National University in producing graduates is particularly alarming when viewed in the light of the resources allocated to it. In 1976, the total amount of funds utilized for public education operating expenses was  $\text{L}149,611,832$ . ( $\text{\$}1 = \text{L}2.50$ ) Of this amount,  $\text{L}31,090,560$  represented the transfer to the National University utilized for its operating expenses. Although the National University spent 20.8% of the total operating funds, it produced only 398 graduates.

Conceivably, problems of relevance are in part creating these problems of inefficiency. Are students entering the careers or specializations for which they are best suited? Is the distribution of entrants among specializations relevant? Does it correspond to national and individual needs? Is the distribution between the longer and presumably more difficult specializations and the shorter and presumably less difficult specializations the appropriate one?

After examining the 1975 distribution of the enrollment, classified in terms of seven areas,<sup>1/</sup> one is tempted to give a negative reply to every one of these questions. The area of greatest enrollment is Economics, Commerce and Administration with 5,858 students, 25% of total enrollment. Within this area, 80% of the students are enrolled in the longer professional specializations and only 20% in short-range technical specializations. Since the longer specializations consist almost entirely of Business Administration and Economics, the development of some prior admissions of screening might be one of the measures required, and a channeling of more students into the shorter technical stream, or into another area.

The area of Health follows in popularity with 5,240 students, 22% of the total. Within this area, 56% are in Medicine, 12% in Dentistry, 15% in related Licenciado or B.S. programs, only 10% in shorter technical programs and 6% in Nursing.

The third area is Engineering and Architecture with 4,896 students, 21% of the total. Industrial and Electrical Engineering, Architecture, Civil, Mechanical and Chemical Engineering had corresponding enrollments from 967 to 409. There were 389 students in shorter technical programs.

<sup>1/</sup> It is significant that the comparatively simple tabulations that follow were made in ODEPOR, under the direction of Ing. Alcides Granados, the main author of the AWD on higher education, and not in the National University.

The fourth area is Humanities with 2,625 students, 11% of the total. Within this area, 35% were in Psychology and 18% in English language, two programs that appear to be over-enrolled for a developing country.

The fifth area is Law and Social Sciences with 2,008 students, 9% of the total. Within this area 76% were striving for a law degree; 17% were enrolled in International Relations; 5 students (0.2%) were studying to be technicians in demography.<sup>1/</sup>

The sixth area is Agricultural Sciences with 1,665 students, 7% of the total. Within this area the shorter technical programs had 16% of the students.

The seventh and last area is Natural Science and Mathematics with 1,354 students, 6% of the total. Within this area, 43% were enrolled in the Licenciado or B.S. Program of Chemistry and Pharmacy, and 29% were in Biology.

Obviously, firm policy conclusions cannot be drawn from a mere examination of the distribution of enrollment among specializations. Nevertheless, they do serve to highlight problem areas. A specialization pattern that is, broadly speaking, irrelevant is associated with an extremely high rate of overall dropout. This points to relations that should be explored. Perhaps a pattern of specialization with greater proportionate enrollments in careers of importance for development and in shorter technical programs would also increase efficiency by sharply reducing dropout. In any case, this is proposed as a hypothesis that should be diligently pursued.

It is significant that, although there are now 49 programs at the National University, the production of graduates continues to be traditional. Taking the period of 1966-76, the only three specializations which averaged more than 30 graduates per year were law, civil engineering and medicine. These three programs accounted for 43% of the graduates from 1966 to 1976, and for 21% and 42% of the 1975 and 1976 graduates, respectively.

It might be a grave mistake to conclude from these few facts that there are too many doctors, lawyers and civil engineers graduating from the university. There is no basis for claiming over-supply in the absence of reliable estimates of present and future need and demand. The assertion that other fields are under-

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<sup>1/</sup> The importance of demography for El Salvador can be highlighted by the simple fact that its population density is greater than India's. Nevertheless, the fact that a demography program, although under-enrolled, has been established, is of considerable importance.

supplied would appear to be on firmer grounds. This under-supply is a result, in turn, of an inappropriate enrollment pattern, and high dropout rates. There is a need for more data, better tabulation of data, and analysis. Students as well as the National University authorities, need to have an idea of the level of dropout in each academic specialization or program. Students, as well as the National University authorities, also need to have some idea of employment possibilities. Tracer studies could be used to guide students, plan admissions and programs, and to help inform employer demand. This last role requires special mention. While writing this report, an excellent Ford Foundation study, "High Level Manpower in Colombia: A Market Analysis" was called to my attention. Prepared in 1967, it revealed the enormous inadequacies of the high level or professional manpower "market": variations in demand for different kinds of professionals were not reflected by differences in salaries; and needs, even when perceived by employers, were not reflected by demand, i.e., by offerings of salaried positions.

"The detrimental effects of this discrepancy between needs and demands for high-level personnel also seems to be clear. The discrepancy implies the inefficient utilization of Colombia's high-level manpower. The nation must bear both the absolute cost of the unemployment of professional and the opportunity cost of the under-employment of professionals."

I do not think it is a great exaggeration to say that the three economists who had initiated a study of the high-level manpower "market" arrived at the conclusion that no such "market" existed, or that the existing market was extremely ineffective in expressing need and demand, on the one hand, and getting supply to match it, on the other.

The conclusion and recommendation of the last paragraph of the 1967 study of Colombian high level manpower does not seem inappropriate to El Salvador in 1977.<sup>1/</sup>

"A major problem, then, for the Colombian high-level manpower market is to convert needs for personnel into economic demands. This is an area in which universities must take the initiative. The universities must examine the needs for professional services in other sectors of the economy, develop programs to create an

<sup>1/</sup> The extent to which the disequilibria described in the study prevail in Colombia is, of course, another question, but the irrelevance of higher education constituted by the mismatch between the pattern of specialization and high-level manpower needs is a problem throughout Latin America.

awareness of these needs, and train professional to fill them. A new and unusual role is envisioned here for universities, but the problems to be dealt with seem important enough to justify such a departure."1/

The present pattern of enrollment and specialization in the National University of El Salvador appears to be a reflection of uninformed student choice. Students are not enrolling in academic programs which they have a reasonable probability of completing. These academic programs are not preparing students for interesting, useful and remunerative employment. Students are continuously undergoing the frustration of unrealized expectations. This frustration often leads to violent protests which place new obstacles in the way of rational solutions. It is common knowledge that improving the planning and management of the universities is a complicated task. However, it is not as commonly known that one of the conditions for this improvement is a continuous analytical process which identifies, quantifies and explains defects and deficiencies.

1/ "High-Level Manpower in Colombia: A Market Analysis", W. Bowman Cutter, Howard J. Howe and Charles C. Stover Ed. Ford Foundation, 1968. pages, 179 and 180.

## E. Out-of-School or Non-Formal Education and Training

### 1. Access

Discussion of out-of-school, or so-called non-formal, education and training, has been characterized by considerable terminological confusion. I must therefore begin with two definitional points. First, it will be assumed that by "education and training" reference is being made to activities that have learning as a purpose or objective -- not to the much larger set of social activities that have learning as one of their consequences or outcomes. Second, out-of-school education and training has a great variety of patterns and procedures. Perhaps, most of these activities have as much, or more, "form" or structure as school activities. This is why I prefer the term "out-of-school education and training." However, "non-formal education and training" is the phrase commonly used to refer to the activities considered in this section. The phrase will therefore be used in this report and abbreviated as the acronym, NFE.

Wilson Velandia, the Colombian analyst who was given the main responsibility for analyzing NFE, has undercut or removed many definitional questions by subordinating them to what he perceives as the main policy option or issue: shall public sector NFE policy be concentrated largely or exclusively on labor force skill training, or shall it deal with the larger human purposes, and the greater assortment of needs, that are traditionally in the purview of education? If the first option is chosen, the previous definition of NFE is further reduced to training activities aimed at developing knowledge, attitudes and skills directly related to employment activities. If the second option is chosen, the previous definition holds, and NFE refers to a very large residual: all the education and training activities that are not kindergarten, basic education, high school and higher education activities.

There are three important reasons, I think, for selecting the second option. First, there are out-of-school education and training activities which can make significant contributions to the short and long-range satisfaction of basic human needs that are not, in themselves, the need for employment, nor are automatically solved through remunerative employment. An example would be education and training activities which provide information concerning sanitation, and address basic needs in the areas of health and nutrition.

Second, with the exception of on-the-job training, efforts to put education or training and employment activity or job performance in some sort of one-to-one relationship has failed very often. Integrated and knowledgeable individuals tend to be those with the greatest flexibility and the greatest capacity for learning, whether on or off the job. Out-of-school education and training programs that provide broader knowledge and social skills, and are not focused on employment, often contribute to employability and subsequent work performance, as well as provide their own intended benefits. 1/

Third, the two preceding contentions are reflected by the institutional and programmatic realities. The existing NFE entities and current NFE programs, in both the public and private sector, are surprisingly broad. They are not limited to skills training for employment. Consequently, NFE policies should take into account the non-skills education and training programs. This applies to policies which constitute direct interventions and resource allocations in the public sector, as well as policies which constitute less direct influences on the private sector. Assessments, however rough and approximate, of the access, efficiency and relevance of all the NFE programs are needed for the development of coherent policies, and for the proper utilization of scarce resources.

These programs can be divided into two major groups: 1) firm-level programs which are carried out in or for the firm or the farm, and are, therefore, almost all privately funded; 2) large-scale programs which are carried out at levels which are broader in scope than the firm or the farm. The large-scale programs can be further sub-classified as follows: a) programs carried out by the Ministry of Education (MOE); b) programs carried out by other public sector institutions; c) programs carried out

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1/ Velandia refers to the following hierarchy of personal needs specified by Gage in 1975: 1) need to survive; 2) need for security; 3) need to "belong" to some social group; 4) need for self-esteem and social esteem; 5) need for communication; 6) need for knowledge; 7) need for understanding; 8) esthetic needs. Needs 1) through 4) are most intense when most deficient, and 6) through 8) represent "needs" which become more intense, when more satisfied. Need 5) partakes of both characteristics. The "hierarchy" can be used to illustrate the point just made. For both individuals and the society, the lower-level or more "basic" needs (1-4) are less likely to be satisfied if the higher-level needs are ignored and left unattended.

by private institutions.

Six "sources" were utilized under this analysis for carrying out what is clearly a very partial and preliminary review of NFE. Four of these sources were studies carried out by the State University of California at San Jose under the guidance of ODEPOR, and embodied in documents dated February, 1975. Two of the original sources were surveys carried out for this analysis under the direction of ODEPOR. These were a survey of workers and employers concerning training, conceived and in large part designed by the ODEPOR Director, Carlos Heymans, and a survey of citizens concerning their preferences for NFE programs designed mainly by ODEPOR analysts.

One of the San Jose documents is dedicated mainly to a review of the MOE programs. Perhaps the fact or finding of most importance for policy is that there is serious shortage of data concerning the programs carried out by the Ministry. Admittedly, data on initial "enrollment," participants, and "graduates" for NFE programs may be more difficult to obtain and maintain than for schooling programs, but without such data, assessments of "costs" and "benefits" cannot be made. Although the document in question describes nine GOES NFE programs, and makes certain judgements about their comparative merits, the author points to the insufficiency of data. There is apparently not enough data for making firmly grounded judgments as to whether any given program should be expanded, maintained or phased out.

Review of the apparently available information on other major public and private programs leads to conclusions that are similar to those that followed the review of the diversified programs at the level of high school and higher education. The great diversity of institutions and programs should be recognized as a highly desirable development. The identification of a very large assortment of skills training to marginal groups (Fé y Alegria), skills training for labor force members (NAC - a Ministry of Labor program), assistance from the President's office for community development projects (FOCCO), training of rural community leaders in health care, nutrition, community development procedures and first aid (Universidad Campesina), short courses for executives (CENAP - a Ministry of Economy program), support for the development of cooperatives, (INSAFOCOOP and FUNPROCOOP) -- has led to the establishment of many institutions and/or programs for covering or addressing these needs.

Are the more basic NFE needs addressed? Is the coverage or access adequate? Are the programs effective and efficient? Are total public resources properly allocated among programs?

The difficulties confronted in answering these questions should be surprising to no one. To the best of my knowledge, no nation, developed or developing, can provide fully satisfactory answers. And yet, if NFE is to expand in the LDCs, better criteria will be needed for determining needs and designing programs, and for assessing the access, efficiency and relevance of ongoing activities.

Obviously, as a result of the great diversity of NFE, the problem of identifying, collecting, and analyzing the required data is much greater than in the area of schooling.

However, the basic principles are the same. And in both the school and non-school area the most common and serious errors arise from viewing the issue in either-or terms: either we can quickly obtain all the relevant data, specified by some comprehensive model which takes the data and produces or issues a clearly-defined, wholly-formed policy, or we abandon the task of improving data collection, processing and analysis, and continue making policies and plans on the basis of custom and hunch.

NFE, is much too important to be treated in terms of the passing fashion or fad. Since policy and planning continually takes place, and since NFE decisions must be periodically made, these decisions should be based, to the extent possible, on an ongoing analytical process under which data is tested through use and new data needs are identified. Policy decisions can then be viewed as successive approximations to judgments which are fully, or more fully, informed.

Conceivably, improvements in NFE data collection should begin with the large-scale public sector programs, with emphasis on data bearing on coverage, cost, and the successful completion of programs. But whatever priorities and sequences are established, it is clear that if a comprehensive NFE policy is desired, a national or central depository for the storage, retrieval and dissemination of NFE information is an inescapable need. In view of the importance given to NFE at the Vice-Minister level, such a recommendation may be well received by the MOE in El Salvador.

From the above comments, it should be clear that any measurement of present NFE access or coverage must be rudimentary at best. The Harvard analysis of the workers-employers survey which had over-representation of industry and under-representation of farms, suggests that almost all workers (about 1,500 interviewed) and employers in firms believed they had received or given "employment training." but that a very large part of this was simply supervision on the job: of all the workers, 91% said they had had "work-experience training." On the other hand, of all the workers, 29% said they had received job rotation "training;" 26% had participated in courses; 12% in conferences; and 6% in seminars. Eighty percent of the "training" was in company premises; 20% outside. The "trained" employees were classified as follows: a) professional and top management, 22%; b) white collar workers, 23%; c) skilled and semi-skilled workers, 20%; d) unskilled workers, 36%.

Perhaps the most significant finding concerning the amount or duration of access or training that employees in the firms received is the fact that it is highly correlated with education. The more education employees had, the more training they were likely to receive.

Employers may be wrong in providing more training to those employees who have more schooling. But so long as this condition prevails, the opportunity for firm-provided training will increase with prior schooling. This suggests that policy-makers should have very solid proof that future provision of at least the lower levels of schooling to the entire population is not financially feasible, before they reduce the planned amounts of schooling, and attempt to substitute this schooling with some vaguely conceived NFE substitute for basic education. In the specific case of El Salvador where, as will be seen, six grades of education can be extended to the entire school-age population over the next 25 years, with much larger percentages of the older-age children reaching schooling levels, than reached these levels in the past, the kind of substitution just mentioned would be patently absurd.

Apparently, measurement and assessment of the access to the MOE large-scale NFE programs cannot be carried out much better than for firm-level NFE programs. Although enrollment statistics are available for the programs which provide academic content and school-level diplomas (the accelerated primary education program for adults, and third cycle education through TV and Saturday-Morning

consultation for individuals not attending school) what appears to be low enrollment levels cannot be definitely classified as such without some estimate of the amount of individuals who qualify for such programs and are in need of them. In other words, access to these two programs does not seem to be adequate, but apparently more data is required before this can confidently be affirmed.

Data on access to MOE programs focused on skills training, along with the development of broader social capabilities, such as the Zapotitan Avenimiento y Riego and the Urban Labor Force Training project, which observers seem to consider among the more promising NFE projects, is probably more difficult to obtain and maintain than the two schooling-alternative programs that were mentioned above. However, without such data present and potential access cannot be measured and estimated. Obviously, this is also true of the 12 major and very different NFE programs, such as Fe y Alegria, Insafocoop, Universidad Campesina, etc..

## 2. Efficiency

Measurements and comparisons of the efficiencies of the many NFE programs will obviously require major efforts in the area of data collection, processing and analysis. It will be necessary to obtain information about the programs total cost, and to estimate per-student costs, taking the duration of programs into account. Some assessment of educational and training results through judicious sampling would also be desirable.

## 3. Relevance

The workers-employers survey, designed and carried out by ODEPOR, attempted to identify as many as 29 skills, which were grouped by Harvard through factor analysis into the following five categories: 1) social; 2) analytical; 3) clerical; 4) relationship; 5) perception and physical dexterity skills. It is significant that employers, particularly in the large firms, were more interested in providing training to skilled and unskilled workers in what were classed as the social skills (the spirit of cooperation and service, loyalty to the firm, dedication to work, etc.) than in perceptual-dexterity skills. Skilled and unskilled workers were provided more training than white collar employees and professional-management with surprising emphasis on the social skills just mentioned. Indeed, insofar as the acquisition of skills were rewarded by raises (and the analysis itself casts doubt as to whether the connection can be conclusively demonstrated), it was the acquisition of social and relationship skills which seemed most likely to be rewarded by these raises, and the acquisition of clerical and analytical skills the least likely to be so rewarded. This employer attitude towards analytical skills also seems to be reflected by the fact that it was the least likely of the five skills to be acquired under the training provided by company managers, department heads and firm technicians. Indeed, analytical skills were most frequently acquired through instruction outside of the firm-- a fact that can be used to highlight the possible importance for firms to get the more critical perspective of an external training organization, such as CENAP. Apparently, employers realize that harmony in the plant and manual dexterity on the machines is important for productivity. That analytical skills can improve planning and management which will lead, in turn, to productivity increases, may be less obvious to employers in developing countries. In this area many employers may need a certain amount of education and guidance.<sup>1/</sup>

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<sup>1/</sup> The possibility of educating and informing employer demand for manpower in the LDCs is a theme that needs to be given much more attention. A small employer survey carried out in the Department of San Salvador under the ODEPOR-San Jose State project revealed that about one-half of the employers had not "been informed" or "had not opportunity to inform themselves" about the diversified high schools.

Were the firm-level training programs relevant? Did they increase productivity?

Had various survey or studies been made, with measurements of the productivity of the workers taken before and after their training, perhaps we would have a conclusive reply. In attempting to get at this question by means of a single cross-sectional survey, it was necessary to ask employees if they had received raises, and to see if it could be determined whether these raises were largely the consequence of the acquisition of new skills.

The most simply tabulated results were as follows: a) 30% acquired new skills and got raises; b) 13% did not acquire skills and got raises; c) 36% acquired new skills and got no raises; d) 21% did not acquire skills and did not get raises. At first sight it does not seem possible to claim a relationship between skill acquisition and raises. After application of regression and path analysis techniques it was still impossible to claim the relationship. The analysts summed up their findings as follows: "If one had a great deal of confidence in the Raise measure (which we do not) the conclusion would be that training and learning are not particularly relevant for increases in productivity. The other possibility is to doubt the Raise as a productivity proxy, and to look for other ways to test the general model."

ODEPOR's workers-employer survey for examining the relevance of firm-level training programs should be viewed as an important first step in the development of methods, many of which may be applicable to the large-scale public and private programs. As well as measuring the costs and the learning outcomes of these programs, it would be desirable to establish follow-up or tracer studies to determine the proportion of participants who subsequently obtain employment, increase their incomes, improve their dietary habits, upgrade village conditions through the introduction of new technologies and improved community development programs, etc..

These efforts to evaluate ongoing programs cannot, however, substitute for the need to identify and estimate present and future manpower requirements. Recognition of this need under the ODEPOR-San Jose State project was reflected in a manpower study, but the estimates or projections, which extend only to 1981, were necessarily based on fairly heroic assumptions and on aggregate one digit CONAPLAN growth sector projections. As has been pointed out by Russell Davis, El Salvador "is still a long way from having any coherent picture of its manpower requirements." Census data "does not have the occupation/sector information tabulated or analyzed except at the one-digit level", and this is not sufficiently disaggregate for useful manpower planning. It should be also pointed out that, although most of the needed changes in tabulation procedures may be

fairly simple changes, they are not likely to be carried out so long as a GOES institution has not been charged with the responsibility for ongoing manpower studies and planning.

ODEPOR's "Audiencia" study, also analyzed by Harvard, was an attempt to estimate the market demand for NFE programs. Over 7,000 individuals were asked 88 questions about:

- 1) their present knowledge of subjects in various areas;
- 2) their desire for more information;
- 3) their access to, and preferences for, the mass media that might be utilized to convey this information.

Results were tabulated for 15 areas: 1) diseases and illnesses; 2) preventive medicine; 3) food and nutrition; 4) agricultural crop production; 5) agricultural livestock production; 6) agricultural support services; 7) jobs-general; 8) jobs-skilled; 9) jobs-repair; 10) jobs-service; 11) jobs-tourist; 12) home economics; 13) education and culture; 14) recreation-participative sports; 15) recreation-spectator sports. Respondents were asked if they had "much, little or no desire for information" concerning the different subjects. "Much, little and no" were scored as 1, 2 and 3 respectively.

Although sampling and questionnaire problems made findings less generalizable, varied and detailed than originally hoped and expected, some of these may be useful for designing NFE programs. In general, the respondents felt they had "little" to "no" knowledge of the fifteen subjects (overall mean, 2.351). In general, the demand or desire for this knowledge is high (overall mean, 1.677).

The respondents claimed to possess greatest knowledge about food and nutrition, preventive medicine, home economics, spectator and participative sports. The three subjects for which there was greatest demand were food and nutrition, preventive medicine and diseases and illnesses.

As the analysis points out, it would appear from this result that higher levels of knowledge beget higher demand for information. This should not come as a surprise to educators who recognize the role of basic language and number skills in increasing the disposition, as well as the ability to learn. The high rating on subjects bearing on health also suggests that NFE programs in these areas would be very well received.

The responses of rural residents indicated more knowledge than urban residents only about agriculture. And rural residents demanded more information than urban residents in the areas of preventive medicine, crop production, livestock production agricultural support services; and participative sports.

Women demanded more information concerning preventive medicine, service jobs, and home economics. Men demanded more information in the other areas. The extent to which greater masculine demand for information reflects higher schooling levels of men apparently was not determined.

The relation of age to demand had an interesting finding. Individuals 30 years of age or older did not have a greater demand for information than individuals under 30 in any one of the 15 areas. In six subjects--the three agricultural subjects, skilled and service jobs, and diseases and illnesses--there were no significant differences between the two age groups. In the nine remaining subjects, individuals under 30 had greater demand for information than individuals 30 years of age or over.

With respect to media, over 75% of the respondents had access to radio, newspaper and mail, and over 95% had access to radio. Over 50% had access to telephone, TV, magazines, and newspapers in that order. With respect to institutional access, 92% had access to schools, 89% to public address vehicles, and 75% to hospital health units.

Over 80% of the respondents made TV and radio their first choice for receiving NFE. Libraries, religious organizations and local authorities were the first institutional choice for 65% of the respondents. It is significant that schools were not ranked first by a single one of these adult respondents.

To conclude, NFE in El Salvador is provided by many organizations and consists of many kinds of programs. Although shortages of information concerning the access, efficiency and relevance of these programs is probably no greater than in most countries, a coherent national NFE policy cannot be formulated without collecting considerably more data than is presently available. This is particularly true with respect to relevance, where manpower studies, as well as analyses of basic human need sectors, such as agriculture and health, would help identify the kinds and amounts of education and training required for imparting needed knowledge and for developing needed skills.

### III. Education and Training Targets: 1982-2002

#### A. Introduction

Although Analytical Working Document No. 15 is presently under preparation, the principal estimates have been made and will be specified in this section. AWD No. 15 takes the access, efficiency and relevance findings that emerged from the analysis of past phenomena and interprets their implications for planning in terms of feasible combinations of hypothetical targets, from 1982 to 2002. This time-span corresponds to the following GOES five-year planning periods: 1978-82, 1983-87, 1988-92, 1993-97, 1998-2002.

The prior analyses, (AWD No's 1-14, and the study of relevance) identify major problems and bottlenecks, and thereby provide criteria for improving the selection of targets or ends. By helping explain the causes of these problems, the prior analyses also provide criteria for improving the selection of means to the selected ends or targets. In other words, basing planning on prior inquiry increases the probability that the right ends or targets will be chosen, and that the targets that are chosen will be achieved or attained.

As well as inquiring into means-ends connections, it is necessary to estimate the amounts of means or resources which can be made available, and to estimate these in monetary or funding terms. Although the Ministry of Education budget in 2002 cannot be calculated precisely, it does appear possible to estimate rough orders of magnitude which permit the setting of targets, and the preparation of plans. Needless to say, plans can be altered if required by unanticipated events.

Ingeniero Edgardo Martínez, the Chief of ODEPOR's statistical division, decided that the estimate of the MOE budget should be conservative. (1976 was taken as the base year, and all subsequent year price estimates are in 1976 constant prices.) The annual GDP growth rate for 1976-2002 was set at 5%. 1/ General revenues for

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1/ GNP historical growth rates (these rates are similar to the GDP rates): 1960-65, 6.8%; 1966-70, 4.3%; 1971-76, 6.4%. The 1977 growth rate will be very large due to the high international coffee prices. The Ministry of Planning has selected a 7% annual growth rate for the 1978-82 planning period.

the 25-year period were to decrease linearly from 15.5% of GDP in 1976 (a high year) to 14.0% in 2002. 2/ The MOE budget as a percentage of General Revenues was to decrease from 25.6% in 1976 to 22.0% in 2002. 3/

Based on the above assumptions, the MOE Budget would increase from 216,290,000 colones (\$86,516,000) in 1976 to 598,358,000 colones (\$239,343,200) in 2002, in constant 1976 prices. This would represent an average annual increase in the MOE budget of only 4%. 4/

A rough idea of the possible distribution of these funds in 2002 among 10 different kinds of public sector education and training activities will be given in the sections B and C below.

There are five linked activities, and five non-linked or independent activities. The "linked activities" are the traditional activities that make up the school system and that are interrelated through accreditation for entry, i.e. Cycles I, II and III of Basic Education, High School, and Higher Education. Targets and estimated expenditures in 2002 for the five "non-linked" activities, described in the next section, were estimated first, and "taken off the top," so to speak, in order to obtain the residual which functions as the constraint or limitation in funds, used to estimate different combinations of feasible schooling attainment targets.

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2/ For the period 1966-73, General Revenues averaged 11.98% of GDP. This is considered relatively low. It went up to 14.1% in 1974, 14.7% in 1975, and 15.5% in 1976.

3/ For the period 1966-73 the MOE budget averaged 25.23% of General Revenues. In 1974, 1975 and 1976, it was 25.1%, 23.9% and 25.6% respectively. This is a comparatively large share for education. A reduction over the 25-year period to 22% would liberate resources for other important sectors, such as agriculture and health.

4/ There is invariably a difference between the amount budgeted and expenditures. Total MOE expenditures in 1976 were 226,314,184 colones. Historical distributions of actual expenditures, rather than budgets, were among the criteria used for distributing the funds in 2002 and estimating targets.

B. The Five Non-Linked Ministry of Education Activities

The table that appears below provides an overall view of the treatment given to the five non-linked activities.

	1976	% of Total	2002	% of Total	Increase in Yearly Expenditures	Annual Growth Rate
Total MOE Expenditures	226,314,185	100%	598,358,000	100%	372,043,816	3.8%
Recurrent	185,463,247	81.9%	-	-	-	-
Capital	40,850,938	18.1%	-	-	-	-
Expenditure-Five Non-Linked Activities	51,726,017	22.8%	85,774,000	14.3%	34,047,983	2.0%
Recurrent	33,693,870	14.9%	70,454,200	11.8%	36,760,330	2.9%
Capital	18,032,147	7.9%	15,319,800	2.5%	-2,712,347	-
General Administrative & Tech'al Services	15,331,752	6.8%	38,893,000	6.5%	23,561,248	3.6%
Recurrent	12,178,466	5.4%	31,114,400	5.2%	18,935,934	3.7%
Capital	3,153,286	1.4%	7,778,600	1.3%	4,625,314	3.5%
Educational Television	3,791,488	1.7%	7,779,000	1.3%	3,987,512	2.8%
Recurrent	3,791,488	1.7%	6,223,200	1.0%	2,431,712	1.9%
Capital	-	-	1,555,800	0.3%	1,555,800	N.A.
Youth, Culture and Sports	26,780,150	11.8%	21,427,000	3.6%	-5,353,150	-
Recurrent	12,001,289	5.3%	17,141,000	2.9%	+5,140,310	1.5%
Capital	14,778,861	6.5%	4,285,400	0.7%	-10,493,461	-
Non-Formal Education	2,467,515	1.1%	8,500,000	1.4%	6,032,485	4.9%
Recurrent	2,367,515	1.0%	6,800,000	1.1%	4,432,485	4.1%
Capital	100,000	0.1%	1,700,000	0.3%	1,600,000	11.5%
Kindergarten	3,355,112	1.5%	9,175,000	1.5%	5,819,888	3.9%
Recurrent	3,355,112	1.5%	9,175,000	1.5%	5,819,988	3.9%
Capital	-	-	-	-	-	-

The reported expenditures (operating and investment) of the base year and the corresponding percentage shares of the total 1976 expenditure appear in the first and second column. The estimated expenditures (operating and investment) in 2002 (in terms of constant 1976 prices) and the corresponding percentage shares of the estimated total expenditure in 2002, appear in the third and fourth column. The 85,774,000 Colones for the five non-linked activities is simply the sum of the estimated expenditures in 2002 for each one of the five following activities.

### 1. General Administration and Technical Services

The proposed increase of roughly 24 million colones in this activity over the planning period has been viewed as large, and may err on the over-estimate side. One would expect significant economies of scale in the activity which provides central direction and support to field activities undergoing large-scale expansion. The large proposed increase in this activity has two purposes: 1) to provide funding for continuing research and analysis; 2) to provide additional professional MOE resources required for program design, monitoring, and evaluation.

### 2. Educational Television

Although ETV is among the more important education activities in El Salvador, it has not been given adequate treatment under the sector analysis. AWD No. 5 is one of the four of the 15 AWDs that has not yet been completed. Moreover, it is not likely that this AWD will resolve in the issues concerning the "costs" and "benefits" of an activity that has been studied by an unusually large number of educators, economists, and communication specialists who do not seem to agree as to whether it is a success or a failure. The increase of about 4 million colones would reduce ETV's share of total expenditures from 1.7% to 1.3%. The relatively modest nature of the proposed increase is based on the consideration that the large investment costs are past and "sunk" (for example, there were no ETV investment expenditures reported for 1976) and on the expectation that, although future reception costs (purchase and maintenance of TV receivers) may increase somewhat, production and transmissions costs will not.

### 3. Youth, Culture and Sports

To understand the proposed reduction of Youth, Culture and Sports from over 26 million colones in 1976 (11.8% of the total MOE expenditures) to 21.4 million colones in 2002, it is necessary to examine the changes in terms of the recurrent and capital expenditures.<sup>1/</sup> The "lumpiness" of investment or capital expenditures

<sup>1/</sup> Each transfer utilized for recurrent and capital expenditures has been included in accordance with its category.

is one of its well-known features. It is obvious that investment in this category was exceptionally large in 1976, exceeding the recurrent expenditures. Moreover, during the last seven years there have been considerable investment in infrastructure. This includes the construction of a large number of Casas de Cultural (community centers) throughout the country, the repair and construction of sports stadiums, and the virtual reconstruction of the old Victorian theatre in San Salvador. Indeed, an average annual investment expenditure of over  $\text{Q}4$  million colones, in real terms, in 2002, may also be too high a proposal or estimate, in view of the recent high-level investment in infrastructure. It should also be noted that proposed yearly recurring expenditures in 2002 would be over 17 million colones, an increase of 5 million over recurring expenditures in 1976.

#### 4. Non-Formal Education

The proposed increase in NFE may also prove to be an over-estimate. An expenditure of 8.5 million colones in NFE for the MOE represents a tripling of its present level of activities. In view of the issues raised in the NFE section concerning the problems that need to be solved to bring about better assessments of needs, ordering of priorities, design and monitoring of programs, the proposed level of expenditures of  $\text{Q}8.5$  million seems to represent a reasonable expansion. Of course, if analysis and planning in this area improves more rapidly than expected, greater expansion of services would be highly desirable.

#### 5. Kindergarten

The rationale behind the proposed level of a 9,175,000 colon expenditure in Kindergarten by 2002 was set forth in the section concerning the expansion of Kindergarten. This estimated expenditure would provide Saturday-morning Kindergarten to all six-year olds and Regular Kindergarten to a portion of five-year olds. Of course, private school Kindergarten will provide additional access.

It should be kept in mind that the future levels of the five non-linked activities will be determined by the MOE. The important issue is not whether any one of the five proposed levels or estimates is an accurate prediction, but whether 85,774,000 colones is a reasonable level to set for all the activities. It is obvious that the 14,778,861 colones capital expenditure in Youth, Culture and Sports is extremely high, an anomaly, and an expenditure that can, at most, be justified as one-year exception. Had this item represented 0.7%, instead of 6.5% of total MOE expenditures in 1976 the total for the five non-linked activities

would have been 38,531,355 colones instead of 51,726,017 colones, representing 17.0% instead of 22.8% of MOE's total expenditures. In this case the increase, in real terms, to 85,774,000 in 2002, would represent a 3.1% annual growth rate, instead of a 2.0% rate. In conclusion, 85,774,000 colones, 14.3% of the total MOE budget, for the five non-linked MOE activities in 2002, seems to represent a reasonable estimate.

### C. The Five Linked Activities

What are feasible or achievable combinations of schooling level targets for the rural and the urban zone, for every year in a 25-year planning period, beginning in 1977 and ending in 2002? The computer model designed to answer this question is different from most planning models in that it both reflects and alters relationships that have been uncovered and quantified by a prior analysis. Model runs were initiated with 1976 data on enrollments, costs and flows. These runs generated future enrollments in all grades, and calculated the capital and recurrent costs of the five linked activities: Cycle I (Grades 1-3), Cycle II (Grades 4-6), Cycle III (Grades 7-9), High School (Grades 10-12), and Higher Education. For Basic Education, enrollment was used to calculate quantities of teachers, teachers working overtime, new buildings, new furniture, books, and materials that would be needed for any given year. The expenditures represented by these quantities were then calculated on the basis of the 1976 unit costs for salaries, overtime pay, construction, furniture, etc..

The estimated availabilities of funds and students were the two major constraints. By subtracting the 85,774,000 estimate of requirements for the five non-linked activities from the estimated MOE budget of 598,358,000 in 2002 we arrived at the financial limitation of 512,584,000 (rounded at 513 million) for the five linked activities. The amount of entry into the first grade was constrained by CONAPLAN's school-age population projections, and entry into every subsequent grade could not, of course, exceed graduates from the preceding grade.

Certain key efficiency improvements were built into the model. These were the improvements that the analysis of basic education efficiency revealed to be achievable rather readily through simple expansions or through changes in Ministry policy.

For example, the reduction of repetition can be achieved in great part through expansion. Since the bulk of it has been shown to be a vicious circle or blockage phenomena, the linear reduction of repetition in grades 1-6, from their present high rates to considerably lower rates in 2002, was treated as "fixed" in the model. Increases in the double-shifting of rooms and the double-shifting of teachers are examples of improvements to be achieved through changes in Ministry policy. Gradual increases in the proportion of double-shifting were also treated as "fixed" in the model.

Of course, such treatment does not in any way prevent ODEPOR from very easily altering these coefficients in their computer programs if actual performance either exceeds or falls short of the chosen targets. The model is extremely flexible, and should be used as an evaluating and monitoring instrument.

Using these and a few other minor built-in improvements in efficiency, the following question was then addressed by the model: Given the future school-age population and the availability of 513 million colones, what would be the highest rate of improvement or increase in transition to be achieved by 2002 (and, consequently, the rate of improvement or decrease in "dropout") were this transition improvement rate uniform or the same for every one of the grades?<sup>1/</sup> Through a process of successive approximations it was determined that 38% was the uniform transition improvement rate in 2002 which would consume the available funds estimated for that year.<sup>2/</sup> A gradual movement to the financially attainable uniform 38% improvement by the year 2002 implies the following changes in cohort schooling-level attainments:

Year	Percentage of cohort <u>reaching</u> grade:				
	Grade 3	Grade 6	Grade 9	Grade 12	Graduates: Higher Education
1976	64.66%	38.37%	33.90%	14.65%	1.19%
1987	73.82%	53.45%	43.99%	22.36%	5.46%
2002	76.70%	60.71%	51.07%	30.11%	12.42%

Of course, we recognized from the start that uniform rates of improvement in transition between all grades, and in both of the zones, was not the proper target from the point of view of

<sup>1/</sup> For instance, a uniform 10% improvement rate in transition or "dropout" would mean that a current 20% "dropout" rate between two grades would go down to 18%, and a current 50% "dropout" rate would go down to 45%.

<sup>2/</sup> To further clarify, a 38% improvement means that out of every 100 students who would have left the system between two grades (had 1976 attainment rates persisted), 38 would continue on to the highest grade in 2002, and only 62 would be lost.

feasibility, nor desirability. There are at least three different reasons for setting different transition improvement target rates. First, current rates vary significantly among grades and between the two zones. Second, the analysis identified some of the areas in which greater transition rate improvements can be much more easily made. Third, present and future transition rates reflect three different phenomena: 1) access; 2) dropout; 3) admissions policy regarding entry into a level.

If priorities are to be established through a selection from the collection or set of feasible targets, the number of these must be limited. We therefore decided that there would be a "high", "medium" and "low" target for each one of the five levels or linked activities. The low (0%), medium (38%), and high (76%) rates were selected so that: 1) low reflects no improvement in transition rates or attainment levels; 2) an all-medium solution is the financially feasible maximum uniform solution, and 3) "high" and "low" are symmetric about "medium". Alternative combinations of targets, when constrained by the estimated availability of £513 million colones, would therefore serve to highlight the trade-offs-- a high at one level would have to be paid for by accepting a low at another level.

Computer runs which estimated all the possible low, medium and high combinations for the five linked school activities were carried out separately for the rural and urban area. This made it possible to examine hypothetical schooling attainments, and their concomitant costs, independently for each zone; and confronted the analysts with the need to make a selection: to discard some of the feasible combinations, and to accept others. In this process, priority with respect to zone was given to the rural area, and priority with respect to levels was given to Basic Education.

Of the various combinations of high, medium and low improvements that proved to be financially feasible, the following solution was one of the best as far as: 1) satisfying Ministry priorities; 2) increasing educational attainment levels; 3) achieving greater equality of opportunity in urban and rural zones; 4) likelihood of attainment.

	Grades 1-3	Grades 4-6	Grades 7-9	High School 10-12	Higher Education
Rural	76% (H)	76%(H)	76%(H)	38%(M)	0%(L)
Urban	76% (H)	76%(H)	76%(H)	0%(L)	0%(L)

These improvements in reduced dropout translate into the following cohort achievement levels.

Percentage of cohort <u>reaching</u> grade										
	Grade 3		Grade 6		Grade 9		Grade 12		Graduates Higher Education	
	1976	2002	1976	2002	1976	2002	1976	2002	1976	2002
Nation	64.66	91.85	38.37	82.76	33.90	72.31	14.65	30.65	1.19	3.94
Urban	71.78	93.94	57.84	90.33	61.66	91.81	29.20	49.44	2.02	8.00
Rural	56.70	90.00	18.55	75.88	5.66	54.37	0.00	12.94	0.00	0.00

The enormous progress that is represented by the estimated schooling level attainments in 2002 is one of the highly encouraging findings of this sector analysis. In the rural area entry into Grade - 6 would increase from 18.55% of the cohort in 1976 to 75.88% in 2002; entry into Grade - 9 from 5.66% to 54.37%; entry into Grade - 12 from 0.00% to 12.94%. Increases in schooling attainment levels in the urban areas would also be very large, not only in Cycles I, II, and III as a result of selecting high targets in the transition improvement rate, but also in Grade - 12 and Higher Education, due to increases in transition at the lower levels. It should not be forgotten that these large increments in percentages of individuals entering the last grade of each level represent a 2002 school-age population that is much larger than the 1976 school-age population. It is evident that El Salvador can offer schooling to large portions of the population that are not presently participating in the education process.

#### IV. Major Findings, Data Needs, and the Advantages of Collaborative Analysis

Three major overall findings have emerged from the El Salvador education sector analysis. 1) The analysis has identified substantial inefficiencies and relatively easy ways of eliminating these inefficiencies in basic education, which consumes about  $\frac{1}{2}$  of the budget, and which has over 90% of the enrolled students. (September 1 Executive Summary). 2) The analysis has shown that a large scale expansion in the access to education and training over the next 25 years, to drastically reduce inefficiencies in basic education, and to attain considerably higher levels of schooling for the growing population, is a financially feasible goal. 3) The analysis has highlighted the need for expanding data collection and for making additional improvements in analysis and planning so that the opportunities represented by the first two findings can be successfully exploited.

Better data collection, analysis and planning are needed in order to deal more effectively with the following problems. 1) Extension of Saturday-Morning Kindergarten to the entire six-year old population will require careful planning of the contractual arrangements to engage the services, through a salary supplement, of the many additional basic education teachers involved. 2) Large-scale extension of basic education in the rural area to eliminate the rural insufficiency will require a great expansion in teacher preparation, and better anticipation and planning in this neglected area. 3) The expansion of basic education will have the effect of greatly increasing demand for High School. In meeting this demand, fuller use should be made presently under-utilized facilities. Additional tracer studies should be carried out to prevent, among other things, expansion of the new specializations, if more favorable findings on the efficiency and relevance of these specializations do not emerge. 4) The expansion of higher education in response to the increasing demand should be accompanied by radical changes in the enrollment pattern of specialization and by improvement in planning and full-time management. This is particularly urgent in a level that is characterized by great inefficiency and irrelevance. 5) A coherent NFE policy will require assessments of the effectiveness of the current NFE programs in contributing to the satisfaction of basic human needs. 6) Better estimates of manpower needs and demands are required to guide the pattern of specialization for high school and higher education.

Even though at the start of the project, ODEPOR was a superior planning office, there still is a need in El Salvador to improve data collection, analysis and planning. This fact strongly suggests that there is a great need to improve planning offices in most other LDCs.

Obviously, better education and training in the LDCs also calls for the improvement of management. However, the analysis has shown that better data collection, processing and analysis help identify problems of implementation, and thus contribute to the improvement of management. Moreover, by identifying previously ignored problems and by documenting the methodology, statistics, and findings, analysis can contribute to broader participation in the policy-making process, particularly if the documentation is widely disseminated.

I think collaborative analysis should become a major activity of the foreign assistance agencies. Some of the benefits of collaboration can be shared subsequently with other LDCs. A foreign assistance agency that participates in a genuinely collaborative analysis learns as much, or more, than it teaches. Both in the design and execution stages of the El Salvador analysis, exchanges among Prof. Julio Cesar Rosa-Manzano, Chief of ODEPOR's planning department, the Salvadoran analysts, AID and BUCEN personnel, led to the identification of problems, issues and findings which would not have been identified by either the U.S. or the Salvadoran party, had this party been working alone.

Without needed changes in the education and training systems of the LDCs, large-scale international resource transfers may contribute to a strengthening of existing distortions and imperfections. All education programs are, by definition, "good," and in the absence of analysis and evaluation, there is a serious lack of sound criteria for allocating scarce resources among them. When such criteria are missing, there is a tendency for projects to proliferate; and proliferation places new obstacles in the way of rational policy formulation and effective management. Perhaps foreign assistance agencies should be less insistent on getting certain policies adopted and more interested in establishing a good policy-making process.

Participation in a collaborative analysis of education and training provides various benefits to AID. It involves AID in a learning process that contributes to the development of a memory that is not a mere collection of unrelated facts, but one that incorporates understanding. It contributes to AID's assessment of the extent to which the LDC is committed to improving the productivity and the welfare of its poor majority. And it helps AID decide whether an education budget is sufficiently large, and whether it is being fairly distributed and efficiently managed.

V. The Major Policy Issues

Consideration of the major policy issues will begin with the central policy issue concerning education in El Salvador: whether or not to provide opportunities in the rural areas that will place these on a level that is equal, or nearly equal, to the urban areas. In other words, the central policy issue is whether or not to eliminate the rural schooling insufficiency at the basic education level.

The Sept. 1 report explained that "dropout" and repetition -- the major inefficiencies in basic education -- are concentrated in the rural zone and are largely the consequences of insufficiency, or inadequate access. It also described how the increase in the double-shifting of classrooms and teachers could contribute to reducing per student cost, and presented evidence supporting the contention that this double-shifting would have positive effects on dropout and repetition, and would not have negative effects on academic performance.

Section III. C. "The Five Linked Activities" of the present report presented the second major overall finding: over the next 25 years a major expansion of schooling services that would increase schooling-level attainment rates in both the rural and urban zones by very large percentages is financially feasible. A financially feasible combination of targets is displayed in the last table of Section III.C. The percentage of the cohort reaching grades 6,9, and 12, and graduating from higher education, in 2002, would be 76%, 54%, 13%, and 0% for the rural zone, and 90%, 92%, 1/ 49% and 8% for the urban zone.

What do these increases in transition rates represent in terms of the amounts of students enrolled? 2/ The enrollments for the grades in question in 1976 & 2002 appear in the three tables below:

Table 1: The Nation

	Grade-3	Grade-6	Grade-9	Grade-12	Higher Ed. Graduates
1976	106,392	56,182	35,353	13,927	1,132
2002	226,197	190,389	150,819	58,609	6,647

Table 2: Rural Zone

	Grade - 3	Grade-6	Grade-9	Grade-12	Higher Ed, Graduates
1976	47,217	16,533	2,780	0	0
2002	117,466	91,433	59,025	12,729	

1/ The grade-9 percentage is still greater than the grade-6 percentage in the urban zone due to the remnant of commuting of rural residents.

2/ It should be kept in mind that the population of El Salvador in 2002 will be more than twice the amount in 1976.

Table 3: Urban Zone

	Grade - 3	Grade-6	Grade-9	Grade-12	Higher Ed. Graduate
1976	59,174	39,649	32,572	13,927	1,132
2002	108,731	98,956	91,749	45,880	6,647

It may be useful to display, once again, the hypothetical targets, i.e., the rates of improvement in transition involved in these enrollment estimates.

Table 4: A Feasible Combination of Hypothetical Targets

	Grades 1-3	Grades 4-6	Grades 7-9	High School 10-12	Higher Education
Rural	76% (H)	76%(H)	76%(H)	38%(M)	0%(L)
Urban	76% (H)	76%(H)	76%(H)	0%(L)	0%(L)

As previously suggested, a percentage improvement in the rate of transition which increases gradually over 25-year period for Cycles I, II, and III to attain a 76% improvement over the 1976 transition rates should present no major difficulty in the rural zone where the presently low transition rates reflect the simple problem of access or insufficient supply. In the urban zone a 76% improvement in the transition rate is a target more difficult to achieve. Whereas the target for the percentage of cohort reaching the sixth grade in 2002 is 76% for the rural zone, it is 90% for the urban area. Although there is also considerable overcrowding and space shortages in the urban zone, contributing to a matriculation loss or spurious "dropout" that can be remedied by increasing supply, it is fairly likely that a cohort target as high as 90% also calls for reduction in genuine dropout. It may therefore be somewhat more difficult to achieve.

Of course, the High, Medium and Low targets represent first approximations which must be subsequently adjusted, but that is not the issue at hand. If the Grade-6 urban cohort rate in 2002 turned out to be 85% or 80%, instead of 90%, the enrollment increase in this grade would still be very large compared to 1976, partly because of improvements in transition and partly because of population growth. The significant point, the fact of crucial importance, is that elimination of the insufficiency in Cycles I and II, and a reduction of the insufficiency in Cycle III, will bring about large increases in

enrollment in High School and Higher Education, as well as in Basic Education, even if transition rates into and within these higher levels do not increase. The feasible combination of hypothetical targets displayed in Table 4 calls for 0% transition rate improvement beyond the ninth grade in the urban zone; and for only a Medium or 38% transition rate improvement into and within High School, and a Low or 0% improvement rate into Higher Education in the rural zone.

These extremely low post-Basic Education targets notwithstanding, national enrollment in Grade-12, or the last year of High School, increases from 13,927 in 1976 to 58,609 in 2002, and Higher Education graduates increase from 1,132 to 6,647. This is why deciding whether or not to eliminate the Basic Education insufficiency, and especially the rural insufficiency, is the central education policy issue. If, over the next 25 years, all children are given the opportunity to complete the sixth grade, and proportionately many more than at present are given the opportunity to complete their "basic education" (Grade-9), there will be a considerably larger demand for admission into High School and Higher Education.

Proper planning for a large anticipated increase in Basic Education, High School and Higher Education graduates calls for exploration of various political, social, and economic issues, as well as education issues. Will these graduates get better employment and higher earnings than they would have obtained had they withdrawn from the schooling system at lower levels? This is another major policy issue that needs to be confronted by the GOES. It is a social, economic and political issue, as well as an issue for education.

The findings concerning Basic Education, High School, Higher Education and NFE, that were described in Section II, clearly indicate that there are great unresolved problems in the general area of relevance. In the rural area the relationship between education and earnings is weaker than in the urban area, suggesting, among other things, that a completed primary education (Grade 6) or a completed basic education (Grade 9) do not have rewards as high as in the urban area. A tracer study of High School graduates indicated that a fairly small portion of the students had entered the labor market, only a portion of these were employed, and only a portion of the employed were in their field of specialization. Admittedly, these were the findings of only one graduating class, but the continuing high transition rate between High School and Higher Education is powerful evidence that High School is not functioning satisfactorily as a point of entry into the labor market. Finally, the pattern of specialization in Higher Education possesses a shockingly high degree of irrelevance.

Obviously, nothing would be more misleading in this situation than to assume that there is a labor and manpower "market" that is functioning properly. Supply is not adjusting to demand, and economic demand is not reflecting need. If the GOES continues to rely on this "market" to the extent that it has relied on it in the past, demand and need, as well as supply and demand, will continue to be in disequilibrium. An education and training policy, however well-designed in terms of manpower needs, cannot, by itself, assure proper utilization of its regular basic education and high school graduates, and its technically and professionally trained High School and Higher Education graduates. To have its maximum effects, the education and training policy must be supported by economic and social policies which have the indirect effect of generating employment in the private sector, and the direct effect of establishing needed technical and professional positions in the public sector.

Once again, whether or not to eliminate the primary education (Grades 1-6) insufficiency, and to begin eliminating the insufficiency of Cycle III (Grades 7-9) is the central education issue that faces the GOES. Although the analysis has shown that this task is financially feasible, it has also served to heighten the need to improve relevance (especially the pattern of specialization), to increase efficiency (especially reducing "dropout" and per student cost), and to assure useful and remunerative employment of graduate.

Estimating the extent to which such a development is likely to take place is obviously beyond the scope of this report. The degree of accomplishment will depend primarily on GOES policies and actions, and marginally on the support and guidance provided by the foreign assistance agencies. The GOES policies and plans aimed at satisfying Basic Human Needs in agriculture and health are obviously central issues. If after adequate prior analysis, land tenure patterns were changed, and new labor-intensive methods for increasing food production were introduced, large increases in the number of primary and basic education graduates in the rural areas, and significant increases in the preparation of agricultural technicians and professionals would add support to the new agricultural policy. Similarly, if health services are extended on a large-scale basis to the rural areas, substantial amounts of individuals with a completed basic education, and with middle-level and professional training in the various health disciplines, will be needed. Analyses of the two sectors which estimate, *inter alia*, the kinds and amounts of specialized personnel required, can contribute greatly to the planning of education and training. Unfortunately, the USAID health sector assessment is only now being drafted and was not available when this report was written.

If sound macroeconomic policies that generate production and employment in the private sector, and sound agricultural and health policies that address Basic Human Needs, and that generate middle and high-level employment opportunities in the two sectors involved, as well as increasing overall rural employment, are not designed, or are not well carried out, what would be the proper overall policy for education and training?

Conceivably, the GOES could maintain the present Basic Education schooling insufficiency by increasing rooms and teachers at a rate no higher than the population growth rate, and in this way preserve the present shape of the education pyramid: i.e., in this way maintain the present rates of matriculation loss. Another option would be to eliminate the Basic Education insufficiency and to establish testing procedures and admissions requirements at the High School and Higher Education levels, making entry into these two levels a selective process. Thus, the current amounts of entrants could be maintained or slowly increased, as the transition rates are lowered. Obviously, changes in the pattern of higher education specialization, with much larger proportions of students entering technical programs, should accompany the new admissions policy. Many observers have claimed that the reform of the national university is an essential condition for placing all education and training on a sound development basis. I am in fundamental agreement with this position so long as reform is viewed as a process that is based on continuing analysis that takes into account external and internal factors.

A third overall policy option would be to eliminate the Basic Education insufficiency and to allow enrollments to increase significantly, but not indiscriminately, at the secondary and higher education levels by making entry into these levels selective.

To provide a Basic Education to all of its citizens is a declared goal of the GOES. It is a feasible goal. Entry into higher levels could then be controlled, with program levels based on manpower needs, and selections of candidates based on merit. The improvements in analysis, planning and management required to achieve these goals are efforts well worth making if this is the policy that El Salvador needs.

BRobinson/lr