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ISLAMIC REPUBLIC OF MAURITANIA

Honor — Fraternity — Justice

Ministry of Economy and Finance

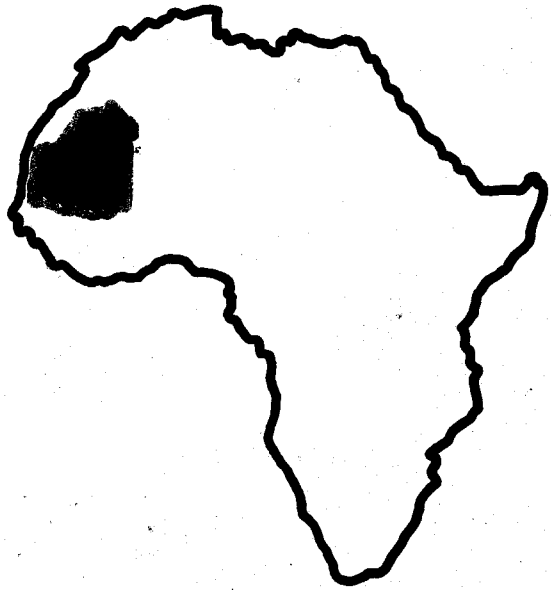
Directorate of Studies and Programming

RAMS PROJECT

Rural Assessment and Manpower Surveys

Evaluation of the Formal Education System
in Relation to Development Objectives

FS 3-2



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INTRODUCTION

"Education and Training in Mauritania" is one topic which appears to have received a great deal of attention from government authorities and international organizations. Several experts have studied the problem of training by scrutinizing the message to be read in quantitative and qualitative data on student enrolment, the educational infrastructure, teachers, financing, budgets, programs and organization of this system. (1)

Invariably, these statistics at first seem to be so well-recorded that conclusions drawn from their example are remarkably concordant.

This would not be so disturbing had the tests and analyses of the status of the educational sector in Mauritania and its perspectives been made simultaneously. Unfortunately, these studies were conducted over a period of six to ten years, during which time the GIRM suffered all sorts of misfortunes: drought, war, and a worldwide economic crisis.

Faced with all of these problems (made all the more disastrous because of their concurrence), the training mechanism in the GIRM is perhaps incapable or no longer capable of satisfying either the urgent needs of a faulty national economy or the deep aspirations of the Mauritanian population. It may perhaps be necessary to completely review the educational system so that it will operate to the benefit of the country's economic and social development as well as specific goals determining the conception and strategy of such development.

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(1) For example, see: UNESCO: Mauritanie, Education et Développement. Analyse perspectives et recommandations? 2 volumes, Paris, 1972. MINISTERE DE LA PLANIFICATION ET DU DEVELOPPEMENT INDUSTRIEL: Ressources Humaines, Education, Nouakchott, 1973, and UNESCO: Mauritanie, Education - Problèmes et Perspectives, Paris, 1978.

Above all, this report endeavours to help divulge the extent to which present-day organization and financing for education in Mauritania has responded and can continue to respond to the priority goals fixed by the different national plans for economic and social development as well as those retained by the RAMS project.

Even though these objectives and the educational needs stemming from them are known only in their overall orientation, it would be imperative to assess the present status of academic training against the backdrop of a national economy plan in order to uncover the necessary feasible changes for training the country's human ressources.

Therefore, rather than place the educational system in the socio-economic and geographical context of the GIRM, we prefer to make an analysis in the framework of objectives defined by the National Development Plans and by the RAMS project. In our opinion, it would be undesirable to make an assessment which would have been scarcely more than an up-date of previous studies.

While the shortcomings of the educational system revealed in these studies remain the same as they were in the past -- a highly expensive educational system that is also poorly planned and organized, of doubtful quality, rigid and poorly adapted to the realities of the nation -- clearly, the recommendations made by the experts in their reports were scarcely applied, if at all. This may be the result of a lack of financial, human and material resources, but also a lack of political will. It may also be due to a choice of objectives which compare very little with other development objectives established by the GIRM. Nevertheless, whatever the reason, maybe because of operational defects in the educational system, recommendations and proposals for reform should be based on past experience and serve as goals reflecting the realities of the nation.

CHAPTER I

The National Plans for Economic and Social Development

I.1 The First National Plan

While the First National Development Plan for 1963-1966 specifies that "In a country with limited agricultural resources and pastoral riches whose development is handicapped by the conditions of grazing lands and water shortage, economic development may be found in the exploitation of mineral resources," it must be noted that as early as 1967, the Second Congress of the Parti du Peuple Mauritanien resolved to give top priority to development of the rural sector.

In fact, however, the development of the country on the basis on the exploitation of mining resources never crystallized either in terms of anticipated complementary effects from the development of this sector, or in producing a surplus for development activities, or even in absorbing employment of the work force.

I.2 The Second National Plan

In the Second National Plan, 1970-1973, GIRM authorities realized that the rural sector should be the focal point of development, since the majority of the population would benefit from a true rise in the standard of living only through direct participation in the rural sector.

However, between 1960 and 1969, funds for the departments of Agriculture, Rural Development, Forestry and Animal Husbandry revealed increased only slightly in absolute terms and dropped 3 percentage points in the State budget, from 7% in 1960 to 4% in 1969. (2)

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(2) GRIM: Deuxième Plan de Développement Economique et Social, 1970-1973, p. 47.

The Second National Plan for Development proposed to offset the shortfall in the rural sector in order to reduce the inefficiency of the above-mentioned departments and to avoid witnessing the "total deterioration of the nation." This was to be carried out through the following objectives:

1. Catching up on time lost by increasing budgetary resources;
2. Protecting and maintaining existing facilities;
3. Preparing for the future by following a policy of increasing agricultural production and consequently the income of the farmers.

It is recognized that the success of new initiatives causes serious problems, the solution of which will determine the success of these initiatives. These are problems which entail the activation of community effort and technical supervision, for which the various departments are expected to provide human resources and operating funds. Other problems involve management, adaptation to new technical equipment and acquiring the ability to make the latter run smoothly. (3)

It is clear from this approach that at the time the Mauritanian government was already very much aware of the importance of concentrating on the country's rural development and of the need to make up for time lost in establishing physical and human facilities vital to that development. As a result, beginning in 1970, greater emphasis should have been placed on academic and non-academic training, and particularly in the rural area. Adequate planning seemed equally mandatory.

Yet, considering the manner in which the Plan was actually implemented, one finds that the accent is no longer placed on rural development

(3) RIM: Deuxième Plan de Développement Economique et Social, 1970-1974, p. 48.

or on designing a training system which would complement or precede this development. Regarding the first point, Chapter I of the Third Plan reads: "The rural sector received only 13.9% of total funds. On the other hand, the 'modern productive' and 'capital' sectors were accorded 67.2%, or over two-thirds of total investments, nearly fivefold more than for the rural sector."[4/] In the implementation of the Second National Plan, it was revealed that scarcely 38.5% provided for the rural sector was utilized against 38.5% for the modern productive sector (industry, fishing and mines), and 64.1% for the capital sector (chiefly road construction and telecommunications).[5/]

In the educational and training sector, which was accorded 5.7% of total funds, actual expenditures came to only 2.7% of the total, so that only 28% of planned financial resources was utilized.

Investments utilized for technical and vocational education scarcely totalled 14% of those projected, yet it is this sector above all others which should be contributing to economic development in general and to rural development in particular.[6/]

In addition, distribution of expenditures within the educational sector shows that, although 30.8% of funds planned for education should have been earmarked for technical and vocational education, actual expenses totalled only 24 million UM, or 15.9% of total educational expenditures, while of the 5.6% provided for higher education, only 50 million UM or 33.1% of the total was spent (Table 1). Certainly, the sum of 1.5 million UM earmarked for rural activities was insufficient to bridge this gap.[7/]

4/ Ministère du Plan et des Mines; 3è Plan de Développement Economique et Social, 1976-1980, p.2.

5/ Ministère du Plan et des Mines: 3è Plan de Développement Econolique et Social, 1976-1980, Table 3, p.11.

6/ Ibid: p.10 and Appendix I.

7/ Third National Plan, p.11, Table 3.

TABLE 1: Status of Implementation in the Educational Sector

(Millions of UM)

Subsector	Planned Investment		Total Amount Utilized		Planned Investment	Number of Projects	Number of Projects	Number of Projects
	Amount	%	Amount	%	% total Utilized	Planned	Implemented	Under Way
Elementary Education	173.4	32.2	58.3	38.5	33.6	4	2	2
Secondary Education	169.2	31.4	18.7	12.4	11.00	8	1	3
Higher Education	30.0	5.6	50.0	33.1	166.7	1	1	-
Technical Education	166.2	30.8	24.0	15.9	14.4	5	1	3
TOTAL	538.8	100.0	151.0	100.0	28.0	18 1/	5	8

1/ Youth and Sports excluded.

SOURCE: Third National Plan, p.11.

In light of such distortions, planning experts were obliged to concur that the goals of the Second National Plan were not achieved for the rural sector, and that the improvement hoped for in the rural population's standard of living did not materialize. (8)

In like manner, comparisons made between the goals for rural development and those of the educational and training sector clearly show that, even if the projected earmarkings had been realized, it is doubtful whether the rural development sector would have benefited from them.

The educational goals that were actually adopted for the 1970-75 period were:

1. To ensure that normal support would be provided to education;
2. To control the development of student enrolment in primary education;
3. To provide for the expansion of secondary education at the least cost in light of the country's needs for a qualified work force;
4. To up-grade teachers' pedagogical qualifications;
5. To train a large number of secondary education teachers. (9)

Clearly, the changes sought in education do not envisage priority attention to vocational training and technical education, the ruralization of basic education, or literacy programs for adults. On the contrary: explicit preference has been given to the expansion of secondary education. It is difficult to imagine just how such an action could be a major contribution to rural development or even economic development in general.

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(8) Third National Plan: p. 4.

(9) RIM: Deuxième Plan de Développement Economique et Social, 1970-1974, p. 109.

Considering the extent to which secondary education prepares youth only for higher education and/or work in the civil service, its expansion can only proceed after careful reflection of the development goals of the country, the latter acting as guidelines for the detailed planning of higher education and public office.

In that same vein, there is speculation as to why the Second National Plan does not provide any outlet for students who have completed their elementary education and do not enter secondary school. It is not difficult to imagine that in the rural areas in particular the number of such students must be quite high. Under such circumstances, the expansion of student enrolment in elementary education risks becoming an obstacle to Mauritania's development instead of being a principal asset.

While the implementation of the Second National Plan for Economic and Social Development did not yield the expected results in the rural sector, it must certainly be recognized that the objectives retained for education and training clearly were not designed to bring about and maintain their development. In designing the goals for education and training, no specific actions were provided for either community work, technical supervision or the execution and management of projects in the different sub-sectors of the rural sector. On the contrary, in the Second National Plan, education is considered to be an autonomous sector with its own objectives, having only a symbolic link with the country's economic development and improvement of the population's standard of living.

This conclusion is substantiated by the Second National Plan for Economic and Social Development itself. Thus, many guidelines may be drawn from the sectoral programs which should have inspired planning for education and training. In the rural sector, one notes that: "In fact, the implementation of new development plans poses serious problems, whose solution is required for a successful undertaking. These problems entail community work, and technical supervision with services that

must provide human resources and operating funds. There are also problems in management, adaptation to new technical equipment and acquiring the ability to make the latter run smoothly." (10)

Further on, we read: "This is a matter of preparing men in order to grasp what they are learning well and to make the best of work undertaken by them or with them. This encompasses the whole problem of developing the cooperative movement, of providing training in farming techniques and the management of farmers. Any work is doomed to failure, however important it may be, if the human reality it is applied to is psychologically and technically unprepared for it." (11)

If these guidelines are thought to be too general, those in the Second National Plan are more specific. Here are a few examples:

In the animal husbandry sub-sector, the need has been felt for the introduction and promotion of modern animal husbandry methods, and on education of livestock breeders is judged to be essential. (12) In order to accomplish this objective, the training of design and supervisory staff in the area of animal husbandry must be accelerated. (13)

In the forstry sub-sector, it has been noted that: "Nearly the entire Mauritanian population of rural dwellers and livestock breeders are ignorant of the growing cycle of vegetation. It would therefore be advisable to use adapted methods to carry out a vast educational program for this segment of the population." (14)

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(10) RIM: Deuxième Plan de Développement Economique et Social, 1970-1974, p. 48.

(11) Ibid: p. 56.

(12) Ibid: p. 58.

(13) Ibid: p. 58.

(14) Ibid: p. 61.

In the industrial sub-sector, is has been observed that the development of "utilitarian" or pre-industrial crafts must be undertaken. In this area, the nation has the "know-how" of its craftsmen, a knowledge which must be utilized and oriented with an aim of training them to be true busineemen. This calls for the introduction of business administration and management. (15)

In the maritime fisheries sub-sector, "The main problem concerns trained men who must be trained." (16)

In the river and lake fishing sub-sector, "It is important that a development policy for river and lake fishing be defined and applied." The guidelines of this policy should be the following: "...training fishermen in improved fishing techniques and problems of managing cooperatives." (17)

In other sub-sectors, manpower requirements and therefore training needs linked to the goals established for these sectors are expressed in quantitative terms, thus providing very specific information for the educational and training system. This is the case most notably for the mining (18), equipment (19) and medico-social (20) sectors, the information, press, tourism and traditional arts sector (21), and for the trading sector. (22)

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(15) Rim: Deuxième Plan de Développement Economique et Social, 1970-1974, p. 69.

(16) Ibid: p. 71.

(17) Ibid: p. 73.

(18) Ibid: p. 78.

(19) Ibid: pp. 85, 87, 88, 90, 92 and 97.

(20) Ibid: p. 101.

(21) Ibid: pp. 134, 137, 138 and 141.

(22) Ibid: p. 147.

These examples unmistakably prove that in the Second National Plan, the educational sector is separated from the other sectors and has only a weak, superficial connection with overall development goals. In this sector, the emphasis is placed on general training to the detriment of expanding other areas of training.

From the viewpoint of such general training, each level serves as a foundation for the next finally reaching the stage of higher education -- after losing many students along the way. From that point on, higher education is relegated to a privileged elite and its subject matter will not necessarily be related to development needs.

Although Chapter I of the Third National Plan for Economic and Social Development provides a critical assessment of the Second Plan, it is surprisingly reticent about the educational sector, limiting itself to listing the latter's achievements. (23)

I.3 Goals of the Third National Plan for Economic and Social Development

I.3.1 Status and Perspectives of Development Prior to Implementation of the 1976-1980 Plan

In the framework of a rapidly increasing population, the school-age population (6-14 years) represented 24% of the total population in 1973. In that same year, the potential working population (ages 15-59) represented nearly 52% of that same population. Of the latter group, it has been estimated that nearly 50% were unemployed. (24)

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(23) Third National Plan, pp. 7-8. Equally interesting is the fact that this assessment asserted that the level of achievements in the sub-sectors of technical and vocational education were clearly higher than the average for the entire sector (p. 8). This certainly was not confirmed by the relevant table in Appendix I.

(24) Third National Plan: p. 33.

In 1968, the rural population produced 40% of the GDP, but only 28% of the GDP in 1973, even though the rural employed represented 83% of the total working population, or 217,000 inhabitants out of 259,000. (25) Thus, the gap between the modern sector and the rural sector continues to widen despite the fact that the rural sector's contribution to the GDP rose nearly 40% in 1975. (26)

Productivity in the rural sector reached $128 per working inhabitant in 1973 as compared to $18,000 for the modern sector. (27)

In an estimated population of 1,477,000 (1975), the rural population represents 1,154,000 units, or 80% of the total population. (28) Even though the rural population shows a declining trend, the absolute number of rural people will remain high. Accordingly, the National Census Bureau predicts a rural population of 1,057,100 units by January 1, 1982, against 1,109,175 units in January 1, 1977. In 1980, this rural population represents 70% of the total population. (29)

In addition, there is an increasing sedentarization which totalled 64% of the population as of January 1, 1977. (30)

The economy's growth rate for the period of 1973-1977 averaged 5.3% annually in constant prices but only 1% from 1974-77. (31) By comparing

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(25) Third National Plan: p. 33. In 1975, the percentage was 82.6%, with 220,500 rural employed out of 267,000 (id.: p. 48).

(26) Third National Plan: p. 36.

(27) Third National Plan: p. 33. The figure of $18,000 has been reconfirmed.

(28) Third National Plan: p. 40. A general census of the population indicated a total population of 1,414,939 as of January 1, 1977. 78% lived in rural areas (Seconds Résultats Provisoires du Recensement Général de la Population, Tables 2 and 7).

(29) Bureau Central du Recensement de la Population: Seconds Résultats Provisoires du Recensement Général de la Population, p. 52.

(30) Ibid: Table 2.

(31) UNESCO: Mauritanie: Education, Problèmes et Perspectives, Paris, 1978, p. V.

this slow economic growth with the population growth rate (estimated at 2.7% for 1966-1977), the grave situation of the country's economy becomes evident. (32) The combined effects of demographic growth, a world economic crisis and drought are shaping the outlook for the future development of Mauritania. In addition, there was a foreign debt of approximately $252.7 million in 1975, i.e., 75% of the GDP. The investment rate was too low to ensure a minimal GDP growth rate. The latter, which was approximately 10%-14% from 1966-1972, was a theoretical average calculated on the basis of a modern sector strongly on the rise and a rural sector in steep recession. (33)

In the modern sector, the mining and maritime fisheries sub-sectors are contributing the most to development. The mining sector has clearly been affected by the world economic crisis and the crisis in the iron and steel industry in particular, inasmuch as virtually no infrastructure has been developed for processing raw materials locally. Moreover, the company which worked the mines and deposits enjoys very favorable taxing privileges (15% on added value). (34)

The marine fisheries sector represented 5% of the 1972 GDP with revenues for the Mauritanian economy totalling 276.3 million UM, representing 615 million UM per ton of fish caught. (35) Notwithstanding this sector's contribution to the GDP, this does not hide the fact that the majority of Mauritania'q industries are operating well below capacity. (36)

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(32) Estimate of RAMS demographer, September, 1979;

(33) Third National Plan: Tables 32 and 36 and p. 38. In 1975, the GDP per capita for the total population was estimated at 10,320 UM compared to 5,210 UM per capita for the rural population, p. 49.

(34) Third National Plan: p. 63.

(35) Ibid: p. 63.

(36) Ibid: p. 63.

I.3.2 Basic Guidelines of the Third National Plan for Economic and Social Development

While the Second National Development professed to have a well-defined plan, the guidelines of the Third Plan are clearly expressed:

- pursuit of the well-being of the Mauritanian people, and
- pursuit of economic independence. (37)

The first of these major goals signifies an improvement in the standard of living of the average Mauritanian by meeting basic needs. More precisely, this requires an increase in productivity in the rural sector that would at least equal the population growth rate. (38)

With this goal in mind, a slow-down is planned in the rate of construction of infrastructure and equipment in favor of a development program for the rural sector. The decision to focus on rural production is intended to allow time to lay the necessary foundation so that this sector could, to some extent, assume its own future development. Its link with the modern sector would be established by setting up a domestic monetarized market. (39)

The second basic guideline aims at economic independence. This is to be accomplished by taking control of the basic elements needed to build the country. To attain that objective, particular attention would be paid to the following points:

- Elementary, technical, scientific and vocational education to train core staff, technicians and specialists needed for social and economic development and for the gradual "Mauritanization" of employment;
- Government participation and encouragement in developing the rural and industrial sectors;

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(37) Third National Plan: p. 69.

(38) Ibid: p. 69. It should be noted here that the yearly population growth was 2.7% for 1965-1977.

(39) Ibid: p. 69.

- Encourage the creation and development of national firms and the restructuring industrial, commercial and financial enterprises;

- Encouraging investment in the regions and urban centers inside the country;

- Encourage local investors with limited resources;

- Improve the management of public resources in order to release mobilization savings to up-grade the productive and social capital of the country, and ensure the efficient utilization of public funds with a view to making the greatest contribution possible for attaining development objectives;

- Diversify foreign aid;

- Consolidate monetary and financial institutions.

In analyzing the educational and training system, special attention has been given to rural development and elementary, technical, scientific and vocational education.

More specific goals have been drawn from these basic guidelines and will serve to orient sectoral policies:

1. To provide an adequate income permitting each Mauritanian to lead an active, productive life and satisfy his basic needs for food, lodging and clothing.

2. To offer a level of education which would progressively eliminate illiteracy on the one hand and train the labor force needed to develop the country economically on the other hand.

3. To pursue the maximum use of Mauritania's human resources through a general policy of creating jobs.

4. To ensure an adequate health level by controlling endemic diseases and providing medical care for the entire population.

5. To protect and improve the environment in order to ensure a better rapport between man and his environment.41/

40/ Third National Plan: p.70.

41/ Ibid: p.70.

In addition, it is emphasized that these five interrelated objectives would provide a general framework for determining the criteria of selection to be applied to future projects which will be offered to Mauritania for they will provide the motive force of progress: food, education, employment, environment and health. (42)

One should admit that these goals reflect a certain amount of realism, especially when it is recognized that their implementation could bring about the readjustment and even the abandonment of certain existing programs. (43)

At the same time, these goals do not imply that a choice has been made favoring a development strategy in which the rural sector is the goal or sole center of growth. It would seem that Mauritania has opted for a balanced development of the industrial-urban sector and the rural sector. (44)

With this in mind, greater attention must be focused on increasing agricultural productivity through financial and human investment in this sector, and especially in irrigation and the relationship between agriculture-livestock. (45)

Since the Plan notes that a major obstacle will be presented by a lack of quality labor to implement investment activities both in the design stage and in their execution (46), it would be advisable to evaluate the programs and projects in the educational and training sectors in light of their direct contribution to building up labor's capacity.

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(42) Third National Plan: p. 70.

(43) Ibid: p. 70.

(44) Ibid: p. 73.

(45) Ibid: pp. 73-75.

(46) Ibid: p. 75.

This should not be surprising, for it has already been noted that "tne planning of human resources in order to reach a development capacity of 3,000 irrigated hectares annually by the end of the Plan is the sine qua non condition for successful implementation of its objectives." (47)

In the Third National Plan, while keeping in mind a balanced development, the industrial sector would have a double function: it would serve as an "entry point" for surplus manpower from the rural sector. This surplus would be even higher than the increase in agricultural productivity.

The industrial sector would also supply materials permitting technical advancement in the rural sector. This would imply the partial substitution of imports by local industrial production. Finally, light industries would be called on to produce everyday consumer goods. (48)

In conclusion, it should be emphasized that the Third National Plan for Economic and Social Development aims above all at the rehabilitation and growth of the rural sector (despite the objective of a balanced development). The industrial sector's primary function would be to complement the rural sector, serving as an "entry point" for surplus labor and supplier of commodities and services for the rural sector.

As a result, the Third National Plan professes to be aware that the greater part of the population is destined to lead a rural life, and that policies aimed at the development of agriculture and livestock are not only social but especially economic necessitaties. It is the light of such considerations that the evaluation of the development of the education system in 1976-1980 should occur.

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(47) Third National Plan: p. 97.

(48) Ibid: pp. 75-77.

I.4 The RAMS Project

As noted earlier in the preface, this report constitutes only a segment of the RAMS project. (49)

While this project is not formulating a National Plan for Economic and Social Development per se, its time frame situates it between the Third National Plan for 1976-1980 and the forthcoming Fourth National Plan.

Its links with the Third National Plan is evident in the importance clearly given to rural development and thus to food self-sufficiency, the latter resulting from an anticipated increase in production and income in the rural sector. Secondly, this self-sufficiency, as well as the overall development of the Mauritanian economy, demands a labor force capable of effectively contributing to the implementation of its objectives. Considering the shortage of specialized labor and the absence of facilities for adequate training, it is necessary to study the present educational system, as well as explore alternative solutions.

Finally, current and future unemployment (unemployment caused by development) must be absorbed by the creation of jobs and facilitated by training that is adapted to the urgency and scale of unemployment and under-employment.

So, Mauritania continues to carry out the objectives laid down by the Third National Plan for Development, i.e., granting top priority to the development of the rural sector and the functional development of the industrial sector, which will have to provide the products and services required by the rural sector. The industrial sector must also relieve rural and urban employment by creating new jobs. (50)

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(49) Mission d'Evaluation du Secteur Rural et de la Main d'Oeuvre (Rural Assessment and Manpower Survey).

(50) Ministère du Plan et de la pêche: Projet "RAMS," p. 2.

CHAPTER II

Structures of the Educational System

Since we are concerned with the development of the educational system's capacity to contribute to the goals of rural development and employment creation, the structure of the present educational system in its present state must be examined in order to bring it closer to objectives specifically defined in development programs and projects. (51)

II.1 Structure of Studies

II.1.1 Public Education System

This system of education and training consists of the following levels and cycles:

Primary Education

- primary or elementary education (6 years)

Secondary Education

- agricultural cycle (3 yrs)
- commercial cycle (3 yrs)
- home economics cycle (3 yrs)
- medico-social cycle (2 yrs)
- educational cycle (2 yrs)
- general secondary cycle (3 yrs)

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(51) In this context, it appears mandatory that an evaluation of all of the projects presently underway be made, because only the goals and execution of the projects can provide specific information on gaps and therefore qualitative and quantitative training requirements.

- technical cycle (4 yrs)
- administrative cycle (2 yrs)

- agricultural, 2nd cycle (2 yrs)
- commercial, 2nd cycle (2 yrs)
- medico-social, 2nd cycle (2 or 3 yrs)
- educational, 2nd cycle (2 yrs)
- general secondary, 2nd cycle (3 yrs)
- technical, 2nd cycle (4 yrs)
- administrative, 2nd cycle (2 yrs)

Higher Education

- educational college, 1st cycle (2 yrs)
- educational college, 2nd cycle (2 yrs)
- higher administrative education, short cycle (2 yrs)
- higher administrative education, long cycle (4 yrs)
- (higher education abroad)

There are also institutions of learning which differ structurally from the foregoing institutions, but this does not necessarily mean that their quality of education would be inferior to the others.

One example of such an institution is the Centre de Formation Professionnelle "Mamadou Touré," which provides the first stage of training chiefly aimed at practical training for skilled workers (training period: 9 months). This center also sponsors a full-time training program to upgrade secondary-level workers with a CAP+. The length of the training program varies.

+: CAP = Certificat d'Aptitude Professionnelle - Vocational Proficiency Certificate.

The Centre de Formation de l'Artisanat du Tapis (Rug Weaving Training Center) provides the first stage of practical training and an elementary functional education for girls: the program lasts 3 years.

The Service de l'Education des Adultes is a literacy program for adults. The program lasts 2 years with instruction 14 hours a week.

Finally, there are a good number of Centres d'Education Féminine (Educational Centers for Women) which provide vocational training and family education. The program is of indefinite duration.

Schools and training centers for the army, national guard, gendarmerie, and police force provide very special vocational training varying from a few months to several years.

The study program in public education at first seems to offer a range of training possibilities which should encourage an educational policy serving development objectives.

However, further analysis will reveal that this educational system, which is mostly a vestige of colonialization, is so unequal in quality and quantity that it is not at all adapted or even related to the socio-economic, geographic and cultural situation of the country.

II.1.2 Private Education

Since it is difficult to group the different kinds of education organized in the private sector, a description of each type of training provided is summarized below.

Traditional Education

This type of education is found especially in encampments; children receive essentially a religious and moral education based on the Koran. Children start at the age of 7 and learn how to read and write. After three or four years of schooling, they can read and compose a text. (52) In the Mahadras, at a more advanced level, pupils learn Islamic law, Arabic linguistics, literature, history, arithmetic, poetry and the life history of the Prophet.

The system provides its own instructors, called "Maurabets." The academic year in this system is much longer than in others. The average class day lasts at least 22 hours and summer vacation is only one month long.

The length of these studies varies greatly because of flexible curricula and study programs varying according to the student's ability and the time he can give to his studies. Traditional schools do not award diplomas at the end of studies. It is not unusual for a student coming from the traditional system to eventually enter the public school system by taking exams.

It should be noted that it would seem at first that traditional education might prove important in adapting the educational system to the conditions and realities of the rural and urban environments after some reform.

It would be very useful to analyse why the World Bank project (459 - MAU) begun in 1975, which was designed to modernize the content and teaching

(52) Narr, D.: Les Ecoles Coraniques, RAMS Memo, 1979, p. 2.

methods of Koranic education, was finally abandoned in 1979. Even more important, in the experimental stage of the project, it was shown that in some pilot schools, 100% of those students who took the entrance exams for public education actually passed. (53)

Unfortunately, qualitative and quantitative data on the Koranic school system are inadequate. An expert from the World Bank was careful to emphasize that "The Bureau of Islamic Affairs is incapable of drawing up a map showing the location of schools in the Mahadras or of providing even an approximation of their number. Neither can it control the educational program which varies from place to place." (54)

In the ruralization of development, contribution of these schools as a link between efforts to modernize and an understanding of tradition could be very valuable for several reasons: Traditional schools are the only educational institutions available to nomads; they are operated at a very low cost and supported by families and students; their structure is simple and flexible; and they are respected by the population.

This last point in our opinion merits special attention in that instructors in these schools could, after some training, assume community duties based on their important role in the social life of the villages and encampments. It appears possible that elementary education may be introduced in the Mahadras within two or three years. (55)

The proposed integration of the traditional schools into a general plan to adapt education to needs created by placing more emphasis on rural development must not be abandoned.

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(53) UNESCO: Mauritanie, Education ..... 1978, p. 61.

(54) LECOURTOIS, A.: Note to Monsieur le Directeur des Affaires Religieuses, 1978. Unpublished, p. 1.

(55) LECOURTOIS, A.; op.cit.: p. 5.

Centres de Formation de la Société Nationale Industrielle et Minière (S.N.I.M.)[+a]

a. Centre d'Apprentissage et de Formation Maîtrise[+b]

This center provides full-time secondary technical education over a period of 3 years. The first year covers general subjects in a 40-hour week.

b. Vocational Training Centers

These centers provide intensive technical training as well as literacy and general education programs, for adults who are most often S.N.I.M. employees.

Technical training is provided for professionals and lasts 3 to 7 months but can be stretched out over a longer period of time.

The literacy program is divided into two levels: a long cycle lasting 2 1/2 months for students who are entirely illiterate, and a shorter, 1 1/2 months period, for those who need only a refresher course.

c. Centre d'Apprentissage et de Perfectionnement Administratif et Technique (C.A.P.A.T.)[+c]

This center provides accounting courses at two levels. The first level lasts 1 year with 3 months of on-the-job training; the second level lasts 18 months plus 6 months of on-the-job training. It also has a six-month training program for typists plus one-month of on-the-job training, and a 12-month secretarial school with three months of practical training.

[+a]: National Industrial and Mining Company Training Centers.

[+b]: Apprenticeship and Journeyman Training Center.

[+c]: Apprenticeship and Administrative and Technical Improvement Center.

Secondary-level students attend these schools. Upon completion of studies, C.A.P.A.T. offers a training-employment contract, which is also true for nearly all the S.N.I.M. training centers.

d. Elementary Education

In Nouadhibou, S.N.I.M. also makes elementary education available to all children which is recognized by the Ministery of Primary and Secondary Education.

SONELEC Centre de Formation Professionnelle[+a]

This center provides training for supervisory staff of power plants and up-graded training for employees. It also helps train students in the Collège d'Enseignement Technique (Technical School) in electro-mechanics.

- Centre de Formation et de Perfectionnement Professionnels (C.F.P.P.)[+b]

This center, which is planned to open in 1980, is designed to provide on-the-job training in building and contruction trades, mechanics, administration, and office employment. The center is supervised by a council in which the government, employers and the workers' union are represented.

Institut Soumaré and the C.E.S.C.

These two centers provide part-time training for office employees in stenography and typing, secretarial functions and accounting. The programs are of 2-year duration and are taught in the evening. They are equivalent to the first cycle of secondary school.

[+a]: SONELEC Vocational Training Center.

[+b]: Vocational Training and Improvement Center.

The educational network set up at private or local levels is not very extensive, with the exception of traditional education. Technical and vocational education is organized according to the demands of the modern sector, i.e., the mining industry and commercial and administrative services. The training provided helps somewhat to recover students who may have dropped out of the public educational system, either after failing to pass exams leading to the secondary level, or after one or more years of general or technical secondary education.

In some cases, the private nature of the education is strongly emphasized when students are exclusively employed by businesses or their recruitment is contingent upon a training - employment contract.

Private education is no substitute for public education, but it is an indispensable complement of the latter. The flexibility of its content should allow creative job training in those sectors of the economy which can afford to provide the necessary funds to obtain a work force that is tailor-made. In this manner, a small group of former students who undoubtedly would have found themselves without marketable qualifications and unemployed after completing elementary school or dropping out of an uncompleted cycle of secondary school, are integrated into the economic life of the country.

II.1.3 Conclusion

The organization of studies in the formal system of education reveals several shortcomings which make its contribution to development uncertain.

The first question to be asked is how students leaving elementary school might receive complementary training to prepare them for a

professional career. This question is even more pertinent in light of the subject matter taught at the elementary level, which is not very practical.

We have noted that a barrier has been set up for admission to most secondary vocational schools. The Ecole Nationale de Formation et de Vulgarisation Agricoles[+a] no longer recruits candidates from the last year of elementary school. It now requires those in their first year second cycle of secondary education for admission to its Cycle C level. One wonders whether providing extra training within ENFVA for ill-prepared students leaving the elementary education system might not provide a way of circumventing this obstacle.

Only the two vocational training centers -- the Centre Mamadou Touré in Nouadhibou and the SNIM, CAFM, plus the commercial section of the ENECOFAS do not have such an obstacle. Unfortunately, these three centers are located in Nouadhibou and Nouakchott, recruiting their trainees either locally (Mamadou Touré Institute and ENECOFAS), or to satisfy the specific requirements of the company in question (CAFM). Curiously, the Ecole Nationale d'Instituteurs[+b] admits first-year students who have finished the sixth year of elementary education. This would appear to indicate that elementary schooling is not inadequate for immediate access to secondary level education.

Since the second cycle of elementary education was seen in the 1973 report on secondary education as a means of offering basic training aimed at preparing young graduates from the first six-year cycle of elementary schooling for entry into the working world of the students' original environment (56), it is quite surprising that the National Policy Bureau (Bureau Politique National), during its extraordinary session of

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[+a]: National School of Agricultural Training and Extension.

[+b]: College for training elementary school teachers.

(56) Institut Pédagogique National: Rapport sur la Réforme de l'Enseignement, Deuxième édition, Nouakchott, 1978, p. 7.

July 30-31, 1973, decided against creating this second cycle of elementary education. It preferred rather to apply a policy of ruralization through the creation of centers in rural areas. (57) These centers have not appeared to this day and, therefore, from the standpoint of economic and social development, one of the principal objectives has not been attained. This grave state of affairs allows one of the most serious deficiencies of the educational system to persist -- the total abandonment of the vast majority of students after they have received a general, elementary education which only prepares them in an entirely haphazard manner for a professional career.

It must in fact be pointed out that, as elementary education leads to a competitive examination which must be passed before entering general and technical secondary education, its structure as well as its subject matter content can only be the same as the training system of the country from which Mauritania inherited the present educational system.

Under such circumstances, the objective of ruralizing elementary education and rendering it more functional is now nothing more than a dream. Secondly, for most vocational schools the difficult mandatory passage through general secondary school makes the development of vocational training completely dependent on that secondary education. Yet, we know that such education is excessively expensive and that it has a limited enrolment capacity.

Furthermore, one should question whether vocational training centers are not recruiting drop-outs from general secondary school in order to reach students who were already admitted to colleges with general curricula

(57) Institut Pédagogique National: Rapport sur la Réforme de l'Enseignement, Deuxième édition, Nouakchott, 1978, p. 60.

and who consequently represent the top third of students having completed elementary schooling. If this is the case, one must admit that this is hardly an effective or equitable manner of solving the problem of the doubtful quality of elementary education.

A second defect in the structure of studies is the lack of lateral passages which would allow errors in orientation to be corrected. The absence of such a possibility can only have a negative effect in the selection of studies, since secondary general education offers all kinds of possibilities for lateral passage, including access to higher education, whereas a rigid compartmentalization has been established for other types of education.

In the area of technical education, it is rather astonishing to note that studies last 8 years, 4 in the first cycle and 4 in the second cycle, while secondary general education lasts only 6 years. In addition, there are 150 weekly hours for the whole first cycle of technical education as compared to 90 hours for the Collèges d'Enseignement Général (CEG's) and 152 hours in the second cycle of technical education compared to 84-92 hours for general education lycées. (58) In technical education, 25 hours of the week are spent on practical work, equal to 16.6% for the first cycle and 18 hours, or 11.8%, for the second cycle.

It is essential that an assessment be made of the reasons behind such a long training period in technical education, which does not appear to be justified by extensive practical training. The fact that the training cycle takes two years longer than general secondary studies drastically reduces the admission capacity of the technical education sector and increases training costs.

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(58) UNESCO: Mauritanie: Education, 1978, p. 49.

It would be wise to inquire if the extension of the study cycle of technical education, terminating with a Baccalauréat, is not inspired by a concern to prepare the student for technical instruction in higher education. In the past, technical schools trained skilled workers in three years, and technicians were trained in the same amount of time at the technical lycée. At the time, the Baccalauréat Technique (Vocational Baccalaureat) was not offered, only the Brevet de Technicien (Technician's Certificate).

In conclusion, it must be repeated that the study on the integration of traditional education into the overall effort to educate the Mauritanian population must be pursued at all cost.

Education, in the highest sense of the word, will thus be established at the foundation and spread throughout the country.

II.2 Administrative Structure of the Educational System

Any reform of the educational system aimed at its adaptation to the true needs of the country and its development presupposes the existence of an effective administrative structure. This structure must also permit the stable, coherent, coordinated management of the educational system based on a policy conforming to the objectives and priorities established by the development plan and meeting the legitimate aspirations of the people.

In Mauritania, this stability and cohesion in the management of the educational system are especially lacking. Responsibilities for education and training are distributed among several ministries which, without an inter-ministerial educational committee, poses a problem of coordination and consistency in educational policy. In addition, responsibility for the different types of education frequently shift from ministry to ministry.

In 1972, all vocational and technical training institutions (CET, ENECOFAS, ENFVA) were placed under the supervision of the Ministry of Technical Education, Supervisory Training and Higher Education (Ministère de l'Enseignement Technique, de la Formation des Cadres et de l'Enseignement Supérieur). In 1978, supervision of CET was transferred to the Ministry of National Education (Ministère de l'Education Nationale), while ENECOFAS was transferred to the Ministry of Administrative Reform, Labor, Social Affairs and Health (Ministère de la Réforme Administrative, du Travail, des Affaires Sociales et de la Santé), and the Ministry of Rural Development (Ministère du Développement Rural) assumed responsibility for ENFVA. In 1979, the Civil Service and Supervisory Training Ministry (Ministère de la Fonction Publique et la Formation des Cadres) took over CET.

The same treatment was meted out to higher education as well as to ENA and ENS.[+] Only elementary education and teacher training appear to enjoy a certain administrative stability.

Needless to say, frequent changes serve to disorient educational policy and for one reason or another reforms are held at the planning stage, while others are being implemented without regard to the general context in which the educational system must operate.

At present, the Ministry of Elementary and Secondary Education (Ministère de l'Enseignement Fondamental et Sécondaire) is responsible solely for elementary education, general secondary education and teacher training.

This arrangement to some degree reflects the Ministry's interest in technical and professional education. Responsibility for the latter is

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[+]: Ecole National Supérieure - College for training teachers for lycée and beyond.

divided among four different ministries whose main interest is certainly not education. (See Appendix 3.)

It would appear that the creation of a Ministry of National Education with a directorate for each type of education should be foreseen. This would allow for better programming of studies and greater coherence in policy-making and planning. In addition, a high-level committee would be necessary with representatives from all sectors using manpower, as well as representatives from the Planning Office and the Ministry of Labor.

With regard to educational planning, it exists only in embryonic form. (59) Clearly, a stable and effective organization is essential to design policy and education and planning for the entire educational sector.

CHAPTER III

Analysis of the System of Education and Training by Level and Type of Education

III.1 Primary or Elementary Education

III.1.1 Elementary Education

III.1.1.1 Structure

On the basis of the educational reform of 1973, the length of studies for elementary education was shortened after the third year from 7 to 6 years in 1975. Since that time and until 1978/79, the old and new systems

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(59) In a survey report by the Harvard Resource Development Team, Beardsley writes frankly that: "I would have to conclude that as far as Mauritania proper is concerned, educational planning capacity is as near zero as it possibly could be, with all activity centered around an expatriate advisor." BEARDSLEY, J.R.: Report on Mission to Mauritania: Observations and Recommendations, Harvard University, 1977, p. 13.

coexisted, resulting in the graduation of two classes of CM2 students at the end of the elementary cycle. In 1979, students registered for the competitive examination for the end of basic studies. Of these, 62% came from the old system and 38% from the 1973 reformed system. (See Appendix 4.)

The 1973 reform sought above to rehabilitate teaching in Arabic. The first two years are now taught in Arabic entirely, the third and fourth years are taught 2/3 in Arabic and 1/3 in French, the fifth year 1/2 in Arabic and 1/2 in French, and the sixth year 1/3 in Arabic and 2/3 in French. (60)

Compared to the 1967 reform, the 1973 reform shows a considerable increase in Arabic teaching because the first two years are taught entirely in Arabic, whereas the 1967 reform system envisaged only one year of teaching in Arabic. For the following years, the 1973 reform projected 1/3 to 2/3 of courses taught in Arabic, while the 1967 system envisaged only 1/3 from the second to seventh years. This increase in Arabic introduced by the 1973 reform can be estimated at 39%, with 30 hours scheduled per week and a reduction of the cycle from 7 to 6 years. Teaching in other areas was reduced by the 1973 reform to 46%. (See Appendix 5.)

The reform also envisaged improving the system by permitting only one class to be repeated by a student in the elementary cycle. However, according to information obtained from school headmasters, multiple repeats are still very frequent in the third and last years of the elementary cycle. In a state of high population mobility, with many schools having incomplete study cycles and the absence of student files which record student progress and which accompanies him wherever he enrols, an effective control of multiple repeats is impossible.

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(60) UNESCO: Mauritanie - Education, p. 16.

It is, moreover, not certain whether prohibiting multiple repeats is a good idea. The student who finds it forbidden to repeat his fifth or sixth year must leave school without having an option to acquire some vocational training. And yet, considerable sums of money have been spent for several years for such students' elementary education. Once again, this demonstrates the need to create a cycle of elementary vocational training.

In principle, the academic year lasts 30 weeks (October 15 - July 15), but the actual length seems to be considerably less, 12 weeks according to some estimates. Even if this figure is exaggerated or exceptional, there is little doubt that the academic year in many schools actually lasts no longer than 15 to 20 weeks.

Administratively, elementary schools are supervised by regional offices of elementary education, which obtain teaching supplies for new teachers, control the assignment of teachers, closely administer personnel and organize the correction of competitive examinations at the end of the elementary cycle.

III.1.1.2 Student Enrolment

The overall enrolment rate of attendance in the elementary education system reached 20.02% in 1977 for the 6-14 age group. (61) This rate is slightly higher than the 18.63% figure published by the Ministry of Elementary and Secondary Education. (62)

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(61) This year was chosen as a base so that the results of the January 1977 population census could be used.

(62) This difference is found in the demographic basis: for the 6-14 age group, the census cites 322,719 persons compared to 346,750 for the Education Ministry.

Since the age for admission is staggered between 6 and 8 years of age, it would seem appropriate to use the 6-8 year-old population group as a demographic base, so that the level obtained will be closest to the net level of enrolment.

Even though the level still seems very low compared to the goal for universal elementary enrolment, it has risen considerably: in 1968, it was 6.9%, and 12% in 1972. (63) This rapid rise should not be surprising because the enrolment rate was very low at the beginning. Comparing the 20.2% level with that of other Third World countries is difficult because of the 6-14 age bracket is used for an elementary education cycle lasting 7 years.

With this reservation, we can still obtain an idea of Mauritania's level in relation to that of other African countries.

The level of school enrolment in Mauritania is one of the lowest in Africa. However, it must be added that all of the lowest levels are in the "Sahel countries".

The Third National Plan for Economic and Social Development envisaged an enrolment level of 25% for the 1979/80 school year. This goal can be considered as attained since in 1977/80 the enrolment level had already reached 23.97%.

Still, it must be realized that the enrolment level is only a very global manner of measuring educational status. The effectiveness of an educational system should be measured according to the quality of the education provided and not only according to its enrolment capacity.

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(63) UNESCO: Utilisation des Statistiques Scolaires en Mauritanie, Paris, 1975, p. 11.

UNESCO: Mauritanie - Education..., 1972, Vol. I., p. 9.

Table 2

Gross Rate of Enrolment in Elementary Education

Country	Levels 1970	1975
Sahel Countries		
Chad	25.7	26.6
Upper Volta	9.9	11.9
Mali	16.0	18.9
Mauritania	11.4	16.7
Niger	10.6	13.4
Senegal	26.6	28.9
Other African Countries		
Cameroon	74.8	84.3
Ivory Coast	54.1	61.2
Ethiopia	9.5	14.8
Gambia	22.0	27.6
Kenya	52.4	99.6
Somalia	4.5	28.1
Tanzania	25.4	41.9

Source: UNESCO: La Croissance des Effectifs Scolaires des Pays du Sahel (Growth of School Enrolment in the Sahel Countries), Paris, 1975.

In like manner, a growing enrolment level can hide an increase in class repeats. If total enrolment increases faster than the number of registered first-year students, a growing enrolment level can lead to an overestimation of educational effectiveness.

The figures below seem to indicate that this is the case for Mauritania.

While the growth rate for the first year is more rapid than that of total enrolment up until 1976/77, it declines dramatically for the last two years of school when compared to total enrolment.

It would therefore be wise to interpret progress in school enrolment levels with some caution.

This said, the figures indicate that enrolment has quadrupled since 1965/66 to a level of 81,286 students in 1978/79. Compared to 1960/61, primary education enrolment has increased sevenfold. (See Appendix 6.)

These increases in student enrolment are the result of a demand for education by the population, demographic pressure and the enrolment capacity of the primary schools. It can be assumed that the demand for education is greater than the supply, due to the limited educational facilities, the low rate of admissions to the first year of elementary school seems to confirm this hypothesis.

The Ministry of Elementary and Secondary Education, probably with an aim of satisfying this demand, has projected a 10% average yearly increase in student enrolment, which should lead to an enrolment level of 35% in 1984/85, with 144,310 pupils. (64)

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(64) Ministry of Primary and Secondary Education: Statement to the cabinet regarding the Mauritanization of the teaching staff at the secondary school level, 1979, p. 5. By correcting the population index, a 35% rate of enrolment represents 137,620 pupils.

Table 3

Development of Enrolment in the First Year of Elementary Education and Evolution of Total Enrolment for Elementary Education

	1967/68	1970/71	1971/72	1975/76	1976/77	1977/78	1978/79
Enrolment First Year	5,215	6,210	7,412	13,089	15,647	15,417	16,119
1967:68 Index = 100	100	119	142	251	301	296	309
Total Enrolment	23,635	31,945	35,049	52,140	64,611	72,954	81,206
1967/68 Index = 100	100	135	148	221	273	309	344

Source: Ministry of Elementary and Secondary Education, calculations by the author.

The pedagogical and financial implications of this increase will be discussed below, but in light of these facts, one wonders if such a significant increase in the level of pupils would not endanger any initiative for reform since too many resources (human, financial and equipment) would have to be mobilized.

It would, no doubt, be preferable to stabilize the rate of enrolment at 25% which would result in a fairly sizeable increase in school enrolment (more than 17,014 pupils from January 1979 to January 1985), due in great to a minimum 2.5% estimated yearly rate of population growth. (See Annex 8.) (65) At the same time, it would be necessary to study and apply measures to improve the quality of elementary school teaching.

In conclusion, we believe the objective of a 10% annual increase in student enrolment might compromise the provision of a basic education to the rural population. Possibly, establishing a better elementary educational structure which would first of all recover students completing their 6th year without any professional qualification or employment, plus the rapid adaptation of primary teaching programs which would contribute to the economic and social development of the rural population in particular, are more urgent and effective measures for bringing about an improvement in the standard of living for the majority of Mauritanians than a rapid, costly increase in student numbers, of which only a small minority would finally be able to have access to higher education, while the greater majority would be joining the unemployed masses.

This does not mean that preparation for expansion of elementary education whose ultimate objective is universal primary education should not be made. The essence of the argument is that such education must first

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(65) Had they wished to stabilize the enrolment level at about 30%, there would have been 117,960 students in 1985, an increase of 9,768 students compared to 1982 (year in which the level of 29.6% will be reached). This would mean an increase of 36,674 students over 1979.

of all be restructured and reorganized in order to assure the rural masses a basic education that increases their chances of achieving food self-sufficiency, an improvement in living conditions, and cultural and economic independence of the country.

In the immediate future, it would be advisable to choose a slower growth rate. As Appendix 9 indicates, an enrolment level increase of 5% instead of 10% still guarantees a considerable swelling of student numbers between now and 1985 to the extent of 27,645 students, which represents a 34.01% increase over student enrolment for 1978/79.

Even an annual increase of 2.5% in enrolment levels — which equals the population growth rate — still produces a rise in enrolment of 12,980 units by January 1985, a 15.97% increase over 1978/79.

Of the 81,286 students in 1978-79, 51,769, or 63.6%, were boys, and 29,517, or 36.4%, were girls.

While the percentage level of participation for girls in elementary education has considerably increased since 1960, when it was just 19%, it has advanced only a little more than one percentage point per year on the average in eighteen years. If access to elementary education were equal, the percentage for girls should reach nearly 48.8%, a percentage taken for girls in the 6-14 age bracket.

For comparison purposes, female participation in other African countries is shown in Table 4.

Mauritania not only has a lower enrolment level compared to other African countries but also one of the lowest percentages for girls' attendance at the elementary level: 32% in 1975 against an average of 44% for the other African countries.

Table 4

Elementary Education: Percentage of Girls in Some African Countries

Country	Percentage 1970	1975
Sahel Countries		
Chad	27	29
Upper Volta	37	40
Mali	38	38
Mauritania	29	32+
Niger	35	36
Senegal	39	42
Other African Countries		
Cameroon	44	47
Ivory Coast	38	39
Ethiopia	37	36
Gambia	31	33
Kenya	43	48
Somalia	28	40
Tanzania	41	42
Average for Africa	41	44

+ Ministry of Elementary and Secondary Education

Source: UNESCO: Trends and Projections of Enrolment by Level of Education and by Age, Paris, 1977.

If the GIRM wants to obtain a higher rate for girls, as envisaged in the Third National Plan, the enrolment level for girls would have to be increased more quickly than that of the boys. (66)

The table below reveals that there has been a catching up in recent years. While the rate of enrolment for boys increased from 26.25% to 29.81% from 1977 to 1979, for girls it has increased from 13.48% to 17.85% for the same period. This development reduces the boy/girl enrolment level ratio from 1.95 to 1.67. (67)

If the overall enrolment level were fixed at 27.70% in 1985, with an annual enrolment growth rate of 5%, the limitation of the enrolment level for boys to 30% would allow a 25.29% enrolment level for girls. This rate would bring female participation to 44.53% and the boy/girl ratio for enrolment to 1.19.

The average female participation in 1985 would then be same as for African countries in 1985, or 44.00%. (68)

III.1.1.3 The School Infrastructure

The 81,286 students in 1978-79 were taught in 535 schools. Between 1972 and 1978, the number of schools increased more slowly than the number of students due to a concentration of students in the urban centers as a consequence of the rural exodus, which is why urban schools are larger on the average. (See Appendix 11) There are 1,547 classrooms in these 535 schools of which 1,477, or 95.5%, are used. This utilization

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(66) Third National Plan for Economic and Social Development, p. 126.

(67) With an identical enrolment level for the two sexes, the ratio would be equal.

(68) UNESCO: Trends and Projections, 1977, p. 40.

Table 5

Elementary Education: Enrolment Levels by Sex, 1977-1979

	Population 6-14	Boy Pupils	Enrolment Level	Population 6-14	Girls Pupils	Enrolment Level
January 1977	165,297	43,398	26.25	157,422	21,213	13.48
January 1978	169,429	47,912	28.31	161,358	24,982	15.48
January 1979	173,664	51,769	29.81	165,392	29,517	17.85

Source: 6-14 Population (See Appendix 8).

Ministry of Elementary and Secondary Education for school population.

rate has been very stable since 1976-77, which means that the absolute number of unused classrooms increases proportionately to the number of available classrooms. Although the number of unused classrooms for 1978-79 is not very great (70), it nonetheless represents an investment of at least 7 million UM.

Finally, the number of new classrooms for the last three academic years has been as follows:

Academic Year	New Classrooms
1976-77	131
1977-78	142
1978-79	127

or an average of 133 new classes per year.

For the 1975-80 period, the Third Plan called for the contruction of 840 new classrooms, or an average of 170 per year. This contruction program has not been completed as it would have required 1,806 classes for 1978-79 alone in order to meet the norm of 45 students per classroom, as set forth by the Plan. (69) Actually, there were, by that time, 1,547 classes representing a lag in the construction of 259 classrooms.

Of greater significance than the number of classrooms is the ratio of students to classrooms utilized.

Though this ratio in 1972-73 satisfied the norm of 45, it has increased enormously since, reaching 55 students per classrooms in 1978-79. (See Appendix 12.) It is evident that this highly rapid increase in the

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(69) Third National Plan, p. 126.

number of students per classroom can only damage the quality of education and undoubtedly contribute to the growing inefficiency of elementary education.

In theory, the enrolment capacity for elementary education in 1978-79 should have been 70,000 pupils (1,547 classrooms with 45 students per class), but in fact 81,286 were enroled.

III.1.1.4 The Teachers

The teaching staff in the elementary system totalled 1,825 persons in 1978-79. As shown in the table below, their number has risen constantly since 1974-75.

The annual growth rate was slower than that for pupils which caused the student/teacher ratio to rise from 33.1 to 45.1 and reduced the teacher/classroom ratio from 1.43 to 1.24 in 1978-79.

For the 1979/80 school year, the Third National Plan envisaged a teacher/classroom ratio of 1.2 and a student/teacher ratio of 45. (70) These objectives may be considered to have been reached.

For the 1979-80 to the 1984-85 period, while maintaining the level of 45 students per teacher and 1.2 teachers per class, it will be necessary to recruit either 615 teachers or 1.394 teachers according to the selected

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(70) Third National Plan, p. 126.

Table 6

School Year	Teachers			
	Number	Growth	Index	Annual Rate
1974-75	1352	-	100.0	-
1975-76	1439	87	106.4	6.4
1976-77	1668	229	123.4	15.9
1977-78	1765	97	130.5	5.8
1978-79	1825	60	135.0	3.4

Source: Calculations by the author and the Ministry of Elementary and Secondary Education.

Table 7

School Year	Student/Teacher Ratio	Teacher/Classrooms Utilized Ratio
1974-75	33	1.43
1975-76	36	1.34
1976-77	38	1.40
1977-78	41	1.31
1978-79	45	1.24

Source: Calculations by the author.

growth rate of student enrolment, broken down as follows by school year:

Table 8

School Year	Teachers to be Recruited	
	5% Growth Rate for Student Enrolment	10% Growth Rate for Student Enrolment
1979-80	90	181
1980-81	95	199
1981-82	100	219
1982-83	105	240
1983-84	110	264
1984-85	115	291
Total	615	1,394

Source: Calculations by the author.

Thus, by January 1985, there should be 2,440 or 3,219 teachers in elementary education. The Plan projected 2,460 for the 1979-80 academic year.

Assuming that the number of teachers will increase by 5% between 1978-79 and 1979-80, and using the norms of the Third National Plan, the shortage of teachers can be calculated as follows:

$$\text{Need} = \frac{\text{Students enroled}}{\text{Student/Teacher ratio}} \times \text{Teacher/Classroom Ratio}$$

Available = number of teachers in 1978-79 + 5%
Shortage = needed - available

Objectives of the Third National Plan for 1979-80

Students enroled	82,000
Ratio of students/teachers	45.1
Teachers/classroom ratio	1.2
Teachers needed	2,187
Teachers available	1,916
Shortage	271

If the replacement rate for teachers is estimated at 2%, there is a requirement of 2,230, leaving a shortage of 314. On the other hand, if we use the forecasts of the Ministry of Elementary and Secondary Education, there should be 89,250 students in elementary school in 1979-80. (71) A total of 2,428 teachers would then be needed, leaving a deficit of 512 teachers.

It must be concluded, therefore, that the number of teachers remains seriously insufficient to provide quality education, operating with a student/teacher ratio of 45.1 and a teacher/classroom ratio of 1.2.

The shortage of teachers will continue in up-coming years if training capacity is not developed. With a planned average growth rate of 5% for teacher and student enrolment, it can be expected that the shortage in January 1, 1985 will still be 2,558 - 2,440 or 128 teachers. On the

(71) Ministry of Elementary and Secondary Education: Statement to the cabinet of April 28, 1979, p. 5.

other hand, if the number of students envisaged by the Ministry are used, the shortage as of January 1985 will be 3,925 - 2,240 or 1,685 teachers.

It is, therefore, very doubtful that the student/teacher ratio of 45 attained in 1978-79 can be maintained for the following years. An insufficient number of teachers clearly compromises the development of an elementary education of reasonable quality.

However, an insufficient number of teachers is not the only threat to the development of a elementary education.

Recent years have shown that the quality of teachers is deteriorating. The recruitment level is much too low, training of teachers at ENI is inadequate, and possibilities of training already working is almost non-existent. In 1977-78, the teaching staff consisted of only 20.8% trained teachers, or 1 in 5, as compared with 23.4% in 1975-76. For the same period, teaching assistants represented 34.4% versus 22.7%. In contrast, monitors represented 25.4% in 1977-78 against 15.1% in 1975-76. Here is clear proof that recruitment is being done at the monitor level. In 1977-78, out of 97 persons recruited, 71 were monitors, or 73.2%. This also indicates that the implementation of the elementary education reform program of 1975 never took any consideration of the admission capacity of the educational system in either the area of equipment, teachers, or organization. A real academic population explosion in elementary education which brought student enrolment up by 16.3% between 1974-75 and 1975-76 and by 23.9% between 1975-76 and 1976-77 seemed unjustified. Undoubtedly, this explosion contributed to the loss of teachers, for whom working conditions had become one reason to avoid a teaching career.

As pointed out in the UNESCO report, the teaching corps' disenchantment with education and pupils' attitude towards the teaching profession are forecasts of a bad future, especially if the blatant sub-qualifications

of teachers currently being recruited are taken into consideration. (72)

In the immediate future, refresher courses must be reinforced at the Institut Pédagogique National. This institute should also ensure the ruralization of the subject matter content and teaching methods of elementary education.

The number of female teachers will also have to be substantially increased. In 1978-79, out of 1,825 teachers, 7.1% or 129 were women. It should be possible to orient more girls toward the teaching profession.

Finally, the recommendation of the report on reform to institute one year of public service must be implemented. To the extent that the present system of education is too selective at the post-elementary level, favoring a poorly understood elitist attitude and developing sour individualism, selected training programs can only marginally contribute to improving the welfare of the masses.

In the light of this situation, the training of teachers will become more and more compromised, justifying a mandatory contribution to the educative effort by youth having benefitted from prolonged training.

III.1.1.5 School Drop-Outs and Internal Efficiency of Elementary Education

III.1.1.5.1 School Losses (Drop-Outs and Repeaters)

In all of the reports of study groups the problem of losses in the elementary education system are considered only in passing. This may be explained in part by the absence of reliable statistics on class repeats

(72) UNESCO: Mauritanie - Education, 1978, p. 35.

and drop-outs and secondly by the lack of a series of statistics covering at least 7 school years so that one basic set of data may be compiled.

The problem posed by school losses is substantial enough to attempt to obtain an idea of its size with the help of existing statistics.

We have thus compiled student groups from the statistical series of the 1975-76, 1976-77, 1977-78 and 1978-79 school years. After verification, the statistics for 1975-76 were found to be useless (or possibly deviations) since the results obtained were completely different from those of subsequent years and very far from figures recorded in other African countries. Consequently, all calculations were made on the basis of the last three school years.

The method used is adapted from reconstituted student groups. Thus, "apparent" groups were defined and these should be interpreted with caution for they actually include students from different generations who are considered as belonging to the same generation. So, in order to obtain a statistical group for the academic years 1977-78 and 1978-79, for example, we have proceeded as follows (elementary school only):

Taking the total student enrolment for the first school year of 1977-78, we compared this number with the number of newly enroled students in the second year of 1978-79. The difference between these two figures gives us the number of pupils who did not pass on to the second year in 1978-79. Either these students repeated the first year that year, or they dropped out of school.

In equation format:

Total enrolment 1977-78 = (t) in 1st AF (ET^{t}_{AF1})

Newly enroled students 1978-79 = (t+1) in 2nd AF (NI^{t+1}_{AF2})

Repeats calculated in the first year = (RC^{t+1}_{AF1})
1978-79

Actual repeats in the first year 1978-79 = (RE^{t+1}_{AF1})

Hence:

$$ET^{t}_{AF1} - NI^{t+1}_{AF2} = RC^{t+1}_{AF1}$$

or:

$$15{,}417\ ^{(1977\text{-}78)}_{\text{1st year}} - 13{,}374\ ^{(1978\text{-}79)}_{\text{2nd year}} = 2{,}043\ ^{(1978\text{-}79)}_{\text{1st year}}$$

The repeats calculated actually combine all of the students in the first year who were not among those newly registered in the second year the following year. Clearly, a certain number of pupils will have left school after the first year. To calculate this number, comparison is made between the calculated repeats (RC^{t+1}_{RF1}) and actual repeats (RE^{t+1}_{AF1}).

In this way we obtain the number of drop-outs <u>after</u> the first year that are identified at the <u>beginning</u> of the school year (t+1, or....)

$$RC^{t+1}_{\text{1st Year}} - RE^{t+1}_{\text{1st Year}} = A^{t+1}_{\text{1st Year}}$$

or, using our example

$$2{,}043\ ^{1978\text{-}79}_{\text{1st Year}} - 1{,}999\ ^{1978\text{-}79}_{\text{1st Year}} = 44\ ^{1978\text{-}79}_{\text{1st Year}}$$

It should be noted that the drop-outs thus calculated are "apparent" drop-outs, as the figure for actual repeats may include students who have repeated several times. Since multiple repeats are not recorded separately, we must be content with "apparent" repeats while supposing that the norm of only one repeat is accepted.

To obtain calculated repeats for the second year, we proceeded as follows:

$$ET^{\,t}_{\text{2nd year}} - NI^{\,t+1}_{\text{3rd year}} = RC^{\,t+1}_{\text{2nd year}}$$

using the example

$$15{,}457^{\,1977\text{-}78}_{\text{2nd year}} - 13{,}858^{\,1978\text{-}79}_{\text{3rd year}} = 1{,}599^{\,1978\text{-}79}_{\text{2nd year}}$$

For drop-outs, we have

$$RC^{\,t+1}_{\text{2nd year}} - RE^{\,t+1}_{\text{2nd year}} = A^{\,t+1}_{\text{2nd year}}$$

using the example

$$1{,}599^{\,1978\text{-}79}_{\text{2nd year}} - 1{,}890^{\,1978\text{-}79}_{\text{2nd year}} = 291^{\,1978\text{-}79}_{\text{2nd year}} \quad (73)$$

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(73) Here we conclude that drop-outs are either negative or the number of actual repeats is greater than the calculated number of repeats. This result may be due to two phenomena: first, newly enroled students in the second year may include students entering school after the first year (for example, coming from a Koranic school) and who consequently belong to those newly enroled in the second year. During visits to schools, we were unable to confirm this hypothesis, as opinions proved contradictory. This first hypothesis is therefore rejected. The second factor is that of repeaters who had interrupted their studies without passing. These students will be registered upon their re-entry into the system as repeaters in the year of study that they terminated unsuccessfully. This hypothesis is somewhat confirmed by the very irregular movement of these repeats from one year of studies to the next and from one school year to the next. The existence of phenomena of this kind, which cannot be explained from existing statistical information, clearly demonstrates the necessity of strengthening the statistical apparatus in the academic field. The absence of information on the ages of students and on the nature of repeaters prevents both corrective measures and an appropriate evaluation of the internal efficiency of the systems.

The same procedure was followed for the third, fourth, fifth and sixth school years. For the seventh year, the number of graduates is not known. Hence, that number was calculated by taking total enrolment and the number of repeaters in the seventh year.

Shown as a formula:

$$ET^{t}_{7\text{th year}} - RE^{t+1}_{7\text{th year}} = S^{t+1} \qquad S = \text{graduates}$$

resulting in:

$$6{,}101^{\,1977\text{-}78}_{7\text{th year}} - 2{,}200^{\,1978\text{-}79}_{7\text{th year}} = 3{,}901^{\,1978\text{-}79}$$

Following this hypothesis, it was assumed that in the seventh year there were no drop-outs or re-entering repeaters. The first hypothesis meant that all of the students successfully terminated the seventh year. The second hypothesis implied that no students having passed the seventh year, drop out of the school system only to re-enter it after one or more years.

Applied to the statistics provided for 1976-77, 1977-78 and 1978-79, this method provided two groups of students made up of newly-enroled students, repeaters and the balance of the number of drop-outs and re-entering repeaters. (See Appendix 14.)

The range in these figures makes it possible to figure out losses, as shown below.

Table 9

Elementary Education - Rates of Passes, Repeats and Drop-Outs Based on Groups Reconstituted for 1976-77, 1977-78 and 1978-79.

(Expressed in hundreds)

	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year
Group I	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Passes	87.58	85.78	85.02	76.08	74.60	76.95	64.10
Repeaters	13.64	12.49	16.96	20.34	8.93	19.86	35.90
Drop-Outs	-1.22	1.73	-1.98	3.58	16.47	3.19	
Group II	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Passes	86.75	89.66	81.09	77.86	76.07	82.03	63.94
Repeaters	12.97	12.23	12.93	18.13	20.13	7.66	36.06
Drop-Outs	0.28	-1.89	5.98	4.01	3.80	10.31	

Source: Calculations by the author

Hence, we see that the passing level drops from year to year for Group I except at the end of the sixth year, when it rises slightly. In Group II, however, it rises slightly in the second year and dramatically in the sixth year. Still, the drop-out rate continues to be in the neighborhood of 64% in the two cases.

In the two groups, the level of repeats is nearly the same except for the fifth and sixth year. These levels do not seem excessive. Finally,

the drop-out levels for the fourth to the sixth year are high, while re-entry of repeaters seem to occur in the first three years.

It must also be recalled that it was assumed that there were neither drop-outs nor re-entries for the seventh year.

Taking pass rates per study year, the percentage of students who complete elementary school without repeating can be established from the enrolment level.

Table 10

Elementary Education: Passing Levels from First to Last Year

	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Sixth Year	Seventh Year	End of School Year
Group I	100.00	87.6	75.1	63.9	48.6	36.3	27.9	17.9
Group II	100.00	86.8	77.8	63.1	49.1	37.4	30.6	19.6

Source: Calculations by the author.

As shown in the table above, for Group I, 28 out of 100 students registered in the first year, reached the seventh year without repeating and 18 ended elementary school without repeating. Thus, after seven years, 82 students of the same school generation either repeated one year or dropped out of school.

For Group II, 31 students reached the seventh year without repeating, and 20 ended the cycle without repeating, indicating that 80 either repeated a year or dropped out of school

III.1.1.5.2 Internal Efficiency of the Elementary Education System

Based on the success/failure ratio and the drop-out rate, it is possible to estimate the efficiency of an educational cycle. The method used for this estimation is based on the LEXIS flow diagram, which is well known by demographers. In fact, with this method of compilation, the passing rate of repeaters is taken into consideration. It is quite apparent that part of the repeaters also reach the end of their studies in elementary education, although a little later.

In Mauritania's case, two estimates were made. In one, it was assumed that only one repeat was allowed per year of study, meaning all students who were not promoted after having repeated a certain year were considered to have dropped out of school.

A second hypothesis provided for two repeats per year of study. The reconstituted group thus obtained projects for each 100 students in the first year the number of year-occupied places for each year of study during the academic cycle.

By dividing the total thus obtained by the number of students terminating the cycle, the number of student-years is obtained for each pupil leaving the cycle. Finally, by dividing the number of student-years by the full length of the cycle, the ratio of student-years utilized was reached as a means to obtain the calculated number of students leaving and the number of study years making up the full cycle.

Application of the described method for Group II gives the following results:

Table 11

Elementary Education: Student/Years Utilized and Input-Output Ratio

Year of Study	Single Repeats	Second Repeats
First Year	112.97	114.65
Second Year	108.61	112.74
Third Year	107.43	114.97
Fourth Year	98.54	111.08
Fifth Year	86.60	103.91
Sixth Year	68.74	84.31
Seventh Year	67.44	93.48
A. Total	650.33	735.14
B. Graduates	43.12	59.77
A/B	15.08	12.30
Input/Output	2.15	1.76

These results indicate that with single repeats, 650.33 place/years are needed to graduate 43.12 students out of 100 through to the end of the elementary cycle. With double repeaters, 735.14/years are needed to take 59.77 students out of 100 to the end of the primary cycle.

In other words when starting out with 100 students, 43.12 pupils out of 100 pupils will graduate at the end of the cycle averaging a utilization of 650.33 place/years, or 15.08 place/years for each student ending the cycle. These figures apply when only one repeater is allowed.

If, on the other hand, two repeaters per year of studies are factored, 100 students would scale down to 59.77 graduating students with an average

utilization of 735.14 place/years, or 12.30 place/years per student terminating the cycle.

Theoretically speaking, for a 7-year cycle, 7 place/years must be utilized in order to educate one graduate. It has already been noted that with one repeat, the input/output ratio is 15.08/7 = 2.15. With two repeats, the input/output ratio drops to 12.30/7 = 1.76.

These results can also be formulated as follows:

- To obtain an elementary graduate education from a seven-year cycle, 2.15 place-years are required with one repeat per year of study and 1.76 place-year places with two repeats per year of study.

- Optimum efficiency would obviously require 1 graduate for 7 years of study, or 1 place-year.

To determine the efficiency of the elementary cycle in Mauritania, the input/output ratio obtained can be compared with an established norm as objective as, for example, 1.5. Since such a norm is not available for Mauritania, international comparisons can be utilized, as done in Table 12

Based on the assumed hypotheses for Mauritania, the input/output ratio is rather high. Supposing that a single repeat is permitted, as provided by in the report on the 1973 reform (74) assuming a 6-year cycle, the input/output ratio would be 2.21, which is among the highest seen in African countries. With a 7-year cycle, the input/output ratio is slightly lowered to 2.15. Thus, the gain acquired by shortening the cycle by one year is:

$$(2.15 \times 7) - (2.21 \times 6) = 1.79 \text{ place-year per graduate}$$

(74) Report on Educational Reform, p. 6.

Table 12

Elementary Education -- Input/Output Ratio Comparisons with Other Countries

	Authorized Repeaters	Input/Output Ratio	Duration of Cycle
ALGERIA	2	1.57	6
BOTSWANA	1	1.29	7
BURUNDI	3	2.61	6
CAMEROON	3	1.86	6
IVORY COAST	3	1.78	6
GABON	3	2.26	6
UPPER VOLTA	3	1.87	6
KENYA	1	1.21	7
LESOTHO	3	2.27	7
LIBYA	2	1.15	6
MALAWI	3	2.44	8
MALI	3	2.33	6
MAURITANIA +	1	2.15	7
MAURITANIA +	2	1.76	7
MAURITANIA +	1	2.21	6
MAURITANIA +	2	1.98	6
NIGER	2	1.91	6
SENEGAL	2	1.50	6
SWAZILAND	2	1.63	7
TANZANIA	1	1.42	7

Source : UNESCO : Wastage in Primary Education in Africa, Statistical Study, Paris 1975.

+ For Mauritania : Calculations by the author.

If, on the other hand, two repeats are allowed, which is perhaps closer to reality in Mauritania, the input/output ratio is 1.98 with a 6-year cycle and 1.75 with a 7-year cycle. These levels, though they are still high, are closer to those of other African countries. The gain acquired by shortening the cycle by one year is therefore:

$$(1.76 \times 7) - (1.98 \times 6) = 0.44 \text{ place-year per graduate.}$$

Thus, if two repeats are actually allowed, the gain obtained by reducing the elementary cycle from 7 to 6 years is quite limited: scarcely 0.44 place-year per graduate.

When calculating the internal efficiency of the elementary education system, it would still be interesting to inquire about the weight which should be given to the effort of teaching children to read and write in order to prepare them for vocational training. Teaching children to read and write is certainly an important goal in primary education.

To reach this goal, not only must the children enter the first year of school, but they must remain in school for a sufficient number of years.

If the fourth year of primary education is maintained as the guideline for the level of instruction required to become and remain literate (75), the number of place-year to be provided in order to carry a student through school to the fourth year is: 4.34 place-year with one authorized repeat and 4.08 place-year with two repeats.

We can conclude that the internal efficiency of the elementary education system is very mediocre compared to that of other African countries.

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(75) Norm utilized by UNESCO in UNESCO: Tendances et Projections des Effectifs Scolaires (Trends and Projections of School Enrolments), Paris, 1978, pp. 38-39.

An improvement in this efficiency should be possible by reducing the number of repeats in the last year.

It must also be noted that the internal efficiency of a school system tells us nothing about the quality of graduates for that cycle. Admission requirements for nearly all post-elementary training programs seem to indicate that this quality is mediocre.

This leads us to the observation that, while the internal efficiency of the cycle may be average, external efficiency is very low since students leaving elementary education are being admitted to general secondary education at a rate of only 30-35%. Yet, it is this very admission to general secondary education which is the prerequisite for gaining access to nearly all other types of educational systems. Clearly, the result is that a great number of students leaving elementary school find themselves unemployed with no possibility of post-elementary training. The creation of a second, highly ruralized cycle would permit the absorption of these students.

III.1.1.6 Financing and Costs for Elementary Education

III.1.1.6.1 Operating Costs

Several sources cover the financing of elementary education, but it is the State budget which above all supplies the financial means to ensure the operation of that educational system. The regional budgets therefore cover only 11.6% of elementary school operating expenditures. (76)

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(76) 1977 Preliminary Budget.

Capital (or construction) expenditures, on the other hand, are financed principally by donors, as the 1978 State budget allocated only 2.7 million UM for capital costs for the entire educational sector. (77)

Operating expenses for elementary education supported by the State has reached 571.0 million UM for 1980, or 35.8% of the total operating budget earmarked for education and 6.0% of the State's operating budget. In 1975, this sum totalled 327.6 million UM or 45.3% of the educational operating budget and 7.3% of the operating budget for the State. (78) Hence, financial level provided by the State for elementary education operating expenditures diminished at the time when a strong expansion of student enrolment was generated by the 1973 reform. While the State operating budget increased by 125.9% in 1979, that of education increased by only 84.9%, and that of elementary education scarcely by 42.3%.

Table 12 b

	1975	1976	1977	1978	1979	1980
Operating Budget	100.00	120.1	162.3	217.7	225.9	210.3
Operating Budget for Education	100.00	115.2	149.6	164.1	184.9	220.7
Operating Budget for Elementary Education	100.00	101.9	120.6	121.3	142.3	174.3

It is evident that the profession of State financing for elementary education is inadequate. It would appear at first that the reform at this

(77) See Appendix 15.

(78) See Appendix 15 and 16.

level of education, by reducing the cycle by one year, led to a savings unjustified by the increase in student enrolment.

This situation has clearly improved for 1980 for, despite budgetary cutbacks (the State operating budget having been reduced by 6.9% over 1979), the elementary education budget has grown by 22.5% in this same year.

This financial recovery for elementary education undoubtedly reflects a policy by the Ministry of Elementary and Secondary Education which aims to give priority to greater school enrolment at the elementary level. Regrettably, however, this policy has not been accompanied by a change in the subject matter taught or in the creation of training opportunities beyond the elementary level.

Table 13

State Operating Cost of Education per Student

(In UM)

1975	1976	1977	1978	1979	1980
7,309	6,407	6,115	5,446	5,733	6,416

The unit cost shown, which does not include the regional operating budgets, dropped from 7,309 UM in 1975 to 5, 733 UM in 1979, a reduction of 1,576 UM per student. In 1980, it rose to 6,416 UM.

All of the figures are expressed in current prices. The increase in 1980 should not hide the fact that 94.8% of the operating budget is earmarked for salaries which compares to 5.2% for other operating expenditures (2.8% for school supplies, or 16 million UM or 179 UM per pupil). (79)

This state of affairs confirms the precarious conditions under which elementary education is obliged to function, since in 1979 operating expenditures other than that for salaries still represented 6.7% of the budget (30.4 million UM against 29.7 million UM in 1980).

Undoubtedly, the quality of elementary education is being compromised by smaller and smaller financial outlays.

It would seem that the expansion rate in elementary education is becoming unfeasable from the financial viewpoint. Using the average yearly salary for teachers and the estimate of available teachers as of January 1, 1985, total salaries would be 584.1 million UM at 1979 prices, and operating expenditures would total 620.9 million UM. (80) It must be stressed that these figures are calculated solely on the basis of the State operating budget.

III.1.1.6.2 Regional Budgets

It is difficult to extract educational expenditures set aside for elementary education from the regional budgets. These expenditures are earmarked for school meals and maintenance of school buildings. They are estimated at 5% of the State's educational budget, or approximately

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(79) The average salary per teacher was 227,452 UM per year in 1979.

(80) Calculations based on 2,568 teachers and 108,931 pupils for January 1, 1985. Taking the number of pupils projected by the Ministry of Elementary and Secondary Education, the operating budget would be 825,6 million UM in 1985.

. 79.8 million UM for 1980. (81)

It would be advisable to have a stand and budgetary presentation to permitt a more concise analysis.

By adding regional expenditures to those of the State, the cost per student comes to 7,314 UM. Added to this is food aid from the World Food Program, estimated at 79.8 million UM per year.

III.1.1.6.3 Capital Expenditures

Although capital (or contruction) expenditures are almost totally supported by foreign donors, it would still prove interesting to know their level. Since most capital spending is allocated to the construction of new classrooms, the following calculations are limited to an estimate of spending for such contruction for the 1980-85 period.

Assuming that contruction costs per classroom is 100,000 UM, the amount requires on the basis of a student/classroom ratio of 45 would be 61.5 million UM for this period. (82)

This represents an average yearly investment of 10.3 million UM. It should be emphasized that the construction cost of 100,000 UM for one classroom is only an average determined from gathering data in the field. Estimates vary according to the source and construction materials used, from 41,000 UM for a banco building to 200,000 and above for a concrete building with zinc roofing.

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(81) UNESCO Report, 1978.

(82) Calculations based on a 5% yearly increase in student enrolment. If the growth rate were 10% yearly, capital expenditures would be 139.4 million UM.

III.1.1.6.4 Educational Costs of Acquiring a Diploma for Elementary Education

Using budget data, it is possible to estimate the operating budget for one student graduating from elementary school. For a 6-year cycle and one authorized repeat, the cost in 1980 prices is:

For the State Budget

$$6{,}416 \times 11.90 = 76{,}350 \text{ UM}$$

For the State Budget plus the Regional Budgets

$$7{,}314 \times 11.90 = 87{,}037 \text{ UM}$$

With two repeats allowed, the cost becomes:

$$6{,}416 \times 13.26 \times 13.26 = 96{,}983 \text{ UM, and}$$

$$7{,}314 \times 13.26 = 96{,}983 \text{ UM}$$

For a country with a per capita income of less than 20,000 UM per year, the foregoing cost is high, especially if one considers that two-thirds of these graduates will be abandoned, with no vocational training to facilitate their integration into the labor market and unable to make a substantive contribution to rural development.

Mauritania's economic and budgetary situation leaves no room for considering elementary instruction as a goal in itself. The enormous effort of education can only be justified when it helps supply the country with the necessary human resources needed for the attainment of development goals.

The majority of youth completing elementary school jobless only serves as a painful reminder of the marginal investment made in human capital when this is not achieved in a global, coordinated and coherent manner.

The data demonstrates that the northern part of the country is favored in enrolment compared to the southern part. In the latter zone, the southwest is more favored than the southeast. (See Appendix 21.)

In addition, these figures seem to indicate that enrolment in elementary school follows and encourages rural exodus rather than slowing it down. Offhand, it would seem that policy and planning for elementary education are not excessively concerned about the problem of developing student enrolment in the rural regions or concerned about the importance of educating the female population in those areas.

On the last point, the ratio of enrolment of boys to girls, there is clearly a lag in the enrolment level for girls in rural regions.

Table 15

Ratio of Level of Enrolment for Boys/Level of Enrolment for Girls by Region

Region	Boy/Girl Ratio	Region	Boy/Girl Ratio
1	2.12	8	1.147
2	2.40	9	1.47
3	2.53	10	2.42
4	2.04	11	1.75
5	2.29	12	1.54
6	1.83	Nouakchott	1.22
7	1.64	Total	1.82

If the enrolment level for girls were equal to that for boys, the ratio would be 1/1. It is evident that those regions with the lowest overall school enrolment also reflects the greatest lag in education of

girls as compared to boys.

In Nouakchott, this gap tends to disappear.

The regional disparities in school enrolment may be due to low demand. If true, this would be more agreeable than accepting the non-functional content of the education system. Here, too, the ruralization of elementary education could help improve the educational situation.

Furthermore, it is probable that these regional disparities, since they reflect an educational policy unfavorable to the rural population, signify differences in the regional enrolment capacity (schools, classrooms, teachers). This will all be examined in the following section of the report.

III.1.1.7.2 School Infrastructure by Region

The number of schools per region is not very significant in determining enrolment capacity, since there are great differences in population density from one region to another. Thus, Region 6, with a 6-14 age group totalling 54,846 persons, had 112 primary schools for 1978/79, or an average of 1 school for every 490 pupils. In this same region, there were 10,056 pupils, averaging 90 per school.

In Region 8, on the other hand, there were only 2,276 persons aged 6-14, with one school for every 535 in that age group. The number of pupils per school in this region totalled 291.

More significant than the number of schools is their structure. By structure is meant the number of classrooms per school, which better expresses the enrolment capacity of the school system. While nearly one-half of the schools in Region 6 have only 1 classroom, Region 8 has only 2 out

of 8. There were only six schools with seven classrooms or more in Region 6 in 1977-78. In Region 8, 3 out of 8 schools have more than 7 classrooms. (See Appendix 22.)

Those regions which are disadvantaged at the educational level (in terms of enrolment) have a high percentage of one-room schools.

Table 16

Region	% of Schools with one Classroom	Region	% of Schools with one Classroom
1	13	8	1
2	14	9	9
3	12	10	5
4	15	11	0+
5	15	12	0
6	23	Nouakchott	0+
7	5	Total	100

School Year 1977-1978
+ less than 1%.
Source: Ministry of Elementary and Secondary Education.

In contrast, in those regions with a higher enrolment, there are practically no one-room schools. The average number of classrooms per school and region is depicted in the table below.

Table 17

Region	Classrooms Per School	Region	Classrooms Per School
1	2.6	8	5.4
2	2.1	9	2.3
3	2.4	10	2.8
4	2.7	11	8.2
5	2.6	12	5.6
6	2.4	Nouakchott	9.2
7	3.6	Total	2.9

School Year 1977-1978.
Source: Ministry of Elementary and Secondary Education.

The percentage of unused classrooms was high (over 20%) in regions 4, 5, and 6.

While the average size of the schools is not necessarily an index of the quality of education (small schools may even be desired where low population levels require no more than a one-room school), the question remains as to the continuity of these schools and the efficiency of their operation in the absence of certain economies of scale created by their size. It would appear that plans must be made to merge these small schools so that elementary school enrolment can be encouraged and developed within the rural milieu.

The presence of a large number of unused classrooms in the three regions with low enrolment levels demonstrate the clear need for an

analytic chart indicating such information.

The number of students per classroom is another factor which affects the quality of education. It is evident that a large body of students beyond a certain ceiling damages the quality of education. The national average of 55 students/classroom already appears to be too high to guarantee a good education.

The table below reveals that this average has been greatly surpassed in those regions where enrolment levels exceed the national average.

Table 18

Elementary Education - Relationship between Students/Classrooms by Region

Region	1976-77	1977-78	1978-79
1	42	41	43
2	43	40	43
3	47	44	43
4	54	53	52
5	50	53	55
6	47	49	49
7	51	55	67
8	63	73	70
9	45	40	40
10	42	43	46
11	56	59	71
12	56	53	52
Nouakchott	91	94	86
Total	53	54	55

Source: Calculations by the author.

The fact that classrooms are used by several class levels, which is the case in Nouakchott and probably Region 7 as well, does not noticeably improve student congestion in some elementary schools, so that, even in urban areas, the quality of elementary education is surely compromised.

III.1.1.7.3 Regional Distribution of Teachers

The regions suffering the most from a serious shortage of teachers are Regions 8 (Nouadhibou), 11 (the northeast), and the Nouakchott District. However, this shortage must be judged with caution, for even in those regions where there does not appear to be a shortage of teachers compared to the number of students, there is still a shortage of teachers in relation to school-age population due to the low school enrolment level in these regions. (See Appendix 23.)

In addition, the relatively low ratio of students to teachers in these regions does not necessarily indicate a favorable learning situation. (See Appendix 24.)

One factor which merits attention is the reduction in the number of teachers in those regions with low enrolment levels. Region 4, for example, lost two teachers for 1978-79 since 1976-77, while the Region 5 lost 4 in the same period. At the same time, there were 26 more classes in each of these regions.

Table 19

Variation in Number of Teachers

1976-77 to 1978-79

Region	Variation	Region	Variation
1	+ 14	8	+ 8
2	+ 10	9	+ 30
3	+ 49	10	+ 11
4	- 2	11	- 20
5	- 4	12	+ 6
6	+ 32	Nouakchott	+ 12
7	+ 11	Total	+157

Finally, the number of instructional levels per teacher seems to indicate a rather high variation in teachers' schedules. The 1978/79 national average was 1.18 per teacher; by comparison, regional disparities were quite substantial and varied significantly from year to year.

Table 20

Instructional Levels by Teacher: 1976-77, 1977-78 and 1978-79

Region	1976-77	1977-78	1978-79
1	1.18	1.24	1.10
2	1.23	1.15	1.12
3	1.12	1.19	1.22
4	1.50	1.29	1.25
5	1.41	1.33	1.18
6	1.27	1.25	1.25
7	1.16	1.09	1.08
8	1.15	1.14	1.08
9	1.16	1.23	1.20
10	1.07	1.21	1.14
11	1.38	1.18	0.74
12	1.13	1.32	1.14
Nouakchott	1.48	1.33	1.18
Total	1.31	1.24	1.18

In the majority of these regions, ratios have approached the ideal 1/1 figure. The ratio for Region 3 (in the southcentral) rose noticeably, a possible indication that authorities seriously attempted to increase the enrolment level there, which was only 11.84% in 1976/77 with a boy/girl ratio of 2.53.

Before charting regional disparities in the elementary education program, a sociological study of their causes should be made. Any realistic

educational plan should take the results of such a study into consideration and use it as a foundation for an educational policy geared to greater equity in enrolment opportunities and through this, moderate the rural exodus.

It is clear that such a moderation can only materialize if the educational content is functional, i.e., adapted to the realities of the region and serving the goals of rural development.

III.1.1.7.4 Regional Indexes of School Enrolment

These indexes synthesize educational programs by region. Calculations are taken from regional percentages using the following variables:

- the 6-14 year-old population
- the students
- number of girls enroled in school
- classrooms utilized
- instructional levels.

A distribution proportional to the 6-14 year-old population would produce the same percentage for each variable.

By reconciling the percentage of each variable to that of the 6-14 age group, the coefficient for regional disparity in elementary education is obtained. When there is no disparity, this coefficient is equal to one. A coefficient greater than one indicates a favored region while a coefficient smaller than one represents a disadvantaged region.

Calculations are based on data provided in Appendix 22, and concern only the 1976/77 school year since population estimates for the 6-14 age group after January 1977 were unavailable.

Table 20 b

Regional Enrolment Indexes (as of January, 1977)

Region	Pupils Ages 6-14	Girls Ages 6-14	Classrooms Utilized Ages 6-14	Instructional Levels Ages 6-14	Teachers Ages 6-14
1	0.67	0.58	0.83	0.83	0.75
2	0.70	0.60	0.90	0.80	0.80
3	0.67	0.56	0.67	0.67	0.56
4	0.83	0.83	0.83	0.83	0.92
5	0.83	0.75	0.92	0.92	1.00
6	0.94	0.88	1.06	1.00	0.94
7	1.50	1.50	1.50	1.50	1.25
8	4.00	4.00	3.00	3.00	3.00
9	0.67	0.83	0.83	0.83	0.83
10	0.67	0.50	0.83	0.67	0.83
11	1.50	1.50	1.50	1.50	1.50
12	2.00	2.00	2.00	2.00	2.00
Nouakchott	2.50	3.13	1.50	1.88	2.13

Source: Calculations by the author.

Region 1: Compared to the school-age population, elementary education is under-utilized with few pupils, especially girls. A rather weak school plant, though adequate to permit a higher enrolment level. A region with very low population density (0.86/km^2) and low urban concentration (0.09). (85)

(85) Urban concentration = $\frac{\text{population of urban areas}}{\text{population of region}}$

Region 2: Enrolment level is very low, especially for girls, despite adequate classroom space. A region with low population density (2.32/km^2) and very low urban concentration (0.07).

Region 3: Certainly the least favored region in the country, with low enrolment levels and an inadequate school system due to the lack of teachers. A region with rather low population density (3.52/km^2) and low urban concentration (0.08).

Region 4: With a rather low enrolment level, this region's school capacity is barely adequate except for teachers. Population density is quite high (11.00/km^2), but urban concentration is low (0.14).

Region 5: Its situation is similar to that of Region 4, but girls are under-represented. The school infrastructure, is more than sufficient for present enrolment levels. A region with low population density (4.58/km^2) and low urban concentration (0.10).

Region 6: Enrolment levels in this region approach the national average, with a considerable lag for girls. The physical capacity of schools seems to be adequate. Population density is low (3.17/km^2) as well as urban concentration (0.08).

Region 7: One of the regions with a favorable enrolment level and sufficient infrastructure but with too few teachers. The population density is low (0.26/km^2), but urban concentration is rather high (0.29).

Region 8: By far the region with the highest enrolment level for girls as well as boys, with an apparently over-utilized infrastructure. Despite a low population density (1.10/km^2), urban concentration is very high (0.90).

Region 9: This is another region which is not favored in enrolment, although girls are better represented than in the other regions where they have low enrolment levels. The infrastructure seems to be adequate and balanced. Population density (0.80/km^2) and urban concentration (0.10) are low.

Region 10: While this region may compare with the first from the standpoint of school attendence and infrastructure, very few girls are enroled in elementary schools. The population is quite dense (8.09/km^2), but urban concentration is very low (0.07).

Region 11: School enrolment level is very good in this region for both boys and girls, and infrastructure is balanced and well-utilized. Very low population density (0.09/km^2) with very high urban concentration (0.87).

Region 12: Like Region 11, this region has a high enrolment level with a good representation of girls and a balanced and well-utilized school infrastructure. Still, population density is very low while urban concentration is high (0.46).

Nouakchott District: Characterized by high enrolment levels very favorable to girls, but precarious school infrastructure and a shortage of teachers. Population density is very high (1,125/km^2), with 100% urban concentration (1.00).

This region-by-region analysis clearly shows that the school enrolment level is much more advanced in the regions which have a high urban concentration. In contrast, several have a low population density. In most cases, the school infrastructure seems to be unable to follow the expansion in enrolment. It is, therefore, quite probably that in Region 6 the demand for education is greater than the supply of facilities.

In such a case, increasing the supply can only induce a renewed increase in demand. In other words, extension of enrolment capacity in the educational system in the cities runs the risk of stimulating rural exodus.

Even though the supply of elementary education facilities lags behind demand in Region 6, an appreciable effort is being made: 26% of the classrooms utilized, 29% of instructional levels and 30% of the teaching staff for the school-age population which is barely 16% of the entire 4-16 year-old group.

Although there is no question about slowing down school enrolment in this region, thought should still be given to having the richer regions, already well-equiped in school facilities, assume a greater share of elementary education expenses.

For regions in the other agro-ecological zones, it appears that supply exceeds demand since school infrastructure seems to be under-utilized. A study must be made to determine whether under-utilization is the result of inadequate school facilities, or if it reflects a lack of interest in elementary education.

If there is a lack of interest, a study must be made to determine what subject matter, structure and organization of elementary education might stimulate demand. Mandatory school attendance might even be considered.

The financial contribution of the State must be increased in order to finance the establishment of ruralized elementary education and to increase enrolment levels for children, especially girls.

It will be necessary to set up regional planning and programming offices in order to have an effective, equitable educational policy. These offices would be responsible for analyzing the specific situation in their regions

and undertaking educational planning that concord with established development goals. They will also be in charge of collecting and calculating statistics for their region. Finally, they will have to supervise new initiatives in the primary education system.

Personnel in these offices should be multi-disciplinary, the principle being to have a team of specialists in several areas (agronomy, economics, education, sociology).

The multiplication of regional offices must be avoided. In the immediate future, three such offices should suffice: one for the northern region, covering Regions 7, 8, 11, 12 and the Nouakchott District, a second for the southwest for Regions 4, 5, 6, and 10, and a third for Regions 1, 2, 3, and 9.

Officials in each regional office would be members of a National Commission, with seats also for the Director of National Education, the Director of Planning and the Director of Labor. This national commission would be responsible for coordinating development objectives, employment and education.

III.1.2 Elementary Education: Adult Education

III.1.2.1 Structure

The 1977 national census revealed the literacy level for the population aged six years and over. (See Appendix 14 b.) It comes to 17.4% for the population as a whole with 11.5% for the rural population and 36.9% for urbanites. The literacy level for the rural population rose 0.6 points in 12 years, from 10.9% in 1965 to 11.5% in 1977.

It is therefore evident that a special effort must be made in adult education.

With that goal in mind, a special office, attached to the Directorate of Elementary Education, was created as part of the Ministry of Elementary and Secondary Education.

This office is responsible for organizing educational programs in centers dispersed throughout the regions but it is ill-defined. One has the impression that its content is left to the discretion of the teachers who are actually primary school teachers who receive 60 UM an hour to teach in the adult education centers and have a maximum schedule of 160 hours per year.

Classes are held in the primary school buildings and are organized into three levels: weak, average, strong.

Lacking a policy, program or financial means, teaching is generalized and based on elementary education courses, using primary school teachers and their teaching methods.

Needless to say, adult education centers are potentially powerful tools for basic education, capable of providing immediate returns for adults. Local community groups could, with the aid of national officials, create a nucleus of village action committees and develop non-formal education geared to the activities of the rural population.

The lack of interest on the part of the Ministry of Elementary and Secondary Education and the Regional Directors of Elementary Education in establishing a better organization and operation of these centers only accentuates the unfortunate orientation of the educational and training system in Mauritania.

III.1.2.2 Quantitative Data

In the 1970-71 school year, there were 7 centers with 938 students, while the number of centers in 1977-78 totalled 18 with 1,731 students, 34 classrooms and 75 teachers. In the Nouakchott District alone, there were 618 students, or 35.7% of the total, divided among 6 centers. The Néma and Aïoun centers did not seem to be operating during 1977-78.

For 1978/79 alone, only 13 centers were functioning, but statistics are missing on most of them.

The operating budget for adult education totalled 1.8 million UM. The regions do not contribute to the financing of adult education. (See Appendix 16.)

III.2 General Secondary Education

III.2.1 Program Structure

The general secondary education system is composed of two cycles, each of three years duration.

Students enter the first cycle by passing a national competitive exam organized at the end of elementary schooling. This exam also serves as an end-of-elementary cycle competetive examination.

The report on reform foresaw that 30% of those who took the national examination would be admitted to the colleges for general education. It now appears that 35% of those taking the exam are actually admitted to these schools. (86)

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(86) Ministry of Elementary and Secondary Education: Statement to the cabinet, April 28, 1979, p. 79.

Table 21

Elementary Education - Adult Education, 1977/78

Area	Number of Centers	Classrooms	Students	Teachers
Néma	-	-	-	-
Aioun	-	-	-	-
Kiffa	1	2	114	4
Tidjikja	1	2	147	7
Sélibaby	1	2	131	4
Kaédi	1	2	135	6
Aleg	1	2	130	4
Rosso	1	2	75	4
Akjoujt	1	2	40	3
Nouakchott-Ksar I	1	1	60	4
Nouakchott-Sonace	1	1	51	4
Nouakchott-Ksar II	1	2	104	4
Nouakchott-Ksar III	1	2	117	4
Nouakchott-Ksar IV	1	2	180	4
Atar	1	2	60	3
Nouadhibou-Ville	1	2	40	1
N'Fédrick	1	2	80	4
Nouadhibou-Cansado	1	2	91	4
Total	17	32	1.663	69

Source: Ministry of Elementary and Secondary Education.

Completion of first cycle studies results in a "Certificat d'Etudes de Fin d'Etudes au Premier Cycle" (C.E.E.P.C.), which is earned by passing a national, non-mandatory examination. (87)

The educational system is regionalized to the extent that each region has at least one general secondary-level "collège."

Experimental sections taught in Arabic have been organized since 1974/75. For 1977-78, there were 43 in the first cycle. (88)

Curricula include Arabic, French, math, the natural sciences, technology, history and geography, with a schedule of 30 hours per week for each year of the cycle. (See Appendix 25.)

Thirty-seven percent of the schedule is devoted to languages, 10% to natural sciences and drawing, and 7% to technology (which deals primary with notions of weights and measures, physics and electricity).

The headmaster and the school committee determine one's entry into the first year, second cycle of secondary education. (89) Studies lead to the Mauritanian Baccalaureat.

Physics and chemistry are taught in addition to subjects offered in the first cycle. However, subjects are divided into series:

- Letters (ancient, modern)
- Natural Sciences
- Mathematics
- Technical (provided by the Lycée Technique)

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(87) UNESCO: Mauritanie - Education, 1978, p. 35. In 1978/79, 411 students (369 boys and 42 girls) received the CFEPC, which was called the "Brevet d'Etudes du Premier Cycle" (BEPC) at the time. CFEPC = Certificate for End-of-First-Cycle-Studies.

(88) UNESCO: Mauritanie - Education, 1978, p. 36.

(89) Ministry of Elementary and Secondary Education: Que ferez-vous demain? (What will you do tomorrow?), 1977.

Each of the series can be pursued in either French or Arabic.

Clearly, all of the series in the secondary education program lead either to higher education or employment. The Modern Letters series often leads to an administrative career.

III.2.2 The Students

In 1978/79, 8,630 pupils were enroled in the first cycle of secondary education, of which 78.4% were boys and 21.6% were girls. Compared to the academic year 1969-70 enrolment rose 236% in 10 years. (See Appendix 26.)

Table 22

Student Enrolment in the First Cycle of Secondary Education (1969/70 Index = 100)

Year	Index	Year	Index	Year	Index
1969-70	100.0	1972-73	124.0	1975-76	206.8
1970-71	108.1	1973-74	143.6	1976-77	254.9
1971-72	118.0	1974-75	171.4	1977-78	285.0
				1978-79	336.0

Source: Calculations by the author.

In addition, it is evident that student expansion has been more rapid since 1975/76. This corresponds to the Third National Plan which called for priority to be given to rural development.

In 1978/79, 3,675 pupils were enroled in the first year, first cycle. If the assumption is made that 63.9% of students in their last year of elementary school will pass, there should have been 9,638 elementary school graduates in 1977/78. By taking only students newly enroled in their first school year, one can estimate the percentage of students passing from elementary school into secondary school to be: 3,431/9,638 = 36.60. This percentage is in fact very close to the 35% retained by the Ministry of Elementary and Secondary Education. It also illustrates very clearly the fate of nearly 6,000 graduates from elementary education.

Unlike the case of primary education, the number of first-year secondary school students is rising faster than the total number of students in the first cycle of secondary school.

Even if we take only the first three years of the first secondary cycle, one can observe that the 1969-70 index of 100.00 rose to 336.0 in 1978-79, while that of the first secondary year rose from 100.00 to 506.2 for the same period.

From this, one must conclude that the development of secondary education is very rapid. This is one phenomena which should certainly concern development planners.

In the second cycle, there were 3,496 students in 1978/79, an increase of 691% over 1969/70 and 222% over 1974-75.

Student numbers in the second year have increased since 1969-70 by 611.9%. It must be recalled that shortening the first cycle of secondary education by one year after 1977-78 created a double class in the second cycle of the same year.

Table 23

Enrolment in Second Cycle of

Secondary Education (1969/70 = 100)

Year	Index	Year	Index	Year	Index
1969-70	100.0	1972-73	200.0	1975-76	283.7
1970-71	142.3	1973-74	231.7	1976-77	326.0
1971-72	160.9	1974-75	245.7	1977-78	528.1
				1978-79	791.0

Source: Calculations by the author.

III.2.3 Graduates of Secondary Education

Completion of general secondary education results in the Mauritanian Baccalauréat, which is equivalent to the French Baccalauréat. Graduates usually continue their studies in higher education, either at ENS, ENA (Cycle A), or in institutions of higher learning abroad.

As revealed by statistics on the last school years, a large percentage of the candidates taking Baccalauréat examination selected Letters as their major field (French and Arabic), numbering 52.4% of those taking the examination in 1978 and 55.7% in 1979. The level of those passing was one of the lowest of all the major fields, especially for the French option. Therefore, the percentage of candidates passing the Baccalauréat in Letters is very low compared to candidates as a whole: 48.5% in 1978 and 52.7% in 1979.

Table 24

Secondary Education: Baccalauréat Results, 1978 and 1979

Subject	Enroled		Present		Passed		$\frac{\text{Passed}}{\text{Present}} \times 100$	
	1978	1979	1978	1979	1978	1979	1978	1979
Modern Arts Arabic option	18.9	25.5	15.4	24.9	23.7	28.2	75.0	54.5
Modern Arts French option	35.2	31.9	37.0	30.8	24.8	24.5	34.1	38.4
Mathematics Arabic option	3.1	1.9	3.4	2.1	4.6	4.0	68.8	92.3
Mathematics French option	7.8	4.9	8.3	4.9	9.7	5.3	59.0	51.6
Sciences Arabic option	-	2.8	-	3.2	-	6.0	-	90.0
Sciences French option	29.3	28.7	30.0	29.4	33.2	26.5	56.4	43.5
Technical	5.7	4.3	6.0	4.8	5.0	5.6	42.9	56.7
	100.0	100.0	100.0	100.0	100.0	100.0		
Absolute Numbers	523	749	468	627	238	302	50.9	48.2

Source: Calculations by the author.

Few candidates take the Mathematics Series, especially the Arabic option, 11.7% of candidates passing in 1978 and 7% in 1979. Since the pass rates for these series is higher, the percentage of those who passed are 14.3% in 1978 and 9.3% in 1979.

Many candidates take the Sciences Series, especially the French option, 30% of total enrolment in 1978 (no candidates for the Arabic option) and 32.6% in 1979. The Sciences Series was 33.2% in 1978 and 31.5% in 1979.

Finally, the Technical Series were the least popular, with 6% of total enrolment in 1978 and 4.8% in 1979. From all of those who passed, there were 5.0% in 1978 and 5.6% in 1979 who took the Technical Series examination.

It is rather surprising that the results are so very different from one series to another. It would be useful to learn if these differences are the result of a deliberate policy. (See Appendix 27.)

III.2.4 Efficiency of the General Secondary Education System

The method used to calculate the efficiency of general secondary education is the same as that used for primary education.

Thus, student groups for the first to the final year are presented as follows:

Table 25

		First Year	Second Year	Third Year	Fourth Year	Fifth Year	Final Year
1977-78	Enrolment	3,196	2,250	1,950	1,475	474	383
1978-79	Enrolment (New)		2,688	2,000	1,680	1,364	452
"	Repeats (Actual)	508	250	270	111	22	226
"	Repeats (Calculated)	244	138	137	64	12	25
"	Drop-Outs	264	112	133	47	10	201

Source: Calculations by the author.

From these statistics the rates of promotion, repeats and drop-outs can be calculated.

Table 26

	First Year	Second Year	Third Year	Fourth Year	Fifth Year	Final Year
Promotion Rate	84.11	88.89	86.15	92.47	95.36	50.00
Repeat Rate	7.63	6.13	7.03	4.34	2.53	6.53
Drop-Out Rate	8.26	4.98	6.82	3.19	2.11	43.47

Source: Calculations by the author.

In secondary education, the repeat level is low compared to that of elementary, reaching only 10%. Those classes in which it is highest are at the end of the cycle and the first year.

In contrast, the drop-out rate reveals a few peculiarities. It is relatively high for the first year, especially considering the very rigorous selection process made after the elementary level. These drop-outs are probably prime sources for vocational training (ENECOFAS, MAMADOU TOURE, ENEFVA).

The drop-out rate also seems to be very high after the final year. This phenomenon merits further analysis. The drop-out rate is based on those students who take and pass the Baccalauréat examination, on the one hand, and those who have repeated the final year, on the other hand. Probably, the drop-out level is over-stated, since a candidate who has not passed the Baccalauréat can take the test again without repeating the last year.

The internal efficiency of the secondary education system is calculated from the statistics below:

Table 27

Year of Study	Place/Year	Year of Study	Place/Year
First Year	108.2	Fourth Year	83.5
Second Year	96.9	Fifth Year	63.7
Third Year	92.6	Final Year	64.8
Total	297.6	Total	212.0
	Total for the two cycles: 509.6		

Source: Calculations by the author and Appendix 28.

Hence, for 100 students starting in the first cycle, 509.6 place/years are needed to attain 64.9 in the final year of secondary education, of which there are 297.6 place/years or 58.4% are in the first cycle and 212.0 place/years or 41.6% in the second cycle.

Out of 100 students, this number of place/years produces 32.4 baccalauréats, representing an average of 15.7 place/years per graduating student, or an input/output ratio of 15.7/6 = 2.62.

Assuming that those students who do not pass from the third to the fourth year (that is, the first year of the second cycle) leave school with a certificat (90), it can be estimated that 297.6 place/years with 100 students in the beginning are needed to carry 92.48 students to the

(90) This is a reasonable hypothesis, since in 1978-79, there were 411 BEPC out of 2,137, and the level of those who passed on to the second year, first cycle was 86.15%.

end of the first cycle. This represents 3.22 place/years per student leaving the first cycle, or an input/output ratio of 3.22/3.00 = 1.07.

These calculations show that education at the second cycle level requires a greater input than for the first cycle of secondary education.

Another calculation reveals that 521 students in their first year of elementary education are needed to produce 32 baccalauréats or 16 places per baccalauréat. To attain this one baccalauréat level, 22.1 place/years in elementary education and 15.7 at the secondary level, or a total of 37.8 place/years, are required.

III.2.5 Educational Establishments

In 1978/79, there were 20 general secondary educational establishments in the country, 13 of which were collèges and 7 lycées. There is one lycée in Nouakchott that is exclusively for girls. There are 12,134 students in all of these establishments, an average of more than 600 per collège or lycée. The Lycée d'Aïoun, the collège in the capital of Nouakchott and the lycée in Nouakchott have an enrolment of more than one thousand girls.

As indicated in the chart (see Appendix 29), all of the regions except Region 11 have at least one first cycle, general secondary educational establishment. Regions 2, 4, 6 and 7 have one lycée, while the Nouakchott District has three collèges and three lycées.

It is not possible to indicate the number of classrooms, as statistics for certain regions are missing. To have a general idea, however, the ratio of students per classrooms is available for some regions (1977/78).

Table 28

Student/Classroom Ratio, 1977/78

Region	Students	Classrooms	Student/Classroom
1	499	12	42
2	861	29	30
3	292	12	24
4	997	31	32
5	703	26	27
6	1,471	44	33
7	661	16	41
8 ++	-	-	-
9	289	11	26
10	122	8	15
11 +	-	-	-
12 +	-	-	-
Nouakchott	-	-	-

\+ These regions had neither collège or lycée in 1977/78.

++ No data available.

Source: Ministry of Elementary and Secondary Education.

The student/classroom ratio varies from 15 at the Selibaby college to 42 at the Néma college. Again, the school infrastructure does not appear to be very balanced among the establishments, the fault for which may be caused by migrations since this would create a sudden demand for secondary education or may result from inadequate planning. At any rate, a ratio of 30 students per class seems to be an acceptable norm.

If some establishments are over-crowded because of students coming from other regions, building facilities must be increased (for example, the Atar and Kaédi lycées). In the case of the Néma college, it is clear that its physical facilities are inadequate even in relation to the region's school population. (See Appendix 29.)

The lycées are the main recipients of students coming from other regions, often border regions. The Nouakchott lycées, especially the girls' lycée, accept students from all regions.

It appears that there are sufficient lycées and collèges to meet current needs, but their physical facilities must be adapted in those regions where school enrolment is still very low.

At the same time, the expansion of collèges and lycées must be integrated into the overall planning of the educational system which, in turn, depends on the objectives and strategies drawn up by the government. It is not inconceivable that the physical plant of general secondary education could serve other types of training in order to obtain maximum use of existing equipment.

III.2.6 Teaching Staff in Secondary Education

The most acute problem confronting the expansion of general secondary education is without doubt that of a teacher shortage. While 376 teachers (53.2% foreign) were needed in 1976/77, 388 were required in 1977/78 (of which 60.3% were foreign) and 497 in 1978/79 (with no less than 74.9% foreign, the majority of which were hired under a local contract). (91)

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(91) For the 1979/80 school year, the relative number of foreign teachers seems to have diminished: 413 out of 652, or 63.3%. In contrast, the number of locally contracted teachers is rising.

Table 29

Secondary Education: Foreign Teachers by Source of Employment

1977-1978+			1978-1979++			1979-1980		
Technical Assistance	Local Contract	Total	Technical Assistance	Local Contract	Total	Technical Assistance	Local Contract	Total
%	%	%	%	%	%	%	%	%
81 49.4	82 50.6	164 100.0	129 43.7	166 56.3	295 100.0	166 40.2	247 59.8	413 100.0

\+ Excludes the boy and girl lycée in Nouakchott and the Nouadhibou lycée.

++ Excludes the national lycée in Nouakchott.

Source: Ministry of Elementary and Secondary Education.

These figures clearly reveal that the need to recruit from abroad is not only one a consequence of the growth in student enrolment, but especially of the rampant defection of Mauritanian teachers. In 1977/78, there were 154 native-born teachers, but this number dropped to only 139 in 1978/79. (See Appendix 30.)

The training of Mauritanian teachers, therefore, results in a significant loss of employment in secondary education. The attraction of other careers in the public or private sectors is certainly the dominant reason for this regrettable situation. In Mauritania as elsewhere, the social image of the teacher is not identified with social success.

Table 30

Secondary Education: Percentage Distribution of Teachers According to Nationality, Sex, and Subject Matter Taught

1977/1978 and 1978/1979+

	1977-78 % Foreigners	1978-79 % Foreigners	1977-78 % Women	1978-79 % Women
Arabic	42.9	64.2	1.2	4.1
French	59.7	80.4	27.8	17.4
Philosophy	57.1	71.4	0.0	0.0
History, Geography	47.5	67.3	10.0	13.5
Mathematics	67.6	77.9	14.1	11.6
Physical Science	95.5	96.4	5.0	17.9
Technology	75.0	89.5	25.0	21.1
Natural Science	87.5	93.9	10.0	22.5
English	61.5	73.7	23.1	26.3
Spanish	100.0	100.0	100.0	100.0
Physical Education	38.5	33.3	0.0	0.0
Total	60.3	74.9	13.7	12.9

+ Excludes Region 9.

Source: Ministry of Elementary and Secondary Education.

In a recent study, the Ministry of Elementary and Secondary Education estimates the need for teachers in general secondary education at 1,282 by January 1985, an increase of 785 teachers or 158% over January 1979. This represents an average of 130 teachers per year from 1979/80 to 1984/85. It is hard to imagine how this recruitment will be carried out, given the necessity of recruiting foreign teachers which weighs heavily on the State operating budget.

It is also difficult to believe that the Mauritanization of the teaching staff, which has been set at 100% for the first cycle and 50% for the second by 1985, can be accomplished. No less than 708 teachers would be required in the first cycle and 287 in the second, or a total of 995 Mauritanians. Even on the unrealistic assumption that Mauritanian secondary education teachers would completely cease to leave the system, 856 Mauritanian teachers would have to be either trained or recruited during 1979-85, an average of 144 teachers yearly, of which 40 yearly for the second cycle alone.

If it is true that a technical assistance teacher hired under local contract costs even four times more than a Mauritanian teacher, the replacement of foreign teachers cannot be foreseen in the near future. This situation should encourage authorities to approach expansion of the general secondary system with a great deal of caution. Lastly, in the framework of the Mauritanization of employment and for apparent financial reasons, it is imperative that steps be taken to retain Mauritanian teachers in the teaching profession.

Here again, the introduction of several years of obligatory public service, along with reasonable compensation, may be necessary.

Furthermore, a favorable change is beginning to materialize regarding teacher utilization. The UNESCO report rightfully pointed out that the general secondary education system is characterized by a somewhat

irrational use of teaching personnel. (92) With a student/teacher ratio of 21.1 for 1976/77, Mauritania was far behind the ratio of 30 students per teacher judged to be reasonable by the report.

Table 31

General Secondary Education: Student/Teacher Ratio

1976-77	1977-78	1978-79	1979-80
21	25	24	27

It is evident that this ratio is slowly approaching an acceptable norm.

III.2.7 The Scholarship Program for Secondary Education

One of the pecularities of the educational system in Mauritania is its scholarship system. To date, nearly all students receive a study scholarship financed by the State operating budget as soon as they enter secondary school.

Though this generous granting of scholarships could be justified when the number of schools was very limited and often required that a student to board away from home, and though it was then necessary to combat parents' resistance to "foreign" schools (93), of equal note is the fact that this

(92) UNESCO: Mauritania - Education ... 1978, pp. 24-25.

(93) Ministry of Elementary and Secondary Education: Directives pour l'application de la politique des bourses, Circulaire du 6 décembre, 1979, p. 1. (Instructions for application of scholarship policy, Circular dated December 6, 1979.)

policy, which was applied indiscriminately, was a heavy burden on the State budget and, consequently, on the national economy. With full and partial scholarships for tuition and board, and full and partial scholarships for tuition only, all students were able to benefit from State aid in one way or another.

The Cabinet's decision of October 27, 1979, which by decree established criteria for the award of scholarships, is praiseworthy. In the first place, there is only one kind of schilarship for tuition and board. These are based on a quota for each region.

The scholarships are reserved for those students away from home with families who cannot support the costs. (see Appendix 31). In those schools without boarding, non-resident students continue to enjoy tuition only scholarships converted into tuition + board scholarships. Howevern the proportion of these scholarships must not surpass 30 of the total scholarships.

Thus, the effective application of these new measures will undoubtedly render the scholarship system more coherent and better adapted to the cou country's financial resources.

The size of the scholarship remains unchanged:

- support	9,990 UM
- supplies	2,700
- clothing	2,500
Total	15,190 UM

While the size of scholarships in 1977 represented an average cost of 7,254 UM per student (scholarship holders and non-holders), or 19.6% of the operating budget for secondary education, it is hoped that these new procedures will reduce this expense to more reasonable proportions.

This has been confirmed by the revisions in the budget for 1980 in which secondary education budgets represent 80 million UM, a cost of 5,633 UM per pupil (scholarship holders and non-holders), which is a definite reduction over 1977.

This sum still represents 18.0% of the operating budget for secondary education, or 80.0 million UM out of a total of 445.3 million UM.

Expenditures totalling nearly one-fifth of the operating budget still appear excessive, especially when considering that the operating budget has dropped noticeably for 1980 (445.3 million UM, compared with 489.5 million UM in 1979), while the enrolment level rose from 12,134 students for 1978-79 to 17,647 for 1979-80, an increase of 45.4%.

III.2.8. Financing and Budget for General Secondary Education

The State budget is fully responsible for financing general secondary education. Study scholarships are also part of the operating budget. In 1980, the operating expenditures reached 445.3 million UM or 27.1% of the total operating budget for Education. Compared to 1979, this is a reduction of 44.2 million UM or 9.0% in the budget. Clearly, the new arrangements in the scholarship program have triggered those economies in the budget, for the money reserved for scholarships

was reduced by 45.0 million UM or 36.0%, from 125.0 million UM in 1979 to 80.0 million UM in 1980.

The financial charge of general secondary education has thus been tailored to more reasonable proportions despite a very rapid expansion in student numbers for 1979-80.

This development is partly explained by the budgetary cutback which is affecting 1980.

TABLE 32 State Operating Budgets (1975 Indexes = 100)

	1975	1976	1977	1978	1979	1980
Total Operating Budget	100.0	120.1	162.3	217.7	225.9	204.8
Operating Budget for Education	100.0	115.2	149.6	164.1	184.9	220.6
Operating Budget for General Secondary Education	100.0	117.7	192.5	243.4	263.5	239.7

SOURCE: State Budget.

It is worth noting that the total operating budget is, in fact, lower than that of the two preceding years. It is also evident that the authorities od the country are desirous of tailoring the enormous appetite of secondary education, whose expenditures rose more rapidly from 1975 to 1979 than for any

other kind of education and whose scholarships for academic year 1978-79 represented 26.3% of the operating budget for the secondary education establishments.

One should ask, however, whether this reduction in the secondary education budget, which at first appears so drastic, was executed under favorable conditions. While scholarships have been reduced by 45.0 million UM, the funds available for operating the establishments have dropped slightly compared to 1979, despite a growth of 5,513 units in student enrolment. Without the scholarships, the operating budget, would total 348.6 million UM for 1979; it is 348.5 million UM for 1980. Inevitably, this will induce a reduction in operating costs per student. Since it is difficult and even impossible to reduce salaried posts, the economies will be passed on to other operating expenditures.

TABLE 33 General Secondary Education - Operating Budgets of Establishments (in Millions of UM)

	1979		1980	
		%		%
Salaries and Employee Benefits	274.1	78.6	282.6	81.1
Supplies, Goods Used, Maintenance, Repair	74.5	21.4	65.9	18.9
Total	348.6	100.0	348.5	100.0

SOURCE: State Budget.

As shown by the figures, operating expenditures other than for salaries represent no more than 18.9% of the operating budget for establishments in 1980, as opposed to 21.4% in 1979.

To the operating budget for establishments (scholarships included), one must add the administrative costs for secondary education, as well as some expenditures from the Ministry of Elementary and Secondary Education. The latter expenditures are apportioned arbitrarily between elementary education and secondary education.

Certain expenditures must also be added for foreign technical assistance teachers on the one hand, and for those hired through local contract on the other hand.

The total of the operating budget supported by the State budget is presented as follows:

TABLE 34 General Secondary Education - Operating Budget in the State Budget (in Millions of UM)

	1977		1978		1979		1980	
		%		%		%		%
Educational Budget	357.6	79.8	452.3	87.1	489.5	79.3	445.3	70.4
State Budget - Contribution to T.A. Teachers+	52.5		32.0		54.2		73.2	
State Budget: Costs of Housing Contracts		20.2		12.9		20.7		29.6
Local ++	38.0		34.7		73.2		114.4	
Total	448.1	100.0	519.0	100.0	616.9	100.0	632.9	100.0

+ According to the UNESCO 1978 Report, this contribution was 52.5 million UM for 1976-77, or an average of 380,435 UM per technical assistant teacher. We have estimated this contribution for following years by applying a growth rate of 5% per year for the average contribution.

++ According to the UNESCO 1978 Report, this contribution was 38.0 million UM for 1976-77, or an average of 400,000 UM per teacher under local contract. The contribution for following years was calculated in the same way as for teaching assistant teachers.

SOURCES: for 1977, the UNESCO 1978 Report - Appendix 24
Educational Budgets
Calculations by the Author.

Therefore, the operating budget for secondary education (scholarships included) can be estimated in 1980 at 632.9 million UM and 552.9 million UM without the scholarships. Of this sum, a minimum of 187.6 million UM

represents the Mauritanian contribution to foreign teachers, or 33.9% of the operating budget (scholarships not included). It should be noted that this 33.9% does not include salaries paid to locally hired teachers.

The operating budgets (educational budget + the State's contribution to foreign teachers) are being drastically reduced. The cost per unit in secondary education has also been reduced.

TABLE 35 Operzting Cost per Student in the General Secondary Education System

1977	1978	1979	1980
56,057 UM	53,727 UM	50,841 UM	35,864 UM

SOURCE: Calculations by the author.

The sum of 35,864 UM in 1980 represents scarcely 20% of the 1979 budget. This drastic reduction in cost per student is the result of the budgetary cutbacks, the new policy on scholarships and the unexpected jump in student numbers. Hopefully, this set of circumstances will not interfere with the smooth operation of the secondary education system.

It seems imperative to draw some conclusion. Though it is absolutely mandatory that expenditures be reduced for general secondary education, it must also be recognized that the lack of enrolment planning and synchonization of the budgetary forecasts may compromise the success of the undertaking.

Perhaps it would be necessary to curtail entries into secondary education so as to establish balance between budget reductions and a slower growth rate in student numbers.

III.2.9. Educational Costs of Obtaining a Diploma from General Secondary Education

Since there is a reduction in the average cost per student for 1980, it is evident that the cost of educating a student up to acquisition of a diploma will also have to be lowered if the budgetary restrictions do not negatively affect the internal efficiency of the secondary education system. This last point can be analyzed satisfactorily only after this new policy in secondary education has been in force for at least two years.

Comparisons of the cost per graduate before and after the budget cut in secondary education, and especially the average cost per student will, in the meantime, provide a quantitative idea of the economies made by applying the new measures.

In § III.2.4., the number of year-places needed to produce one Baccalauréat should have been 798,204 UM in 1979. For 1980, the total is 563,065 UM, a reduction of 226,139 UM over 1979.

While this reduction of 28.3% from one year to another may seem impressive, it is a good reflection of the authorities' willingness to end the Mauritanian secondary education system's reputation as being the most expensive in Africa.

III.3. Technical and Professional Education

III.3.1. The Lycee Technique and College Technique

III.3.1.1. Study Structure

The GIRM has only one technical school, which opened in 1966 and is located in Nouakchott. Since 1970, this school has issued 397 Certificat d'Aptitude Professionnels (CAP) and 39 Baccalauréats Techniques.

At present (1979-80), this establishment has 679 students enrolled: 437 in the first cycle and 242 in the second cycle. Enrolment capacity can be estimated at 180 students for the first cycle and 140 for the second cycle.

Each of the two cycles lasts 4 years, thus requiring 8 years of study for the Technical Baccalauréat and only 6 years for the General Secondary Education Baccalauréat .

However, it should be noted that the students receive the CAP after 3 years of studies. The fourth year is mandatory for those continuing on to the second cycle. To some degree, this is a preparatory year designed to bring students at the technical education school level up to the same level as those who pass from general secondary education into the second cycle of technical school.

This first year of the Collège Technique is organized with general required courses for everyone. According to information collected at the collège, this is an indispensable year in light of the recruitment level. This is a rather surprising situation considering the small number of students admitted into the first year of technical school (less than

10% of those who registered for the admissions examination for 1979-80).

Beginning in the second year of technical school the following curricula are offered:

	% of students in 1979-80
- mechanical construction worker	27.6
- electro-mechanic	27.6
- fitter-welder	24.0
- automobile repairman	20.8
	100.0

Students wishing to pursue their studies in the second cycle take a fourth year of study which is divided into two sections:

- mechanical manufacturing
- electromechanics

In the second cycle, there are three series for the first year and four beginning the second year:

	% of students for 1979-80
- mechanical manufacturing	36.6
- mechanical engineering	29.9
- civil engineering	15.9
- electrical engineering (only from 2nd year on)	17.6
	100.0

The second cycle of studies in technical education is awarded by the Baccalauréat Technique.

A quick comparison of the weekly schedules reveals a heavier load for technical education: 150 hours against 90 hours in secondary school for the first cycle, or an average of 37.5 hours/week for the technical school compared to 30 hours/weel for general education schools. There are 152 hours in the second cycle at the Lycée Technique compared to 83 to 92 hours (depending on the section) for the general lycée, or an average of 38 hours/week against 27.6 to 30.6 hours/week.

The majority of the time seems to be devoted to general education, since technical and practical subjects take up only 146.5 hours out of a total of 302 hours.

III.3.1.2. Student Enrolment

Since its opening in 1966, the Collège Technique has seen student enrolment rise from 60 to 437 pupils. The number of student has doubled since 1972-73. (see Appendix 32). It is highly probable that the limited enrolment capacity of the Collège Technique has curbed the participation of students leaving the primary educational system, from participating in the sort of education that the country really needs, both for its development and for the creation of jobs.

TABLE 36

1969-70	100.0	1973-74	118.6	1977-78	210.4
1970-71	114.2	1974-75	124.6	1978-79	230.1
1971-72	113.1	1975-76	171.6	1979-80	238.8
1972-73	118.6	1976-77	188.0		

SOURCE: Calculations by the author.

Comparison of this development with that of general secondary education reveals manifestly slower rate of expansion for the first cycle of technical education: from 1969-70 to 1978-79, the growth index for technical education was 230.1 compared to 336.0 for general secondary education.

These figures clearly imply that having only one technical school in Nouakchott which seems to have been functioning at its full enrolment capacity since 1975-76, is greatly insufficient for equiping the country's economy with qualified workers. It is also quite evident that the location of this Collège Technique in the capital does not show a great interest in those regions located in agro-ecological zones 1,2 and 4, where agricultural development projects will undoubtedly require this kind of manpower.

Finally, it would be suitable to stress once again that the two-thirds of elementary school graduates who do not have access to general secondary school find themselves faced with a technical education and only one

establishment in the capital, with an enrolment capacity of 150 to 180 students for the first year.

The creation of jobs useful to development would surely be facilitated by the presence of young people with technical rather than general training. Even though the drop-out rate during the study program is high, these students will still have gained some theoretical and practical knowledge which will increase their chances of finding useful employment in either the modern sector, the traditional sector or the rural sector.

It would be suitable to quickly double the enrolment capcaity of the Collège Technique of Nouakchott and to triple it between now and 1985. In the meantime, it would be necessary to envisage the creation of a new technical school which would deliver a CAP after three years of study, and which could serve those zones where the major rural development projects are to be started, and where a complementary industrial sector adapted to the realities and needs of the population will be realized.

Otherwise, it will be necessary to slow down the development of general secondary education so that budget funds may be transferred to technical education. A very quick increase in the training capacity of the technical education system should ensure the practicability of projects funded by donors and have a booster effect on integrater development.

While the warning has often been heard that development is especially hampered by human constraints, it is primarily the technical and vocational education, it is absolutely

mandatory that coordination be effected immediately between the different kinds of technical and vocational training.

It is totally unacceptable that training centers be opened in the public and private sectors without prior agreement and following up with coordinating activities (ex.: OPT and OMC). At any rate, economies of scale that could be made would be lost and the content of education will run the risk of benefitting only a few, without taking a significant place in the national effort, which is necessary for the creation of an integrated training system in the development strategy.

The creation of a Comité National d'Enseignement Technique et Professionnel (National Committee for Technical and Vocational Education) is certainly one luxury which the GIRM cannot afford to pass up at this time. This committee would be responsible for immediately conducting a study on the expansion of the technical and vocational education and for the coordination of the study program.

The search for the well-being of the Mauritanian citizen and for economic independence will remain only slogans as long as the country cannot decide to train men and women who will be capable of taking up the technical tasks imposed by self-sufficient production in every field.

In the second cycle of technical education, the students are preparing for the Technical Baccalaureate and beyond that, for the technical areas (applied sciences) in higher education.

The Lycée Technique admits students from the Collège Technique who have successfully terminated the fourth year of the first cycle. It also accepts students who have terminated the first cycle of general secondary education. The latter group's enrolment level in the first year of the Lycée Technique (newly enrolled) is twice that of students leaving the fourth year of the Collège Technique; for 1979-80, in the first year of Lycée Technique, 34.7% of the students are from the Collège d'Enseignement Général (CEG's).

The percentage level of students coming from the Collège Technique is already high compared to other years. For 1978-79, the level is estimated at 18.3%, 12.2% for 1977-78, 15.7% for 1976-77 and 13.4% for 1975-76. This sizable increase in student numbers from the fourth year of the Collège Technique since 1978 explains the considerably higher percentage level for 1979-80.

In the second cycle, one finds 232 students for 1978-79, a growth of 582.4% over 1969-70, which is clearly lower than that for the general lycée, which was 691.0% for the same period.

For 1979-80, the Lycée Technique has 242 students. (see Appendix 32)

TABLE 37

1969-70	100.0	1973-74	102.9	1977-78	626.5
1970-71	144.1	1974-75	208.8	1978-79	682.4
1971-72	79.4	1975-76	361.8	1979-80	711.8
1972-73	88.2	1976-77	500.0		

SOURCE: Calculations by author.

Up until 1973-74 the Lycée Technique had not produced any Baccalauréat Techniques. It was only after 1974-75 that a regular, substantial increase in enrolment could be registered.

It would be interesting to learn how graduates from the technical lycee fare in the higher education system compared to graduates from schools with general curricula. This would allow a better evaluation of the Lycée Technique.

III.3.1.3. Graduates from the Technical Education System

From its creation until 1979, the Collège Technique has issued 397 CAP's distributed as follows:

TABLE 38

COM	101	%
MS	101	25.4
BM	81	20.4
ORA	86	21.7
OEM	108	27.2
MOT	11	2.8
	10	2.5
Total	397	100.0

Thus, the distribution of the CAP's among the different major areas seems to be balanced enough for the first four majors. The worker sections for maintenance mechanics (OEM) and motor specialists (MOT) were dropped in 1976.

TABLE 39 Development of the CAP's (Index 1969-70 = 100)

1969-70	100.0	1972-73	186.4	1975-76	177.3
1970-71	172.7	1973-74	140.9	1976-77	118.2
1971-72	145.5	1974-75	154.5	1977-78	327.3
				1978-79	281.8

SOURCE Calculations by the author.

It is rather surprising to note the irregular development of the CAP's from one year to the next, when the development of student enrolment in the first cycle shows a much more regular progression.

Moreover, recruitment for the first year has been constant for several years, since this is one function of the establishments' enrolment capacity.

The only explanation remaining is the highly variable "return" obtained from the study. This aspect is the technical school is studied in the following section.

There are very few students obtaining the Baccalauréat Technique

As previously mentioned, no Baccalauréats were awarded before 1974-75. From that year on, a very small number of diplomas have been issued.

TABLE 40 Development of the Baccalauréat Techniques

1974-75	5	1976-77	5	1978-79	17
1975-76	4	1977-78	12		

SOURCE: Appendix

For 1978-79, the technical educational system produced 17 Baccalauréats, while 302 were awarded for general secondary education, or 18 times more.

In light of this situation, one wonders whether the present structure of the Lycée Technique is meeting real needs. Enrolment capacity seems to exceed the demand: capacity can be estimated at 140 first-year students, while to date, the number of students registered has never surpassed 92. Secondly, the yield is very low, caused especially by drop-outs and repeaters, which includes 39 students out of a total of 232 for 1978-79, or 16.8%, of which a minimum of 25 were first-year students.

III.3.1.4. Internal Efficiency of Technical Education.

In principal, 10 groups of students can be calculated for the Collège Technique and 6 for the Lycée Technique. Unfortunately, the number of those promoted varies greatly from one year to year: therefore, the percentage of those passing from the first year to the second year is calculated as 93.3% for 1975-76, 72.5% in 1973-74 and 86.0% for 1979-80.

Obviously, obtaining the average of these levels is no help at all because of their great discrepancies. Therefore, the 1978-79 to 1979-80 group has been selected completely at random. Calculations were made on the basis of the student turnover which - it is worth noting - was registered with great detail.

The Lycée Technique and the Collège Technique have developed a very useful statistics system which could serve as an example to other educational establishments and to the statistics department of the Ministry of National Education.

TABLE 41 - Technical Education: Level of Passes, Repeats and Drop-Outs 1978-79 to 1979-80

	1st Year	2nd Year	3rd Year	4th Year
Passes	86.00	73.43	24.74 (4th Year) 63.92 (CAP)	86.7
Repeaters	0.00	10.49	5.15	0.00
Drop Outs	14.00	16.08	6.19	13.33

SOURCE: Calculations by author.

As shown in the table, the level of repeats is low. In fact, there are no repeats in the first year or the fourth years. On the other hand, repeats (and drop-outs) are frequent in the second year.

The absence of repeats in the first year must be due to the fact that

this is a year of general subjects, and that selection takes place once the students enter into an area of specialization. This is confirmed by the rate of losses in the second year, which is as high as 26.57% (10.49% are repeats and 16.08% are voluntary or forced drop-outs).

It would probably be less costly to make selections in the first year and find out why the College Technique has not adopted this solution. In order to insure that each student will have the maximum number of chances, two repeats might be allowed during the first year; in that way, the student who is poorly prepared but capable will not become a wasted investment.

The absence of repeats in the fourth year is not very logical either, when observing that the loss rate for the first year of technical lycee is 32.56%. While one must push for making it possible for students who have been to technical school to have access to a higher education, one must likewise choose carefully from among students who will be able to continue to the end of the second cycle. The internal efficiency of the lycee would then be strengthened and the budget would be improved.

The level of those receiving CAP's is 68.9%, which means that 63.9% of the students entering their third year earn CAP's. These are hardly satisfactory results, given the number of students being promoted into the first and second years.

While it must be accepted that the technical education system admits much weaker candidates in than general education, selection should still

take place at the beginning of the cycle and not at the end. This obviously implies the possibility of re-orienting the students towards other types of training, which are in very short supply at present.

The student group at the Lycée Technique is characterized by an extremely low passing level for the first year: barely 67.44% of the students pass on to the second year.

TABLE 42:

	1st Year	2nd Year	3rd Year	4th Year
Passes	67.41	79.69	82.35	53.13 (BAC)
Repeats	3.49	7.81	11.76	9.68
Drop Outs	29.07	14.06	5.88	37.19

SOURCE: Calculations by the author.

While the repeat level for the first year is low, the rate for drop-outs (forced or voluntary) is very high: 29.0%. In the fourth year, the rate for those students passing on to receive the Baccalauréat Technique is 53.13%, which almost matches the Baccalauréat results in general secondary education.

The internal efficiency of the Collège Technique is presented as follows:

TABLE 43 - Internal Efficiency of the College Technique

1st Year of Study	Year-Places Utilized
1st Year 2nd Year 3rd Year	100.00 95.12 73.11
A. Total	268.23
B. Graduates (CAP)	46.81
A/B	5.73
Input/Output	1.91

SOURCE: Calculations by the author, Based on Appendix 33.

Starting with 100 students, 268.23 year-places are required to obtain 46.81 Certificats d'Aptitude Professionnelle. For the first cycle of general secondary education, 29.76 year-places[1/] are needed.

1/ "Year-places" signifies the number of years a student takes to complete a course, divided into the average number of student per class. Hence, if a student repeats a year, the year-place figure is obviously higher than if he had been promoted.

For each student earning a CAP, 5.73 year-places are needed, although in theory only 3 are necessary. Finally, the input/output ratio is 1.91.

In the second cycle, which lasts 4 years, the internal efficiency picture is much less favorable.

TABLE 44 - Internal Efficiency of the Lycée Technique

Year of Study	Year-Places Utilized
1st Year	103.49
2nd Year	75.06
3rd Year	60.66
4th Year	54.23
A. Total	293.44
B. Graduates (BAC)	28.81
A/B	10.19
Input/Out	2.55

SOURCE: Calculations by the Author, Based on Appendix 34.

Beginning with 100 students, 293.44 year-places are required for 28.81 graduates. This means that 10.11 year-places are required to lead 1 student to a Baccalauréat, while only 4 year-places are required in theory. The input/output ratio is 2.55, which is higher than that of the first cycle.

In light of the above figures, it would be suitable to question the function of the Lycée Technique once more. As previously noted, the number of students who obtain the Bacealauréat is very low: 17 in 1978-79 for both sessions. To this, we must add that only 34.7% of the first-year students in the Lycée Technique came from the fourth year of the Collège Technique; so these students actually continue 5 years after the CAP in order to receive a Baccalauréat in proportions of 28.81%. Therefore, of the 26 students from the fourth year of CT admitted to the Lycée Technique, 7 will receive the Baccalauréat Technique.

The internal efficiency of the combined first and second cycles of technical education, with calculations based on information in Appendix 33, is presented below:

TABLE 45 - Efficiency of the Collège Technique and Lycée Technique

Year of Students	Year-Places Utilized
1st Year CT	100.00
2nd Year CT	95.12
3rd Year CT	73.11
4th Year CT	18.09
1st Year LT	16.15
2nd Year LT	11.60
3rd Year LT	10.10
4th Year LT	8.90
A. Total	333.07
B. Graduates (Bac. Techn.)	4.73
A/B	70.42
Input/Output	8.80

SOURCE: Calculations by the Author, Based on Appendix 33.

Starting with 100 students, 33.07 year-places are necessary to obtain 4.73 Baccalauréats, or 70.42 year-places per graduate, while in theory only 8 are required. It is quite clear that this calculation does not consider those students who will not go beyond the CAP. This only goes to show that a single Lycée Technique for just a few students who will continue their studies beyond CAP is an excessively expensive investment with a low yield.

III.3.1.5. Teachers in the Technical Education System

There were 76 teachers on the Lycee Technique staff for 1978-79, all of whom were foreigners; 49 of them were technical assistants (67.5%) and 27 were locally hired (35.5%). This situation has changed very little for 1979-80; there are now 78 teachers, 6 of whom are Mauritanians (7.7%) and 72 foreigners. Of those seventy-two, 66 are technical assistants (91.7%) and 6 are under local contract (8.3%).

TABLE 46 - Technical Education: Teaching Staff, 1979-80

	Technical Assistant		Local Contract		Mauritanians		Total	
		%		%		%		%
Collège	27	40.9	5	83.3	5	83.3	37	46.2
%	(73.0)		(13.5)		(13.5)		(100.0)	
Lycee	37	56.1	1	16.7	1	16.7	19	48.4
%	(94.8)		(2.6)		(2.6)		(100.0)	
C + L	2	3.0	-	0.0	-	0.0	2	5.4
%	(100.0)		(0.0)		(0.0)		(100.0)	
Total	66	100.0	6	(100.0)	6	100.0	78	(100.0)
%	(84.6)		(7.7)		(7.7)		(100.0)	

SOURCE: The Lycée Technique and Collège Technique.

Therefore, 93.3% of the technical education operating budget for 1979-80 is being used for the services of non-Mauritanians. This percentage mounts to 97.4% for the Lycée Technique. The Mauritanian's part in the teaching corps is very small. This makes it evident that for CAP-level education for which the country unquestionably has a great need, it is mainly dependent on outside help for organization and operation. In the technical education system, the teaching profession does not seem to be very appealing to Mauritanians, so in order to keep alive this type of training which is as vital to the country's development, a solution must be found that is less costly than technical assistance.

In the Lycée Technique, especially, this situation raises questions about the presence of 38 foreign teachers in a system delivering 17 Baccalauréats. If the internal efficiency of the Lycée Technique is already poor, its operational structure can only weigh down the profitability of this educational system. In fact, although the student/teacher ratio is 11.0 at the Collège Technique (1979-80, excluding the 4th year, and 11.8 with the 4th year), it is 6.0 at the technical lycée. For the two identical cycles, the ratio of students/teachers was 8.6 in 1978-79 and 8.9 for 1979-80.

Again, it is worth pointing out that 15 more teaching posts were projected for 1979-80, which should have brought the student/teacher ratio to 7.3 for the two identical cycles.

The limited number of Mauritanian teachers in technical education as well as in other types of education poses a very clear problem about those who have benefitted from a secondary education or higher education

at the cost of the general community and who are ill-inclined to use their knowledge for developing the nation's human resources. Here again, an obligatory period of civil service should keep Mauritanians who have enjoyed higher education from considering only their own interests.

III.2.1.6. Financing and Budget for Technical Education

Just as in the case of general secondary education, the operating budget for the Lycée Technique and the Collège Technique is entirely assumed by the State. Budgetary estimates for 1980 total 44.7 million UM, or 21.6% of the total educational operating budget, and 28.7% of the operating budget for technical and vocational education. Just like the budget for general secondary education, the secondary technical education budget has also been cut. This reduction, compared to 1979, totals 4.4 million UM or 9.5%. Therefore, this budget compares almost exactly with that of general secondary education, while it was expected that top priority would be given to those types of training which are most likely to promote the economic and social development of the country and to create jobs.

Although the reduction in the budget for general secondary education can be explained chiefly by the new policy for scholarships, the fact remains that for technical education, scholarships were lowered by only 900,000 UM, or 8.7% (compared to 36. 0% for general secondary education).

TABLE 47 - Operating Budget - Technical Education
Lycée Technique and Collège Technique
(In Million of UM)

	Salaries and Employee Benefits	Supplies-Administrative Costs - Maintenance	Scholarships	Total
1979	16.7	19.0	46.1	
in %	(36.2)	(41.3)	(100.0)	
1980	20.0	12.2	41.7	
in %	(47.9)	(29.4)	(100.0)	

SOURCE: State Budgets.

Surprisingly, expenditures for school supplies, administration, maintenance and repair have been cut from 19.0 million UM in 1979 to 12.2 million UM in 1980. In the operating budget, these expenditures dropped from 41.3% to 29.4%, while salaries increased from 36.2% to 47.9% of the budget, and the percentage for scholarships remained unchanged.

Given these figures, one wonders if this 6.8 million UM reduction in expenditures other than for salaries could be applied without harming the smooth operation of the institutions. Comparison with the draft budget for the Lycée Technique and the Collège Technique seems to indicate the opposite. In fact, for items other than salaries and scholarships, this draft projects a total cof 40.2 million UM, triple the sum projected in the State budget.

To round out the operating budget, part of the budget from the office of Technical Education and Vocational Training (la Direction de l'Enseignement Technique et de Formation Professionnelle) should be added. A share of the budget from each of the establishments under this office's direction provides 1.7 million UM in 1980 for technical education.

Finally, the operating costs for the salaries of foreign teachers will have to be increased once more. Contributions for these salaries were calculated in the same manner as for general secondary education:

419,430 UM in 1979 for a technical assistance teacher.
449,402 UM in 1979 for a teacher under local contract.
441,000 UM in 1980 for a technical assistance teacher.
463,050 UM in 1980 for a teacher under local contract.

The operating budget can thus be calculated as follows:

TABLE 48 - Total Operating Budgets for Technical Education

Educational Budget	1979		1980 (In millions of UM)	
State Budget	46.1	58.7%	43.4	57.6%
Contribution to Technical Assistance Teachers	20.6)		29.1)	
	)	41.3	)	42.4
Local Contracts	11.9)		2.8)	
Total	78.6	100.0	75.30	100.0

SOURCE: State Budgets and Calculations by the Author Based on UNESCO 1978 Report on Mauritania.

These statistics clearly demonstrates the impact on an educational budget being spent almost entirely on non-Mauritanians. While the total budget has actually been reduced slightly after the 1980 budget cut, that part of the budget set aside for non-Mauritanians (other than salaries) has risen slightly to 42.4% (compared to 29.6% for general secondary education).

The operating costs or the cost per student is obliged to be extremely high; in 1979, it was 119,449 UM (104,441 UM excluding scholarships). In 1980, it totals 110,898 UM (96,907 UM excluding scholarships).

The cost per student for 1980 is 92.8% of that for 1979 (against 70.0% for general secondary education).

The fact that the per capita cost has not been lowered is due to a much slower growth rate in student numbers in technical education on the one hand, and by the impossibility of cutting the budget for expenditures for teachers, whe are nearly all non-Mauritanian, on the other hand. The reduction in the cost per student is still remains: it is regrettable that the budget cost affects the smooth operation of secondary technical education. Yet the cost per student remains very high: 110,898 UM in 1980 compared to 35,864 UM for a student attending general secondary school.

III.3.I.7. Costs of Acquiring a Diploma from a Technical School

Since the main goal of technical education does not seem to aim at having as many students as possible obtain a Baccalauréat Technique, the

calculations for the cost per graduate are made separately for the first and second cycles.

Moreover, it was necessary to estimate the average cost per student and identical year for the two cycles, which does not correspond to the true situation, as the cost per student in the first cycle has probably been overestimated and that of the second cycle underestimated. A breakdown of expenditures per cycle was not possible.

In 1979, therefore, before the budget cuts, the cost of obtaining a CAP was 684,443 UM, which was reduced by 7.2% in 1980 to 635,446 UM. This cost is higher than that required to educate a graduate from general education in 1980: 635,446 UM compared to 563,065 UM.

Obviously, the scholarships are partially responsible for this difference. Excluding the scholarships, a CAP in 1980 costs 555,277 UM compared to 491,991 UM for a graduate from general education. Even when including the scholarships, there is still a gap of 63,286 UM between the cost of a CAP and that of a Baccalauréat from general secondary school.

For the second cycle of technical school, the price of obtaining a Technical Baccalauréat starting with the first year of the second cycle, is 1,215,991 UM for 1979 and 1,128,942 UM for 1980. If the amount for scholarships is deducted, the price of a Technical Baccalauréat is lowered to 986,513 UM.

Needless to say, training for a technical student is very expensive. The low yield in the second cycle of the technical education system and

the large amount of scholarships add to the costs of an education which from the start is already much more expensive than general secondary education. A Technical Baccalauréat is estimated to cost five times more than a Baccalauréat from the general education sysyte[96/].

As has been stressed several times already, an analysis of the function of the Lycée Technique must be made, for it is very costly education and apparently not very profitable at all. The question must be posed whether it would be preferable to create a second technical school with highly practical orientation that could absorb the demand for Technical Baccalauréat graduates (if any) into the scientific and mathematical areas of general secondary education.

III.3.2. The Centre de Formation Professionnelle MAMADOU TOURE

III.3.2.1. Training Structure

The purpose of this center is to train specialized workers. The students (trainees) are recruited at the CM2-CEP level, and are at least 18 years old.

This basic training provides young adults with professional qualifications within a certain amount of time.

The program consists of a 9-month training period covering

96/ As comparison, a graduate from the General Secondary Lycée, after the first year, costs 216,260 UM including scholarships and 188,962 UM without scholarships for 1980.

essentially practical exercises and a few theoretical exercises practical exercises and a few theoretical courses. This training period terminates with a professional training diploma, which is issued by the Ministry of Health, Labour and Social Affairs.

The Center has the following sections:

1. Masonry
2. Plumbing, Sanitation Equipment
3. Building Electricity
4. Boiler Making Double-purpose Soldering
5. Ocean Diesel Machanics
7. Ship Carpentry
8. Ocean fishing
9. Auto Steelwork
10. Refrigeration
11. Ship Electricity
12. Cabinet Making Refresher Courses.

The Center's guidelines allow it to open or close out sections according to the demands of the job market, thus making the training system very flexible. Moreover, the Center operates with material and financial means that Mauritania can handle, but without sacrificing the quality of education. At present, the enrolment capacity for the training center is estimated at 200 trainees for all of the sections.

Refresher courses are also planned for workers. They vary in time length (full-time) and aim at the acquisition of greater technical skill.

During the training period, trainees receive an allowance and free medical care, but the Center does not provide room and board.

III.3.2.2. Student Enrolment

Since its creation in 1960 and until 1978-79, the Center has trained 1,841 workers in the various sections. (see Appendix 35)

Distribution of graduates according to their major subject reveals that many workers were trained in the building trades in particular.

TABLE 49 - Centre Mamadou Toure - Distribution of Workers Trained According to Specialty Acquired. 1960-61 to 1978-79.

MASONRY	TILE-LAYING	REINFORCED CONCRETE	CABINET-MAKING	BUILDING REFRESHER COURSE
133 (17.1)	112 (14.4)	119 (15.2)	124 (16.0)	38 (4.9)
ELECTRICITY	PLUMBING	CABINET-MAKING REFRESHER COURSE		TOTAL IN BUILDING TRADES
164 (21.1)	81 (10.4)	5 (0.6)		776 (100.0)
BOILER-MAKING	STOKER	GENERAL MECHANICS		FITTER
103 (19.7)	12 (2.3)	284 (54.4)		89 (17.1)
AUTO STEELWORK	WHIRLER	MECHANIC REFRESHER COURSE		TOTAL IN INDUSTRIAL TRADES
7 (1.3)	4 (0.8)	23 (4.4)		522 (100.0)
OCEAN FISHING	DOCK OFFICER	INDUSTRIAL OCEAN FISHING		OCEAN DIESEL MECHANICS
225 (45.6)	17 (3.4)	24 (4.9)		130 (26.3)
SHIP CARPENTRY	SHIP ELECTRICITY			TOTAL IN MARINE TRADES
87 (17.6)	11 (2.2)			494 (100.0)
IN TOTAL BUILDING TRADES	TOTAL IN INDUSTRIAL TRADES	TOTAL IN MARINE TRADES		IN OVERALL TOTAL
776 (43.3)	522 (29.1)	494 (27.6)		1,792+ (100.0)

SOURCE: Appendix 35.

\+ Not including 49 functions in typing. This section has not been in operation since 1964-65.

They represent a minimum of 43.3% of the total who graduated. Industrial and maritime trades make up 29.1% and 27.6% of the total, respectively. Graduates from the important major subjects are as follows: general mechanics: 284; ocean fishing: 249; building electricity: 164; masonry: 134; ocean diesel mechanics: 130.

As shown in Appendix 35, student enrolment has visibly varied between 1969-70 and 1978-79, but has never surpassed 123 students (1974-75) or gone below 91 students (1975-76). This upper limit is easily explained by the Center's enrolment capacity, which is limited by financial and material conditions. In fact, although the theoretical capacity of the Center is 170-200 students, the true figure of 123 has never been exceeded, despite numerous applicants (from 6 to 7 applicants per student admitted).

There are very few drop outs, which is chiefly due to the length of training, lasting only 9 months. Perhaps another reason is that any student who drops out of training (voluntary or forced drop out) must pay back the allowances and benefits he has received. It would perhaps be useful to plan a similar procedure in other types of education, especially for those with numerous drop outs.

III.3.2.3. Teachers at the Centre Mamadou Toure

In principle, there is one teacher (monitor) per section, and each section has approximately 15 students (trainees).

For 1979-80, there are 10 monitors and 2 assistant monitors for the following sections:

TABLE 50 - Teachers and Sections 1979-80

Section	Teachers
Ocean Fishing	2
Cabinet Making	2
Ship Carpentry	1
Sea Diesel Mechanics	1
General Mechanics	1
General Electricity	1
Boiler Making	1
Plumbing, Sanitation Equipment	1
Refrigoration	1
Maintenance Work	1
Total	12

SOURCE: Centre Mamadou Touré

The Center also has a Director and a Curriculum Head (Chef des Travaux). For 1979-80, the teaching staff totals 14 persons, 11 of whom are French technical assistance and 3 Mauritanians.

It should therefore be observed that just as for technical education in the Lycée Technique and the Collège Technique, training has had to be entrusted to a largely foreign teaching corps (78.6%), despite the training of 1,841 workers, some of whom could certainly have become monitors. The Mauritanian's manifest dislike in teaching positions most likely stems from a very disadvantaged salary structure for teachers compared to the mining industry.

III.3.2.4. Financing and Budget of the Centre Mamadou Toure

The operating budget for the Center is the smallest of all the categories of education.

TABLE 51 - Operating Budget for the Centre Mamadou Toure in (in Millions of UM)

1978	1979	1980
7.4	7.2	7.4

SOURCE: Appendix 16.

Obviously, the Center's budget has not changed significantly in 3 years. Yet, as part of the operating budget for technical and vocational training, it has been diminishing constantly: 6.92% of the budget in 1978, 5.3% in 1979 and 5.09% in 1980. Added to this is the contribution to technical assistants for the center's operating budget, which can be estimated at 4.9 million UM in 1980. This contribution adds considerably to the operating budget, as much as 12.3 million UM.

Expenditures can be estimated at 75,000 UM per student in 1979, not counting the contribution to technical assistants, and 126,042 UM including that contribution.

An extremely high scholarship budget must also be considered, in 1979, it represented 55.6% of the total operating budget, and 54.1% in

1980 (4.0 million UM in scholarships for each year). Excluding the scholarships for each year). Excluding the scholarships and the contribution to technical assistants, cost per student should be 33,333 UM for 1979.

It is apparent that the scholarships account for more than double the total costs. The average allowance per student is 41,667 UM, which is rather high, especially when it has been known for some time now that the Center recruits only in Nouadhibou, though a considerable number of students once originated from Nouakchott, Kaédi and Rosso.

The per capita cost, including all operating costs, is very high compared to that for general secondary education (50.841 UM in 1979) and compared to that for technical education (119.449 UM in 1979).

It is undoubedly the scholarships, which on the average are 2.8 times larger than those for general secondary education, which are generating a per student cost which at first sight appears to be too high.

However, certain factors which provide a better appreciation of this cost must be taken into consideration. The internal productivity of the Center Mamadou Touré is very high; it has almost no drop outs. As was mentioned above, one reason for this excellent internal efficiency is the student's obligation to reimburse allowances he has received if he should drop out of the training program. Secondly, the training program is very short and, due to the system's flexibility, well-adapted to the job market. In this manner, external efficiency is just as high, which encourages the student to complete his training without delay. Finally, the minimum age of 18 probably increases stability in the training process.

In conclusion, the Center has created selective training "a la carte" and of short duration, which, though expensive, apparently proves to be extremely efficient (internally and externally).

In the near future, the Center should have more Mauritanian monitors on its staff. The ministry in charge, along with the National Committee of Technical and Vocational Education, should also make plans for the creation of this type of education, with adapted sections in other regions of the country (example: Boghé, Kaédi, Rosso).

III.3.3. The SNIM Vocational Training Centers

III.3.3.1. Training Program

This involves training in the private sector, i.e., without the control of the Ministry in charge and without financial contributions from the government. This training is also provided strictly according to the needs of the enterprise, since the students or trainees have employment contracts. Consequently, this training is significant only in that it provides human capital for one part of the national economy very distant from rural development and even a fortiori, from integrated rural development.

Nonetheless, an analysis of this kind of training presents several interesting aspects and seems very capable of meeting the needs of SNIM.

These vocational training centers devise the training of the workers in the framework of the firm's internal demands in the following sectors: maintenance mechanics, fitting, roofing, welding, boiler-making, electrotechnology and automobile mechanics.

Each center's capacity is 200 persons (Nouadhibou and Zouérate). Salaries are paid by the company during the training session.

The first level of training is organized into a general curriculum (TCM), which lasts three months. CM2 level students are admitted. During these three months of training, the students have 48 hours of courses per week; 28 hours of that time are spent in the workshop.

At the end of this training session, an exam is given which allows one to pass on to the second part of the TCM. During this phase, which lasts two months, the student is employed in the company.

Following this first stage is the first section of advanced technical training (FTA - formation technique avancée). Students admitted have a CM2 or are TCM graduates and have one year of service in the company. The training period lasts four months and is full-time. An examination is administered at the end of the training period, which leads to a second, three-month in-service follow-up.

At the end of the follow up, students with satisfactory results are promoted to a higher professional category, S4.

The second level of training is composed of three sections: mechanics, electricity and boiler-making.

It is interesting to note that this level of training is comparable to that of trainees graduating from the Centre Mamadou Touré, especially if one considers that there is little or no coordination or cooperation between the two centers, which nevertheless offer very similar training but at different prices. However, the length of the training session is

7 months at SNIM against 9 months at the Centre Mamadou Touré.

The third level provides advanced technical training, which professes to be comparable to the CAP issued by the College Technique of Nouakchott.

This third stage (FTA2) is accessible to students who have passed the FTA1 or who have earned the CAP plus one year of service with the company. Training lasts 7 months and is full-time. An examination at the end of the training period leads to a 6-month in-service follow-up. Satisfactory results lead to a higher professional category (S5).

Not including the service follow-ups, the SNIM Vocational Training Center trains a CAP-level worker in 3 + 4 + 7 = 14 months (follow-ups excluded), compared to approximately 21 months for a CAP at the College Technique.

While students graduating from the SNIM Training Center may not have the same general background knowledge as those from the College Technique, the level of practical technology and of drafting is comparable.

This leads to the belief that the future National Committee of Technical and Vocational Education should include one member representing the SNIM Training Center.

Perhaps the length of studies for similar training could be coordinated to bring about some economizing of financing. Clearly, one industrial enterprise is organizing two training cycles parallel to that of public education, whose diploma is equivalent to training at the Centre Mamadou Touré, and the former compares to the CAP at the College Technique.

It is inconceivable that to date, no committee has been formed for the coordination and cooperation of these two establishments, for even if SNIM trains only according to its own needs (which should not be evident), the exchange of experiences and the eventual division of these duties could only be beneficial to the whole educational and training system, not to mention the economies made in the budget as a result.

III.3.3.2. Student Enrolment, Teaching Staff, Costs

The SNIM did not communicate to us the size of student enrolment, but everything points to the fact that the centers are operating at full enrolment capacity, which is 200 persons for each vocational training center (Nouadhibou and Zouérate). Apparently, the students are concentrated in the areas of mechanics and electricity and in the general curriculum of the first stage.

There are very few drop outs, probably due to the kind of students selected.

There are 24 teachers, 20 of whom are foreigners.

If certain areas are not offered because of an insufficient number of students, the training instructors are dispatched to a productive unit.

During the training period, students collect their salaries, which undoubtedly encourages them to continue their studies. In addition, each student who has received a satisfactory grade during his training session and in the in-service follow up receives the salary of the professional category into which he is promoted.

The two training centers have a 40 million UM operating budget, not including the salaries of the trainees.

This budget is not entirely allocated to the technical training se sessions. Two of the centers also provide cycles in literacy and general subjects lasting 1 to 2 1/2 months, for about 600 students. These cycles are taught by 11 teachers.

We have estimated that 10% of the operating budget for the two centers was allocated to the literacy cycles, leaving 32.0 million UM for the vocational training sessions. With 400 students in training, operating costs are estimated at 80,000 UM, not including salaries for the trainees. The cost per student is very similar to that for the Center Mamadou Touré, which is 84,375 UM for 1979, scholarships excluded.

III.3.4. The Centre d'Apprentissage et de Formation Maitrise (CAFM)

III.3.4.1. Program Structure

This establishment, which is also organized by SNIM, offers a three-year training program for apprentices and a supervisor program for company agents in the S5 or S6 category, thus insuring the operation of a team of several professional workers with the same specialty as a rule.

Studies are stretched over three academic years for these apprentices, with a first year of general curricula with thirty-two 37-hours weeks. The program for the first year is composed of general technology, industrial design and fitting.

For the second year, students spend 30 weeks at the CAFM and 4 weeks in a production unit. In the third year, training consists of 25 weeks at the CAFM and 8 weeks in the production units.

Beginning in the second year, the following majors are offered:

maintenance mechanics
electro-mechanics
sheet metals
machinery-equipment

Programs offered are the CAP French programs adapted to the actual level of the students and to the demands of the enterprise. The CAFM also offers a short cycle on melting after the first year.

In order to be admitted as an apprentice, students must have either a CEP or a CM2, plus three years of professional experience, be at least 17 years of age and pass a written test.

Studies are awarded by a certificate announcing that the end-of-studies examination has been passed.

Apprenticeship is based on a training-employment contract. Students graduating from the CAFM must consent to work in the production units at SNIM as professional maintenance workers (S4 or S5) for the first two years after training.

The CAFM also offers training programs for supervisors. Preparation for the post of supervisor is divided into three levels corresponding

to the three scales for supervisors. This training permits the establishment of internal promotion. Employees are admitted to the program upon the recommendation of the management and after passing a test on general technology.

Training sessions average six months, either in continuous training or in staggered sessions lasting two months and followed by a return to the production unit for two months. Each level of training is completed by a follow up in the target post.

The training program consists of general subjects in math and French, concepts of human relations, general and specialized technology, workshop sessions for the major area and introduction to other techniques. There are 37 hours of classes in each training week.

At the end of each training session and follow up, the trainee is promoted to the target post.

The company takes charge of the apprentices as well as the supervisor trainees for the duration of the training period. For the apprentices, this covers school supplies and work clothes, room and food, and transportation home. They also receive a study allowance of from 1,200 UM to 2,200 UM depending on their year of study. Supervisor trainees continue to receive their salaries during the training instead of the study allowance.

III.3.4.2. Student Enrolment, Teaching Staff, Costs

For 1979-80, the apprentice sector has 163 persons - 72 in the first

year, 50 in the second year (including the short cycle for soldering), and 41 in the third year. There is a substantial number of drop outs for the first year: 23.61%. This is probably due to the fact that the first year covers general subjects, and during this time, a selection is made to determine the students' level and general aptitudes. It is is interesting to compare this drop out level to that of the first year of technical school, which is only 14.0%, but which reaches 26.7% in the second year, while it appears to be neglible in the second year of the CAFM. Knowing that the CAFM program closely follows the French CAP program, inquiries must be made into the number of drop outs in the first year of technical school, which recruits students by means of an extremely selective competitive exam.

For supervisor training, there are 38 candidates for 1979-80, with 23 in the first category and 15 in the second and third categories. Since entry to training depends on a hierarchical decision, the drop out level should be very minimal.

There are 26 teachers at CAFM to train apprentices, and three experts responsible for supervisory training, which makes a student-teacher ratio of 627 for the apprenticeship (this ratio is 11.0 for the College Technique), Technique); only two of the teachers are Mauritanian.

According to certain sources, the enrolment capacity of the CAFM is only partially utilized. In theory, the CAFM has a capacity of 496 places. With 163 students, this represents a utilization level of barely 33%, which is very surprising for a school that is very well-equipped as far as space and teaching materials are concerned.[97/]

97/ The enrolment capacity of 496 was estimated by the UNESCO team. See UNESCO report: Mauritanie - Education, 1978, Annexe 57.

In the framework of effective planning for vocational training, it should be possible to absorb this capacity surplus either by admitting a larger number of students, or by opening a training center in another region and utilizing the teaching material from the CAFM.

Even though technical and vocational training is expensive, greater decentralization with less sophisticated teaching materials could prove more useful than a high geographical concentration of the training capacity benefitting only the modern industrial sector and being only partly utilized.

In the area of financing, we were only able to obtain the operating budget for the apprenticeship section, which is 70.0 million UM (projected) for 1980, 50% of which is used for salaries. With 163 apprentices, this represents an average student cost of 429,448 UM. This operating cost per student is nearly quadruple that of the Lycée Technique or the Collège Technique, which is 110,898 for 1980.

One must concede that such a great divergence between the operating costs for the two establishments, the first one private and the second one public - raises the most peculiar problem about the efficiency of the distribution of financial resources in an underdeveloped country in which a rich industrial sector exporting raw materials coexists with an impoverished public sector.

III.3.5. The Centre de Formation et de Perfectionnement Professionels de la SONELEC (The National Electric Company Center for Vocational Training and Improvement).

For the training and improvement of supervisory staff and foremen,

SONELEC uses a small training center presently operating within the College Technique in Nouakchott. This is full-time theoretic training whose duration varies according to the training level. It is awarded by a SONELEC diploma. The number of trainees is small, and should not exceed 15-20 persons, who will learn the techniques of production and electricity distribution. This center utilizes 12 foreign teachers. SONELEC finances the center, but its budget was not communicated to us.

This center's enrolment capacity is very limited, but nevertheless constitutes a nucleus of training which, once it becomes more experienced, should assume a more pronounced role in the technical and training system in general.

III3.6. The Centre de Formation et de Perfectionnement Professionels (CFPP) (The Vocational Training and Improvement Center)

This is a new training center for inter-company vocations, which should open its doors in 1980 in Nouakchott.

The centers offers in-service training for workers in the various professions and for employees in secretarial services, accounting and management.

TABLE 52 -

	MAJOR	AREA (m^2)		NUMBER OF POSITIONS
		Total	By Post	
Workshop I	Mechanics, Auto Mechanics	200	10	20
Workshop II	Plumbing, Electricity	155	7.5	20
Workshop III	Painting, Tile Laying, Masonry	165	11	15
Workshop IV	Metal Construction, Welding	200	10	20
Room I	Typing	30	2	15
Room II	Accounting, Management	30	2	15
Total		780		105

SOURCE: CEPP

To date, 13 instructors, recruited for departments which would be useful to the center in the future, have been trained abroad. These instructors will in turn train other trainers.

It is important to emphasize that the CFPP has acquired a structure based on coordination, consultation and cooperation between the public powers, the employers and the workers. In fact, a three-party council will determine the training needs and therefore the operation of the center.

Training carried out by instructors recruited from the services using the center will allow that training to be effectively adapted to the special needs of the services, who will send some of their employees in for training.

Furthermore, an inter-company technical commission should permit the training program adapted by specialty and interspecialty to the true needs of the enterprises.

Although the World Bank and UNDP took charge of financing investments in the beginning, and the government assumed operating budgets on the State budget (with an operating budget of 7.5 million UM), it has been projected that the CFPP will be self-supportive for operating expenditures, due to contributions from those utilizing its services and from the students, who will pay for their training.

Unequivocably, the CFPP has intriquing features: first, the creation of a training center open to all enterprises and in which all parties involved can contribute to bringing about coherent, flexible training closely linked to the true demands of those enterprise and capable of being quickly adapted to the new situations.

Secondly, this is basically practical training designed for workers who will thus be able to improve their level of competence and insure greater efficiency of the activities in the services concerned.

However, it is worth pointing out that the CFPP's relations with other vocational training establishments has not been clearly defined. Even though this concerns a center with activities complementary to those

of the other centers in Nouakchott, since they are directed at persons who are already employed, any creation of a training center should be inspired by the global planning of vocational training. It therefore seems clear that the OPT , OMC, and SONELEC centers are providing the kind of training which meets the same demands as those envisaged by the CFPP.

Secondly, the CFPP does not offer any solution for students graduating from the elementary school system who cannot enter into secondary school.

Thirdly, since trainees will be employed from the beginning, the CFPP will be contributing only very indirectly to the creation of new jobs.

This is not to say that the creation of the CFPP does not meet a real need or that the method chosen is not a good one; on the contrary!

Some concern is generated by the cooexistence of different centers with similar objectives, each running the risk of operating totally independent of the other, on the one hand, and secondly, the development of a training center for persons already employed, which could overlook the vast numbers of unemployed youth, who will be unable to obtain post-elementary vocational training without first having a job.

This vicious circle is a primary obstacle to the improvement of the welfare of the population. Thus, any educational policy aspiring to be a part of the framework of the major goals set up by the Third Plan must take care that there is maximum integration of training for workers

and adequate training for the many young people who, through this professional training, will become the workers and therefore the agents of development.

III.3.7. The Centre de Formation et de l'Artisanat du Tapis (CFAT)
(The Tapistry Weaving and Training Center)

This training center, which is under the Ministry of Youth and Sports, Crafts and Tourism, provides practical training and teaches reading and writing to men employed in rug weaving.

Despite rather limited ambitions, the center has several interesting features. Within two years, it trains young women in the art of rug weaving, meanwhile giving them the opportunity of learning how to read, write and count, as well as the basics of general education. Thus, basic training is linked with functional training in order to integrate these women into traditional are production. Training of this sort is much more advantageous than on-the-job apprenticeships, which have no theoretic training (for example, how to read a design), or possibility of learning how to read and write. Training by apprenticeship certainly allows the apprentice to copy, but does not develop those skills required for the improvement of products and development of production methods.

At the CFAT, the young women are admitted from the age of 16 until 36. Psychotechnical tests are administered to determine their aptitudes. There is no boarding school. Studies take two years with two cycles, alternating between theory and practice, with three months to a cycle. The enrolment capacity for the center is 100 students for the first year.

A budget of 44 million UM disbursed over three years and financed by the World Bank has been projected. In addition, an operating budget of 2 million UM from the State budget is projected for 1980. Annual costs could thus be estimated as 13.0 million UM including the 2,000 UM monthly scholarships.

The center is expected to be able to support itself by selling its products.

At the end of studies, students receive an end-of-studies diploma which will permit them to find employment in one of the rug centers. At present, there are three centers in operation (Nouakchott, Boutilimit, Atar), and plans have been made for the construction of 12 shops per year.

The production centers are organized into pre-cooperatives. Although the majority of the pre-cooperatives' main objective is the creation of a group for buying and selling in common, only the weavers' groups are actually production pre-cooperatives.

This is an example of training which should ultimately lead to the self-management of production and its sale. We are convinced that this example must be followed in the entire crafts sector, and especially in that part which can provide the population with everyday consumer goods. If it must be noted that a growing number of those products which could be made by local craftsmen are being replaced by imported goods, it will be necessary to implement small-scale industrial production through additional training of the craftmen. In this manner, autonomy is achieved, satisfying certain demands

of the traditional pastoral and farming society. In addition, the first step will be made on the long road to industrialization.

In fact, there is no reason why, within a short while and through appropriate training equal to that of the Centre Mamadou Touré or the CFPP, craftsman cannot be taught to produce tools for farmwork that has been foreplanned in the rural development projects, and to provide the maintenance and repair services required to keep the invested capital in good condition.

It is true that Mauritania boasts of having nearly 50,000 craftsmen, 34.3% of whom are men and 65.7% of whom are women,[98/] disrributed throughout all regions. Very special attention should be given to training these craftsmen so that they can be integrated into the projects for rural development plans.

Regrettably, training for modern crafts has been placed under the direction of the Ministry of Labour (Mamadou Touré, CFPP), while training for traditional crafts, which is provided by one establishment, is directed by the Ministry of Youth and Sports, Crafts and Tourism (this is also true for training in artistic crafts).

If the Government of the Islamic Republic sincerely intends to give top priority to rural development in the area of education, it will have to establish goals which will above all allow the training of human resources necessary for rural development.

98/ Ministère de l'Artisanat et du Tourisem: Etude sectorielle sur lArtisanat traditionnel en Mauritanie, 1975, p.8.

To date, in spite of the objectives of the Third Plan, this priority treatment has hardly been evident; if a new training center is established, it first serves the interests of the modern industrial sector and the administration, to the detriment of the rural sector, where - it must be recalled - the majority of Mauritanians live.

Traditional crafts, with a very low level of technical development in all areas of that field, requires improvement in production methods.

Training craftsmen in the area of production and management could also help make the pre-cooperatives more efficient and reduce the underemployment of the craftsmen. Craftsmen trained in that manner and organized into groups could also constitute a center of development within the village communities.[99/] Thus, the creation of production centers in the rural zones would allow tools to be manufactured and equipment to be maintained and repaired. Based on the experience of an establishment such as the Centre Mamadou Touré, the structure and content of training adapted to the knowhow of the craftsmen could also be worked out. Thus, one of the main conditions for the creation of viable pre-cooperatives would be fulfilled.[100/]

99/ It must also be pointed out that traditional crafts have a very low capital/labor ratio and an equally low capital/output ratio, which is not the case for modern crafts, whose capital/labor ratio may not be low, but which has a considerable capital/yield ratio.

100/ Of course, another condition is that markets must exist for the craftsmen's activities. For that reason, it is essential that rural development projects provide maximum utilization of the products and services to be supplied by a restructured artisanal structure.

III.3.8. L'Ecole Nationale de Formation et de Vulgarisation Agricole de Kaédi (ENEVA) (State School of Training and Agricultural Extension of Kaédi)

III.3.8.1. Study Program

The Kaédi school was created in 1963 through a joint project between the GIRM, the UNDP and the FAO. Originally under the direction of the Ministry of National Education, it was transferred in 1978 to the Ministry of Rural Development.

This school was evaluated in 1978 by a team headed by the FAO. This team recommended the transformation of the structure and teaching programs of this establishment.[101/] Some of the team's recommendations have been applied but others have not.

The school program provides two levels of training: 1) cycle C for training lower-ranking staff (animal husbandry nurses and rural economics monitors) and, 2) cycle B for training lower-salaried staff (animal husbandry assistants and work foremen for the rural economy).

Recruitment for cycle C is made through direct examinations for candidates having terminated the second year, first cycle of secondary education and through a professional examination for candidates with lots of in-service experience.

101/ An excellent report by this team, edited by R. WEBER, was published in 1979 by the FAO.

For cycle B, training should differ according to the student's background. For professional staff members from cycle C, there should be adaptive education and catch-up courses during the first semester of the first year, while students directly recruited (lycée level) would receive introductory technical and practical training along with the first group.

After this first year, students should be guided towards a major based on a period of practical training for those recruited by direct exams. The second and third years would be merged into one class for each major. There again, teaching should be essentially technical and practical in nature.[103/] After the third year, students would enter a three-month training period and keep a journal. (See Appendix 37)

The enrolment capacity should be from 30 to 40 students for cycle C and 60 for cycle B, or a total or 100 places (75 places for resident students).

In the report by the FAO team, an increase in the enrolment capacity has been recommended: 90 students for cycle C and 190 for cycle B. The ENFVA should also open a section of refresher courses (2-3 weeks) which could admit 20 trainees. Finally, the creation of a training section for specialized workers, with a capacity of 20 to 25 persons, is also judged necessary.[104/]

103/ It is worth emphasizing that the study programs have been set up based on a job study, attributing to them the knowledge required to operate efficiently. This method merits application in all of the vocational establishments.

104/ FAO: op. cit., p.35.

III.3.8.2. Student Enrolment, Teaching Staff, Budget and Training

Cycle C now has 24 second-year students. Students were not recruited for this cycle this year because none of the 50 candidates who took the examination passed.

Students are distributed as follows in cycle B:

Table 53 Students in Cycle B at the ENFVA 1979-80.

1st Year	general curriculum	39
2nd Year	agriculture	18
	animal husbandry	16
	forestry	10
3rd Year	agriculture	13
	forestry	10
Total		96

SOURCE: ENFVA

One is led to believe that the admissions examination for the ENFVA is effective, since repeats are nonexistent. In cycle B, there are a few drop-out and they return to the Lycée.

From the time of its establishment until 1978, the ENFVA has trained 131 staff members and 77 cycle B staff members. The majority of these trainees are agricultural instructors - 47.3% of cycle C and 49.9% of cycle B (See Appendix 38).

This is very far from the annual training production level of from 50 to 60 cycle C staff members and 77 cycle B staff members, who are required to meet the needs mentioned in the FAO report.105/

One must yield to the fact that the ENFVA of Kaëdi is considered to be a last recourse in training, and thus lacks motivation from the start. As noted in the FAO report on the ENFVA, the agricultural profession is of little interest to the academia.106/

However, it is our belief that the recruitment of students graduating from secondary school for cycle C only serves to reinforce this trend. If general secondary education is the surest escape route from the social and economic restrictions of the rural environment, it is nearly certain that students graduating from the system head for the ENFVA with little enthusiasm. The fact that a number of students in cycle B drop out of this school to return to the Lycee only confirms this hypothesis.

Since the school is not located in an industrial center, its attraction is diminished only further (compared to the schools in Nouakchott and Nouadhibou). Finally, if this training is unappealing, the career it leads to is even more so. Compared to the salaries in the modern sector (civil service and industry), salaries for these employees are substantially less. The income factor therefore adds to the social and economic restrictions connected with rural life.

Just as for teachers, we think that the government will be obliged to make a truly giant effort to stabilize the salary structure, which is

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105/ FAO: op. cit., pp.23-26.

106/ FAO: op. cit., p. 30.

For admission to cycle B, recruitment is carried out through direct examinations for candidates having completed a year of the second cycle of secondary education.

Studies last three years for each cycle. Studies in cycle C terminate in a Diplôme de Moniteur d'Economie Rural (Rural Economics Monitor's Diploma). Studies for cycle B lead to the ENFVA Cycle B Diploma. Graduates of cycle C gain access to the C category in the Civil Service, and those from cycle B enter the B category in the Civil Service.

The importance of this school in the framework of rural development is obvious. Yet one wonders if this establishment is really capable of meeting the demands of the rural sector in human resources. Careful reading of the FAO report reveals unmistakably that such has not been the case in the past. Therefore, the cycle C program, which has not changed since the school's creation, should be adapted to the changes in the needs of the rural community. The FAO mission has proposed a three-year program which would focus on practical and technical training, with a general curriculum in the first year, technical and practical training depending on the major (agriculture, animal husbandry and environment protection) for the second year, and a third year entirely set aside for on-the-job training (900 hours). At the end of the third year, the student would return to school to take the exit examination. After 2,640 hours of training, students should have 1,800 hours of practical education, or 68.0% of the total, plus 720 hours of technical education (32 %) and 120 hours of general education (5.0%).[102/] It may therefore be concluded that this vocational and professional training has a strong practical inclination. (See Appendix 36)

102/ FAO: Assistance à l'Ecole Nationale de Formation et de Vulgarisation de Kaédi, Rome, 1979, pp. 27-28 and appendix 3, p. 58.

a major obstacle to the development of human resources required for an integrated rural development. If indeed the duties of the teachers and of the officials graduating from the ENFVA are considered to be essential for development, the means must be set in motion to create qualified managerial staff. An equitable salary structure is undoubtedly the most important of these means.

On the personnel level, for 1979-80, the Kaédi agricultural school has 12 teachers, 6 of whom are Mauritanian and 6 foreigners; the latter teachers will leave in April, 1980. They will be replaced by Mauritanian instructors assigned by the central administrative office of Nouakchott.

The ENFVA budget does not appear to have suffered very much from the 1980 budget cutbacks.

Table 54 Development of Budget (Operating Costs) for the ENFVA

(In Millions of UM)

	1978	1979	1980
Absolute Figures	16.8	21.7	30.9
Index (1978 = 100)	100.0	129.2	189.9

SOURCE: State Budgets.

As shown in the table above, expenditures supported by the State have increased nearly 84% in the last three years. The main portion of the budget consumes approximately 55% of it if the salaries of the student civil servants are included (and about 40% if they are not). If to this figure expenses for clothing and scholarships are added, plus the cost of the

training sessions and for free-lance instructors, the personnel column in general consumes 78% of the operating costs, or 24.2 million UM. Of this sum, 7.1 million UM or nearly 30.0% of the personnel column is for study grants.

In addition, that part of technical and vocational education expenditures allocated to the ENFVA increases yearly.

Table 55 Operating Budgets in the State Budget for Technical and Vocational Education and for the ENFVA (In Millions of UM)

	1978	1979	1980
1. Technical and Vocational Education Budget	107.0	133.9	145.6
2. ENFVA Budget	16.8	21.7	30.9
3. 2/1 in %	15.7%	16.2%	21.3%

SOURCE: State Budgets.

For 1980, the ENFVA obtains 23% of the State budget set aside for technical and vocational education. This development of the ENFVA budget leads one to believe that the authorities have understood that the top priority to be given to development can only be executed by favoring agricultural education over the other types of education. It must be stressed, however, that a generous budget is not sufficient for building up the attractiveness of a farming career - or of training for it.

Aside from financing from the State budget, the ENFVA has received aid from the FAO over the period of 1/1/78 to 1/1/80.

Table 56 Financial Aid from the FAO from 1/1/1978 to 1/1/1980

Supervisory Staff	Management	Equipment	Total
867.544 $ or 39.5 million UM	74.020 $ or 3.4 million UM	142.500 $ or 6.5 million UM	084.064 $ or 49,4 million UM
80.0%	6.9%%	13.1%%	100.0%

+ Administrative personnel, teachers and other persons.

SOURCE: Chief FAO Advisor to the ENFVA.

This financial aid can be distributed over 8 quarters, and the operating costs from Table 55 adjusted for this supplementary financial aid.

Table 57: ENFVA Operating Budget (State Budget Plus FAO Contribution)

	1978	1979	1980
1. State Budget	16.8	21.7	30.9
2. FAO Contribution	10.7	16.1	16.1
3. Total	27.5	37.8	47.0
4. 2/3 in %	(38.9%)	(42.6%)	(34.3%)

SOURCE: Tables 54 and 56.

The operating budget for the ENFVA for 1980 therefore totals 47.0 million UM. With a student enrolment of 120, the average operating cost per student is 391,667 UM. This per student cost is lower than that for the SNIM's CAFM (429,448 UM), but it is considerably higher than for the Lycee Technique and the College Technique of Noakchott.

It is important to note that financial aid from the FAO expires on July 1, 1980. The State budget, which projected 30.0 million UM for the ENFVA in 1980, will have to take on an extra load of about 16.0 million UM (+ 52.1%) if outside financial aid is not found to replace the FAO aid, and if it must continue to depend on expatriate teachers.107/

In conclusion, it appears that the reform of the ENFVA should be carried out along the lines suggested by the FAO report, with a preferential budget over the other types of education, and in the shortest possible time.

However, care must be taken that the conditions for admittance to cycle C do not become too selective. Secondly, the agricultural career must absolutely be made more attractive through a more advantageous salary structure and more favorable possibilities of advancement. Lastly, plans must be made to extend school activities as recommended by the FAO report, so as to integrate the former into training workers who would preferably be recruited from among those craftsmen who practice

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107/ Significantly, a detailed analysis of the operating costs, drawn up by RAMS, projects the sum of 37.2 million UM 108/, or 143,031-132,814 UM per student for a training capacity of 260-280 persons, which shows that substantial economies may be realized.

108/ These costs presuppose an entirely nationalized staff.

traditional crafts and who, after training, can become supervisors for production cooperatives to be established in the rural environment. Another type pf training which should be attributed to the ENFVA would offer refresher courses for primary teachers in the framework of the ruralization of that educational system (ex: working in the fields as one element of the program).[109/]

III.3.9. The Ecole Nationale des Infirmiers et des Sages-Femmes (ENISF) (National School of Nursing and Midwifery)

III.3.9.1. Study Program

This school, which is under the Ministry of Health, Labor and Social Affairs, is in charge of training part of the para-medical personnel in Mauritania. Doctors, dentists, pharmacists, laboratory technicians and x-ray technicians are trained abroad, while nurses and midwives are trained in a state institution located in Nouakchott.

The ENISF training for these categories of personnel: certified nurses (infirmiers brevetés) State nurses and midwives. Certified nurses may enter the C category of the Civil Service, and the other two lead to the B category.

For the training of male and female nurses, recruitment is executed through direct competitive examinations for those candidates having finished one year of secondary education and who are 18 years of age or more. Nurses' sides are recruited through a professional exam after three years of service and three months of training.

Studies last two years and are awarded by the Brevet d'Infirmier or d'Infirmière (Nurse's Certificate).

109/ It would also be advantageous to adapt secondary education to the realities of the region in which such education is offered, and thus introduce practical courses in agriculture.

Midwifery candidates are recruited through a competitive examination: conditions for admission to the exam are the same as for State nurse trainees. The latter can also gain admission to training for midwifery and then take a professional examination in their second year of school. Certified nurses fall under the same conditions for their first year.

Studies last three years (two for the State nurses) and lead to the Diplôme de Sage-Femme (Midwife's Diploma).

For admissions examination, one-third of the places are reserved for professional candidates.

This a co-educational establishment, with boarding and non-boarding students. Students receive scholarships, and those from the health department or any other civil service department receive their full salary.

Since we were unable to meet the directors of the school and the questionnaire was not returned, other information on the study programs as well as recent statistical information cannot be presented in this report.

III.3.9.2. Student Enrolment, Teaching Staff, Budget and Financing

For 1977-78, there were only 168 students in the school; 97 or 57.7% of them were in the category of male or female certified nurses and only 10 or 6.0% were in the midwife category (all in the first year). The State nurses represent 36.3% of the students, and two-thirds of that category are in the first year.

For a development plan with health at the top of the list as one of the demands to be met, the shortage in medical and para-medical staff

is enormous. While the medical personnel must be trained abroad, there is a very large corps of para-medical personnel to be trained locally. An estimate by the General Helath Office forecasts a deficit of 200 certified nurses, 100 State nurses and 33 midwives for 1980.

With an annual population growth rate of 2.7% and a major shortage even now. it is not very difficult to imagine that the para-medical training capacity of the ENISF in Nouakchott must be increased. Secondly, one must ask whether the para-medical salary structure may not be inadequate for the nursing staff. In our opinion, what has been said for the agricultural career of ENFVA graduates can be equally applied to the ENISF, given that salaries are comparable and that para-medical work is very demanding.

Finally, a study could be made on the decentralization of training for lower-ranking para-medical staff, as long as the ENISF would include training for trainers headed for the health services in towns within the regions among its activities.

The school operates with instructors who are also employed at the national hospital, which is normal for this kind of training. Nonetheless, it must not be forgotten that with a great shortage in medical personnel, these training tasks only aggravate the medical staff shortage in the health sector.

The operating budget for the ENISF totals 12.2 million UM or 9.1% of the State budget set aside for technical and vocational education. For 1980, this budget rose only slightly, to 12.5 million UM (see Appendix 16). It has decreased in relative size: 8.6% of the State budget allocated to technical and vocational education. We were unable to obtain information about what part of the national hospital budget is allocated to financing for the school.

Table 58 ENISF Operating Budget for 1979 and 1980 (In Millions of UM)

	1979	1980
Salaries	2.1	2.4
Operations	1.6	1.1
Scholarships	8.5	9.0
Total	12.2	12.5

SOURCE: State Budgets.

Taking only the ENISF budget into account, oerating costs per student total 48 000 UM for 1980.[110/] From this amount, an average of 34,616 per student is reserved for scholarships, leaving an operating cost of 13,385 UM (scholarships excluded).

At first glance, the training of para-medical personnel seems to be executed at a very resonable price. Here is an example of training which reaps enormous benefits from the external economies of health care production (national hospital). In light of this relatively modest cost, the authorities should plan to raise the recruitment level in as soon as possible, so that they will be able to satisfy the basic needs of the

110/ For this calculation, the estimate for student enrolment for 1979-80 was based on the amount of scholarships projected on the 1980 State budget.

population in the near future.

Needless to say, this recruitment can only be executed if the profession concerned is made sufficiently attractive.

III.3.10. Ecole Nationale d'Enseignement Commercial, Familial et Social (ENECOFAS) (National School of Business, (National School of Business, Home Economics and Social Education)

III.2.10.1. Study Program

This program is designed for 1) training administrative officials for the service sector and, 2) training medico-social personnel from among the social workers. It is directed by the Ministry of Health, Labor and Social Affairs.

Teaching is co-educational for the business section and reserved for women in the home economics and social section. There is no boarding school. Students attend school full-time, 28 hours a week.

The commercial section is composed of two cycles:

- The first cycle prepares students for office clerks and typist CAP's. Recruitment is made through competitive examinations for students with CEFP's or through a school certificate for one of the classes in the first cycle of secondary education. In practice, students originate from general secondary school.

- The second cycle accepts candidates holding a BEPC or a certificate from one of the Lycée classes (often in the 2nd or 3rd year). Within two years, this cycle prepares students for the BET in accounting or the secretarial BET.

Most of the training in these two cycles is general, taking up 40-50% of the schedule, and the rest is devoted to the technical subjects (mainly typing and accounting).

The release of graduates from the business section of ENECOFAS should not pose any major problems, given its limited enrolment capacity on the one hand and its location in the capital on the other hand. In fact, the enrolment capacity for the first year seems limited to 20 person per section. It is reasonable to assume that 80% of entering students will obtain their diplomas, which with a full enrolment capacity, represents a group of about 12 graduates per year in each major, or a total of 36 graduates.

There are also private establishments in the capital which admit a sizable number of students undergoing business training. This reinforces the hypothesis that the "production" flow into the capital's job market is not a major problem.[111/]

111/ There are several private institutions in Nouakchott which train office clerks, typists, secretaries and accountants, at different levels. The CAFM of the SNIM has a training capacity of 45 persons, who undergo training for an average of 11 months.

In addition, the Centre d'Etudes des Sciences Commerciales (Study Center for the Business Trades), should have a training capacity of 300-350 students. It provides full-time and part-time training. This establishment even plans to triple its student enrolment in the next three years.

The students' contributions finance the CESC.

Finally, the Institute Soumaré has 180 students for 1979-80, most of whom are girls. At least 985 students have received diplomas since its creation in 1972. Enrolment capacity for this establishment is over 200. Here too, the students finance the school with their tuition. Operating costs totalled 1.3 million UM in

The home economics and social section of ENECOFAS is designed for girls preparing for careers as instructors in chiefly social-oriented organisms. Candidates with certificates for one of the classes in the first cycle of secondary education are allowed to take a competitive examination. Studies last 3 years: They include general courses and one year of optional subjects. Both practical and theoretical training are

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1980, representing 7,167 UM per student. This per student cost should be compared to that of ENECOFAS, which is 110,236 UM excluding scholarships and 29,921 UM including scholarships. Since the Institut Soumaré does not issue scholarships, comparison must be made of the per student cost minus scholarships in order to show that the per student cost in this private school is much lower than in the public school, which at first glance seems to offer comparable training.

This great disparity is due at least in part to the difference in the salary loads. While the salary budget at ENECOFAS totals 6 million UM for 14 teachers, it is 500,000 for the Institut Soumaré, which has 7 teachers. Three of the teachers work full-time and 4 are paid by the hour. Finally, 5 of the instructors are Mauritanian, 1 is Senegalese, and 1 is from Benin.

It would be useful to make comparative study of training establishments in the public system against those organized by private firms. If training proves comparable, there will be reason to question the cost of public education.

Finally, we would like to draw attention to the fact that there is a training capacity of over 700 students for office clerks, typists, secretraies, and accountants. With an estimated production capacity of 200 diplomas per year, business education seems to be one educational system which will allow a large number of persons (and especially girls) to be employed in the tertiary sector of Nouakchott. Nevertheless, the Institut Soumaré is planning to create training programs for the medico-social and rural sectors for 1980. The latter's aim will be to train supervisors (male and female) for the rural sector. We believe that such initiative merits the attention of those officials responsible for education and rural development.

provided. Studies lead to the CAP for monitors in home economics and social instruction. There are many outlets for this skill: besides the primary sector, graduates are eligible for the civil service as assistant instructors for substitute teaching or as rural development monitors.

However, with 15 students in the first year, this section's enrolment capacity is too low, especially if one considers the vital work which the rural development instructors could accomplish as supervisors in the villages in the areas of hygiene, nutrition and child care. It is recommended that subjects be reinforced in the program, to entail 50% of the schedule for example, instead of 20% as it is now.

Table 59 Enrolment Capacity of ENECOFAS (First Year)

Section	Office Clerks	Accounting	Secretarial	Home Economics	Total
Places	20	20	20	15	75

SOURCE: ENECOFAS

It is worth noting that the number of applicants is 4 to 6 times greater than the enrolment capacity. As is the case for all post-elementary training, this poses a problem for the quality of primary education and that of the value of the entrance examination for secondary education. If in fact the enrolment capacity in many training schools is not being filled, it is the responsibility of organisms such as IPN

to detect the causes and propose reforms. It is an understatement to say that Mauritania should modify its costly, inefficient educational system post-haste in favor of a system that can really be integrated into the options for development which the country seems to be interested in and which are derived from a model of development with very few points in common with the western model. From then on the country should provide itself with a training system which corresponds to the model chosen for development.

Once again, the conception and setting up of this training system presuppose a policy and an educational plan which are in no way related to the current policy.

III.3.10.2. Student Enrolment, Teaching Staff, Budget and Financing

For 1979-80, the student's enrolled at the school were distributed as follows:

Table 60 Student Enrolment at ENECOFAS 1979-80

Section	Office Clerks	Accounting	Secretaries	Home Economics	Total
1st Year	15	15	12	13	55
2nd Year	12	20	12	7	51
3rd Year	12	-	-	9	21
Total	39	35	24	29	127

SOURCE: ENECOFAS.

Compared to 1977-78, when there were 117 students, this is an increase of barely 8.6%.

According to information gathered at ENECOFAS, there is a very small number of repeats. However, there are a few drop-outs, who are apparently recuperated by the ENI.

For 1979-80, there are 14 teachers on the staff, all of whom are foreigners. The student-teacher ratio is 9.1. The operating budget for ENECOFAS totalled 8.7 million UM in 1979, which is 6.5% of the budget for technical and vocational education (See Appendix 16).

Operating costs in 1980 rose to 10.6 million UM, or 7.3% of the funds allocated to technical and vocational education.[112/]

Table 61 ENECOFAS Operating Budget 1979 and 1980

Budget	1979	1980
Salaries	4.6	6.0
Operations	12.3	2.1
Scholarships	1.9	2.5
Total	8.8	10.6

SOURCE: State Budgets.

112/ It should be noted that in 1979, the budget increased by 499,000 UM due to the CNSS contribution alone. For contributions to foreign teachers, 5.9 million UM must be added, therefore carrying the cost per student to 129,921 UM (scholarships included).

Thus, the average operating cost per student is 83,465 UM in 1980 including scholarships. Scholarship size varies according to the section: 900 UM for the office clerk and typist section, 1,000 UM for the home economics section and 2,500 UM for the secretarial and accounting sectors. The average cost per student without the scholarships is 63,780 UM.

The contributions to the foreign teachers' salaries must also be added to the ENECOFAS budget. We have estimated 450,000 UM per teacher for 1980. The personnel expenditures are thus increased by 450,000 x 13 = 5,850,000 UM. With these costs, the average cost per student rises to 129,921 UM including scholarships and 110,236, excluding scholarships.

The size of scholarships, which varies from section to section, does not seem to favor the home economics section. Study scholarships for the accounting and secretarial sections are two and one-half times larger. These last two sections could be transferred to the private education system with no major inconvenience, given that such education already exists and that it would be much easier for the Nouakchott sector to support the costs of such training from which it benefits the most. This eventual transfer would evidently compromise the recovery of cycles B and C from the ENA by ENECOFAS.

III.3.11. The Ecole Nationale d'Administration (ENA)

III.3.11.1. Study Program

The principal goal of the ENA, which was created in 1966, is to train civil servants in the State Administrative Corps and to improve personnel in the service. This is a co-educational school with no boarding. Students who pass the competitive examination receive an allowance (study scholarship) as civil service trainees while student civil servants keep their status and salaries.

Below are the series offered:

- General Administration
- Diplomacy
- Labor
- Customs
- Finance
- Taxes
- Justice
- Journalism
- Meteorology
- Public Works
- Statistics
- OPT (legal series)
- OPT (technical series)

However, most of the civil servants are trained in General Administration, Taxes and Finance and the OPT (75.28%).

It is estimated that 1 civil servant out of 14 is trained by ENI

Studies are subdivided into four cycles:

- Long Cycle A admits Baccalaureat graduates who pass a compteitive examination, civil servants in the B category and non-established civil servants in the A category. Category A civil servants are also admitted to the third year after passing an examination.
Studies last 4 years and are awarded by the ENA Long Cycle A Diploma. Graduates are admitted to the A category of the Civil Service. There are

23-27 hours in the weekly schedule, and in theory, 30 hours of courses a year. Students complete a three-month training period abroad. Practical work represents only 9 hours out of a total of 100 hours (excluding the 3-month training period abroad in the fourth year).
The first class of long cycle A trainees graduated in 1979: there were 10 persons, all trained in General Administration.

- Short Cycle A recruits Baccalaureat holders based on their certificate, as well as civil servants in the B category and non-established civil servants in the A category after three years in the service. Students with a Licence are admitted to the second year. Studies last two years and lead to the ENA Short Cycle A Diploma. Graduates are admitted to the A category of the Civil Service (index 560).
The weekly schedule varies from 24-26 hours according to the year and major. Cycle A is characterized by general courses for all the sections and specialized courses such as general administration, treasury and diplomacy. In the program for specialized courses, one-half day of practical work is scheduled per week, often in the target department. There are no women in long cycle A, but short cycle A counts 8 women for 1979 out of a total of 41 students.

- Cycle B, with a 2-year program, recruits students from the second cycle of secondary education who pass a direct examination, and civil servants in the C category with three years of service who pass a professional compteitive exam. Studies lead to the ENA Brevet, which allows access to the B category of the Civil Service. For cycle B, there are specialized courses from the first year in proportions of about 40%. There are 24-27 hours in the weekly schedule, depending on the year and major area. Practical work occupies from 1-3 hours per week according to the major.

It is worth noting that some of the cycle B classes are also offered at ENECOFAS: typing, accounting and secretarial services. Inasmuch as scale economies can be made, it would be advisable to combine there subjects. Seven women out of 71 students are in cycle B for the 1979-80 academic year.

Since the creation of the ENA, the majority of civil servants (45.8%) have been trained at the cycle B level. This seems to omply that its exact function is to train supervisory staff of the Civil Service while the majority of civil servants (45.8%) have been trained at the cycle B level. This seems to imply that its exact function is to train supervisory staff of the Civil Service while the majority of the executive staff are being trained abroad and most of the supervisory staff are being trained in other establishments (ENECOFAS, Institut SOUMARE, etc.)

It is primarily the departments of general administration, taxes, customs and finance and of the OPT which utilize the B cycle of ENA to train their agents.

- Cycle C is designed for candidates having completed one or more years of study in the first cycle of secondary school and who pass a direct competitive examination. Recruitment is also executed through a professional examination for employees having three years of service or training. Studies last 2 years and lead to the ENA Certificate. Graduates gain access to the C category of the Civil Service. Cycle C is composed of a French section and an Arabic section. The weekly schedule consists of 24 or 25 hours according to the major area, with 4 hours of practical work per week.

Even more than in cycle B, the subjects taught are the same as those taught in the commercial sections at ENECOFAS.

The idea of transferring cycles B and C (legal sections) to ENECOFAS and to the OPT school (technical sections) seems to be excellent, for this would permit scale economies to be made at ENECOFAS and would finally make the OPT school functional. ENA would thus maintain the long A and short A cycles, which should ensure high-level training in the administrative and managerial fields, and provide a corps for the Civil Service and the private sector.

Plans could also be made to create a section for training the ENECOFAS instructors in cycle A so that it can quickly become a bona fide state school.

If ENA is indeed one training center which provides flexible education based on the demands of the Civil Service departments, it would seem advisable to limit its vocation to training high-level administrative and managerial personnel.

Cycles B and C should benefit from their integration into other establishments, where practical training will be concentrated on the most.

Again, it should be pointed out that the ENA enrolment capacity is difficult to estimate because of the great variations in student numbers. Based on enrolment levels in the past years, the following figures must be considered approximate:

	Enrolment Capacity	Training Capacity
Long Cycle A	50 to 70	15 to 20
Short Cycle A	60 to 80	30 to 40
Cycle B	90 to 100	40 to 60
Cycle C	80 to 100	30 to 60

III.3.11.2. Student Enrolment

For 1979-80, 257 students are enrolled at ENA, compared to 271 students for 1977-78.

Table 62 ENA Students Enrolment 1977-78 and 1978-80

CYCLE	1977-1978					1977-1980				
YEAR	A Long	A Short	B	C	Total	A Long	A Short	B	C	Total
1	13	47	37	25	122	10	9	37	33	89
2	10	37	70	32	149	7	32	34	68	141
3	-	-	-	-	-	11	-	-	-	11
4	-	-	-	-	-	16	-	-	-	16
Total	23	84	107	57	271	44	41	71	101	257

SOURCE: ENA.

For the 1979-80 school year, there are 8 women in short cycle A, 7 in cycle B and 9 in cycle C, or 10.1% of the total. It is difficult to trace the development of student enrolment levels. As previously mentioned, the public services call on the ENA when they need agents. At that point, the ENA recruits candidates. In general, the number of students has been on a rising trend since 1973, but there are fewer students in 1979-80 than for 1977-78.

For the other years, statistics were not communicated to us, but a quick analysis of the graduates per year seems to confirm a growing trend for the past 6-7 years.

We have no statistics on drop-outs.

III.3.11.3. ENA Graduates

Since its creation, ENA has trained 1,038 persons in all the major areas (See Appendix 39).

ENA has trained civil servants mainly for general administration (26.0%), for the fiscal and financial adminiatrations (28.6) and for the OPT (21.7%).

Table 63 reveals that in the distribution of students by level 45% of the graduates are from cycle B compared to 26.1% from cycle A and 28.1% from cycle C. It should be noted that long cycle A has trained only 1% of ENA graduates.

Table 63 ENA Graduates By Cycle 1968-1979

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	Total	%
Long												10	10	0.96
Short	-	-	-	10	2	-	88	51	77	36	44	33	261	25.14
Cycle A	-	-	-	10	2	-	-	51	77	36	44	33	271	26.11
Cycle B	13	20	16	21	39	47	51	60	41	70	36	61	475	45.76
Cycle C	23	13	38	27	9	40	-	40	21	29	27	25	292	28.13
General Total	36	33	54	58	87	59	59	151	139	135	107	129	1.038	100.00

SOURCE: ENA.

If cycles B and C of ENA were transferred to ENECOFAS and the OPT school, 73.9% of the present training capacity would be transferred to other establishments, which should certainly strengthen cycle A training for the country's higher-level civil servants.

The formulation of such a project seems prefereble to the creation of a polytechnical school, both from the financial viewpoint and from the viewpoint of the quality of education.

Since teaching the administrative and managerial sciences (planning included) is the sort of education with a high manpower factor and a low capital factor, top priority must be given to developing the kind of higher education which can easily substitute training abroad.

Such is not the case for a polytechnical school, in which the manpower factor and the capital factor are both high, and in which scale economies can also be quite substantial, an unfavorable factor in the case of Mauritania.

III.3.11.4. Teaching Staff at ENA

ENA has 21 permanent professors and 22 free-lance professors on its staff. Most of the permanent professors are expatriates (5 Tunisians, 2 Palestinians, 1 Moroccan, 11 Frenchmen and 1 Canadian). There is 1 Mauritanian, who teaches sociology.

Table 64 Permanent Professors at ENA By Subject 1979-80

Law	Arabic	French	Economy and Accounting	Mathematics
6	4	1	4	1

Administrative and Typing Customs Techniques	Sociology	Documentation	Total
2	1	1	1	21

SOURCE: ENA

It would seem a good idea to utilize free-lance professors as long as their size does not become excessive compared to that of the permanent professors. Today, they represent 50% of the teaching staff, which could jeopardize the efficient supervision and training of the students.

Just counting the permanent professors, the student-teacher ratio is 12.2 for 1978-80. If the free-lance professors are added, the ratio drops to 6.1.

Should cycle A at ENA be strengthened and cycles A and B be transferred to other establishments, training by permanent professors should be supervised. As much as possible, training by free-lance professors should be considered an alternative solution except when the permanent professors' contribution is predominant.

We reiterate the recommendation made earlier that ENA should train future Mauritanian professors for their establishment.

It may be thought that training for teachers can only be conducted abroad. We believe this to be a debatable point. Just as the developing countries require adapted technologies for production, we would like to believe that a better adapted and less expensive training technique can be designed. A specific plan for the objectives of each kind of education could serve as a foundation for this technique. IPN, services using it and Ministry of National Education could work together to identify and analyse these goals.

III.3.11.5. Financing and Budget for the ENA

ENA's operating budget for 1980 represents 27.7% of the State budget set aside for technical and vocational education, Operating costs for the ENA are therefore approximately the same as those for the Lycée Technique, and for much fewer students: 257 compared to 679 students for the Lycée Technique and the Collège Technique.

A major portion of the budget goes to study scholarships and to salaries for the student civil servants (31.7% and 33.0% of the budget respectively). For the Lycée Technique, scholarships total only 33.7% of the operating budget.

Table 65 Operating Budget for ENA 1976-1980

(in Millions of UM)

	1976 %	1977 %	1978 %	1979 %	1980+ %
Salaries	7.2(21.1)	9.8(22.1)	6.3(14.9)	7.1(16.3)	7.4(18.8)
Operations	3.7(10.8)	9.6(21.7)	5.5(13.0)	6.5(14.9)	6.5(16.5)
Scholarships	11.5(33.6)	16.1(36.3)	16.7(39.6)	13.7(31.3)	12.5(31.7)
Salaries of C.S. Students	11.8(34.5)	8.8(19.9)	13.7(32.5)	16.4(37.5)	13.0(33.0)
Total	34.2(100.0)	44.3(100.0)	42.2(100.0)	43.7(100.0)	39.4(100.0)

+ 1980 = projected budget

+ These amounts differ from those in Appendix 16, which were communicated by the Ministry of National Education.

SOURCE: ENA.

The draft budget for 1980 projects a reduction of 4.3 million UM or 9.3% compared to 1979.

Since all but one of the permanent professors are foreigners, the contributions to those professors must be added to the staff budget. We have estimated this amount to be 452,000 UM per teacher for 1980, or the average contribution for locally hired teachers and for technical assistants. The staff budget has thus been increased by 9,040,000 UM.

Table 66 Projected 1980 Operating Budget for ENA (In Millions of UM)

1. Salaries	7.4
2. Other Personnel Expenditures	9.0
3. Total 1 + 2	16.4
4. Operations	6.5
5. Total 3 + 4	22.9
6. Scholarships	12.9
7. Salaries of C.S. Students	13.0
8. Total 6 + 7	25.5
9. Total 5 + 8	48.4

The cost per student can be calculated from Table 66. For the ENA budget alone, it is 153,307 UM for 1980, including scholarships and student salaries, and 54,087 UM excluding them. The scholarships and student salaries thus represent a cost of 99,221 UM per student!

By adding the contributions to foreign teachers, one obtains a cost of 188,327 UM per student, including scholarships and student salaries, and 89,105 UM per student without scholarships and student salaries.

This is a very high cost for this kind of establishment. Once again, grants to students are the major cause.

This high cost is even more questionable since ENECOFAS operates with a per student cost of 83,465, including scholarships, compared to 153,307 UM for ENA. Without the scholarships, the cost per student is 63,780 UM at ENECOFAS and 54,087 UM at ENA (contributions to foreign teachers not included).

III.4. Pedagogical Education

The Ecole Nationale d'Instituteurs (ENI) is in charge of training teachers for the elementary schools, while the Ecole Normale Supérieure (ENS) is responsible for training secondary education professors and assistant inspectors of elementary education.

Finally, the Institut Pédagogique Nationale (IPN) is in charge of research, experimentation, educational supervision and refresher courses for elementary and secondary education.

These three establishments are under the Ministry of Elementary and Secondary Education, but IPN has an autonomous budget.

III.4.1. The Ecole Normale des Instituteurs (ENI)

III.4.1.1. Study Program

The national school of education offers two teaching cycles. The first, a 3-year cycle, should correspond to the first cycle of secondary education and gives access to the second, 2-year cycle at the ENI. One feature of ENI is to provide access to the different levels in the two cycles.

In this way, 16-20 year-old candidates are admitted to the first year of the first cycle by passing a competitive examination which corresponds to the end of elementary education.

Direct admission into the second year is accomplished by passing an examination in the first year of secondary education.

For direct admission into the third year, a competitive examination is given in the second year of secondary education. Candidates are admitted until the age of 26.

For entry into the fourth year of ENI (first year of the second cycle), the admissions examination is administered in the third year of secondary education.

Finally, for the fifth year, Baccalaureat holders are admitted directly, while an admissions exam is given for candidates holding Brevets for the first cycle of secondary education, for candidates in the incomplete second cycle, and for graduates from vocational education (BEFA and BEAPC).

ENA has thus created an admissions system which recovers a good portion of those students who have dropped out of the study programs of other types of education, which is not necessarily an advantage. There are three options for education at ENI: Arabic, French and Bilingual.

After the 5th year, the students receive the Diplôme de Fin d'Etudes Normales (DEFN - End of Educational Studies Diploma), after which they are hired in the public education system as student teachers. This training period lasts one year and ends in an examination. Successful students obtain

the Certificat d'Aptitude Pédagogique (CAP - Teaching Skills Certificate), and are named full teachers. Students who do not pass the DFEN become assistant teachers.

ENI has a co-educational, non-resident system. Students receive study scholarships and allowance during the training session (index 560). This new system is the result of the 1976 reform, which endeavored to facilitate recruitment by shortening the training period by one year and opening admissions at several levels. Since its creation in 1964 until the reform, ENI has trained 400 new teachers.

Until 1975-76, ENA also accepted trainees, i.e., teachers taking refresher courses. Since ENA was opened, it has retrained 736 teachers in elementary education.

All of the subjects offered in the elementary education program are taught at the ENI. Consequently, there is a complete lack of concern for creating basic ruralized education in the training program for the teachers who should, however, be the supervisors of rural development.

It is our opinion that part of the on-the-job training could be set aside for integrating the future teachers into the economic and social development program of the village (or urban) society to which he will be assigned.

III.4.1.2. Student Enrolment

For 1978-79, there were 455 students, compared to 437 for 1977-78 and 297 for 1976-77.

Table 67 Student Enrolment at ENI 1976-77 to 1978-79

	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.	Total
1976-77	-	40	41	182	34	297
1977-78	24	30	43	173	176	437
1978-79	36	19	29	207	164	455

SOURCE: MEFS

We have observed that student enrolment is very low in the first cycle, but rises considerably in the 4th year (1st year of the second cycle). Must one deduce from this that the weak students in the secondary education system desert it after the first cycle in order to enter the second cycle at ENI?

One must also ask if the first cycle of ENI should stop recruiting students after the elementary cycle (therefore in the 1st year). Right now, the first cycle accounts for barely 18% of the enrolment.

Among the students enrolled in 1978-79, there were 40 women representing 8.8% of the total, a ridiculous amount for the kind of education which should be especially suitable for women. The absence of a boarding school at ENI could discourage feminine participation.

For now, it is not possible to calculate the internal efficiency of ENI, especially since recruitment is executed directly at all levels.

It would be advisable to analyse the individual files of the students to the effectiveness of this establishment. Still, it is highly probable that there are very few drop-outs.

In the absence of exact information, we estimate the enrolment capacity to be 450 students and the training capacity to be from 160 to 170 teachers per year. Again, we stress that most of the students are trained in the Arabic section (approximately 75%).

III.4.1.3. ENI Graduates

In 1979, 162 students received the DFEN compared to 166 in 1977-78 and only 34 for 1976-77.

Here is solid proof that the ENI is really striving to satisfy the demand for elementary education teachers. However, with a rapid growth rate in student numbers in this system, there is still a considerable shortage to be corrected. (see p.45 of the report).

Table 68 ENI Graduates (DFEN) 1976-77 to 1978-79

Year	French Option	Arabic Option	Bilingual Option	Total
1976-77	-	34	-	34
1977-78	17	135	14	166
1978-79	21	141	-	162
Total	38	310	14	362

SOURCE: Direction des Etudes ENI.

According to this table, 162 students out of 164 in the 5th year obtained the DFEN. Even more surprising, for the past three years, all of those students who have taken the DFEN examination have received their diplomas.

Of equal note is the fact that only 14 graduates out of 362 were in the bilingual department, while 310 or 85.6% of the graduates in the past three years were in the Arabic-speaking department.

III.4.1.4. Teaching Staff at ENI

The teaching staff at ENI for 1978-79 was composed of 5 nationals and 28 foreign technical assistants, or a total of 33 teachers. This includes 7 females teachers, all expatriates.

The student-teacher ratio is 13.8, which seems quite low. This figure must be due to the small number of students enrolled in the first three years of study (first cycle).

It is worth pointing out that among the subjects taught, there is not one which could prepare the future teacher for the social and economic environment in which he will have to exercise his profession. Reform in this direction could clear the way for rendering elementary education more functional.

III.5.1.5. Financing and Budget for ENI

Out of 215.1 million UM to be allocated to the operation of pedagogical education in 1980, ENI has obtained 81.1 million UM, or 37.7%. (see Appendix 16).

Table 69. Teaching Staff by Status, Sex and Subject 1978-79

Subjects Taught Disciplines	Nationals		Foreigners[111/]		Nationals + Foreigners		Total Overall
	Men	Women	Men	Women	Men	Women	Men + Women
Educational-Psycology	1	-	5	-	6	-	6
Arabic, Coran, and Hadith	4	-	4	-	8	-	8
French	-	-	1	3	1	3	4
Mathematics	-	-	2	1	2	1	3
Natural Science	-	-	2	1	2	1	3
Technology	-	-	2	-	2	-	2
Physical Science	-	-	1	1	1	1	2
History and Geography	-	-	2	1	2	1	3
Art, Music, Manual Labor	-	-	1	-	1	-	1
Physical Education	-	-	1	-	1	-	1
Total Overall	5	-	21	7	26	7	33

SOURCE: Direction de la Planification Scolaire (MEFS)

111/ The foreign teaching staff at ENI is composed entirely of teaching assistants.

This represents a considerable increase for the ENI budget compared to 1979 (59.2 million UM) and 1978 (68.4 million UM). Nonetheless, in relation to the global financial contributions for pedagogical education, ENI now receives only 37.7% of this budget compared to 54.2% in 1979 and 58.0% in 1978. It seems evident that the financial contributions are now being concentrated more on training for secondary level teachers (ENS).

In addition, in 1980, 31.1 million UM out of 81.1 million UM is projected for the ENI in Rosso, which is not yet operating. In the following table, the budgetary estimate for the Rosso ENI was not included.

Table V Operating Budget for ENI 1979 and 1980 - In Millions of UM

	1979	1980
Salaries	11.0	11.7
Operations	1.0	8.1
Scholarships	39.2	37.5
Total	51.2	50.0

SOURCE: State Budgets.

Scholarships occupy over 75% of the operating costs in the ENI budget, which bears out the general image of an educational system in which the students receive excessive aid from the State and in which the scholarship system is far from selective.

The cost per student on the operating budget of ENI totalled 112,427 UM

for 1979, including scholarships, and 26,374 UM excluding scholarships. The cost of scholarships per student reaches 80,153 UM annually.

Contributions to technical assistance teachers must also be added to the cost per student on the ENI budget. The sum of this contribution for 1979 can be estimated as 419,430 UM x 28 = 11,744 UM. Therefore, total expenditures for operation are 62.9 million UM. The cost per student, including contributions to technical assistants and scholarships thus tops 138,242 UM and 52,088 UM without the scholarships.

Training at ENI is therefore expensive for an education which should be oriented towards Mauritanians in general and towards women headed for elementary teaching in particular. In reality, the ENI is quite generous in aiding male students who - once they receive their diplomas - are often impatient to cash in their diplomas in areas other than elementary education.

Furthermore, recruitment at all levels barely permits a selection of good students, and the first cycle of the ENI is largely underutilized.

Finally, the content of the program responds very little to a concern for creating an education with a functional base satisfying the needs of the urban and rural populations.

III.4.2. The Ecole Normale Supérieure (ENS)

III.4.2.1. Study Program

The Ecole Normale Supérieure is in charge of training professors for general secondary education (first and second cycles). Today, the establishment ensures training for CEG professors, lycée professors (since

1976-77) and assistant inspectors of elementary education.

Each of these training sections is offered with an Arabic-speaking and a French-speaking option.

Holders of the Baccalaureat are admitted upon presentation of their diploma. Candidates with the ENS Certificat d'Aptitude au Professorat du Premier Cycle (CAPPC)[1/] are admitted to the second cycle upon the recommendation of the ENS professors' council. Level 3 professors (those with 6 years of seniority) are recruited for training as assistant inspectors after passing a competitive admissions exam.

Studies last two years for each type of training. The first cycle of the ENS is awarded by a Certificat d'Aptitude au Professorat du Premier Cycle (CAPPC), the second cycle by the Certificat d'Aptitude au Professorat de l'Enseignement Secondaire (CAPES)[1/], and training for assistant professors leads to the Certificat d'Aptitude aux Fonctions d'Inspecteur-Adjoint (CAFIA)[1/].

The following sections are offered at ENS:

1/ CAPPC = Certificate for Teaching Skills in the First Cycle.
CAPES = Certificate for Teaching Skills in Secondary Education.
CAFIA = Certificate for Assistant Inspector Skills.

Table 71

Subjects	Option A = Arabic	F = French
History, Islamic Culture	A	
Modern Arts	A	F
Mathematics - Physics	A	F
Physics - Chemistry		F
Natural Science	A	F
Humanities		F
Arabic, Islamic Culture	A	
History - Geography	A	F
French - English		
English		
Assistant Inspectors	A	F
Educational Planners+		F

+ Section organized 1975-76 (one class)

SOURCE: Direction des Etudes de l'ENS.

The World Bank is also financing a training center project for CEG professors.

It appears that admissions requirements for this training would be modified, since both instructors as well as persons with the end-of-studies certificate would be admitted by examination. The length of the training program would also be two years.

However, we do not believe that diluting the teaching corps for elementary education by recruiting teachers for ENS and therefore for secondary education is necessarily a good step.

The number of sections would be reduced if combined sections were created. There should be a total of 7 bivalent sections; 4 in Arabic and 3 in French. The center will then have an enrolment capacity of 250 places, which will allow 140 students to be recruited for the first year.

Boarding will also be provided for 250 persons, including 50 places for women.112/

The ENS has resident and non-resident students and provides co-educational education.

The students receive study scholarships.

The student civil servants, that is, those students who were serving in the Administration before entering the ENS, maintain their salaries, which are higher than the scholarships; otherwise they receive the same amount as for a scholarship.

III.4.2.2. Student Enrolment at the ENS

Recruitment at ENA, which was rather low until 1977-78, suddenly jumped in 1978-79, most likely to satisfy the major increase in the number of first year students in secondary school for 1979-80.

112/ MEFS: Transcript of the study team for the Centre de Formation des Professeurs de CEG project, February 1980.

Table 72: ENS Student Enrolment from 1970-71 to 1978-79

1970-71	1971-72	1972-73	1973-74	1974-75
51	81	81	80	84
1975-76	1976-77	1977-78	1978-79	
81	112	111	209+	

+ including 15 girls, or 7.2%.

SOURCE: ENS.

Furthermore, this increase in recruitment can also be explained by the the heavy financial burden of locally contracted professors, who are replacing technical assistance teachers more and more.

It is difficult to see how ENS could successfully supply a sufficient number of teachers to educate the increasing numbers of students in secondary education (an average of +15.5% annually between now and 1985), and meanwhile ensure that foreign teachers were replaced 100% by nationals in the first cycle and 50% in the second cycle.[113/]

It would therefore be necessary to train or recruit 856 national teachers, or an average of 144 per year from 1979-80 to 1984-85.[114/]

113/ The 15.5% annual growth rate for student enrolment was estimated by the MEFS. In 1984-85, there should therefore be 29,940 students in secondary education.

114/ See this report, p.

The number of graduates from ENS must not be very high at present. Since the statistics for recent years were not conveyed to us, we have obtained a general idea based on student enrolment and drop-outs in the second and fourth years.

Table 73 Second Year Student Enrolment for 1st and 2nd Cycles at ENS 1978-79.

	2nd Year (1st Cycle)			4th Year (2nd Cycle)		
	1	2	3	1	2	3
	Total	Failures	1-2	Total	Failures	1-2
Arabic	17	9	8			
French	17	2	15			
English				5	-	5
Total	34	11	23	5		5

SOURCE: ENS.

ENS produced 28 graduates for 1978-79 (assuming that there were no forced or voluntary drop-outs during the year).

From 1972 to 1977, ENS has issued 147 CAPPC's (professors for the first cycle of secondary school), 30 CAFIA's (assistant inspectors) and 8 educational planners.

Table 74 ENS Graduates - 1972-1977

	Assistant Inspectors	GEC Professors	Planners	Total
1972	16	30	-	46
1973	6	23	-	29
1974	-	31	-	31
1975	6	16	-	22
1976	-	37	-	37
1977	2	10	8	20
Total	30	147	8	185

SOURCE: ENS.

The internal efficiency of ENS can be evaluated by estimating the number of failures.

Table 75 Drop-out Levels at ENS - 1978

1st Year	22.32%
2nd Year	32.35
3rd Year	8.62
4th Year	-

SOURCE: ENS and Calculations by the author.

To this failure level must be added the drop-out level, which can be estimated as 14.0% for the entire first cycle. Therefore, less than 50 students of those 100 who first began terminated the cycle (with no failures).

Although a more precise analysis of the efficiency of the ENS would have been suitable, this was not possible because of a lack of coherent statics. At any rate, ENI efficiency seems to be problematic enough to make a deeper analysis in the future.

III.4.2.3. Teaching Staff at ENS

ENS, just as for the majority of the educational systems, is obliged to depend on a foreign labor force in order to secure training for its students.

Table 76 Teaching Staff at ENS. 1978-79

Subject	Tech. Assistance			Local Contract			Total		
	H	F	T	H	F	T	H	F	T
History Geography	2	-	2	-	-	-	2	-	2
Natural Science	2	-	2	2	-	2	4	-	4
Mathematics	2	1	3	1	-	1	3	1	4
Physical Science	-	-	-	1	-	1	1	-	1
English	2	-	2	-	-	-	2	-	2
Education	3	-	3	-	-	-	3	-	3
Philosophy	-	1	1	1	-	1	1	1	-
French	3	1	4	-	-	-	3	1	
Religion	1	-	1	-	-	-	1	-	1
Arabic	1	-	1	2	-	2	3	-	3
Total	16	3	19	7	-	7	23	3	26

Note: There is one Mauritanian professor.

SOURCE: ENS.

Technical assistance furnishes 70.37% of the teachers, while 7 are under local contract. There is one Mauritanian professor. However, ENS also employs 27 free lance professors, two-thirds of whom are Mauritanians. The latter phanomena calls for a few comments. In the first place, the number of free lance professors is very high in relation to full-time professors; for each full-time professor there is one free lance professor. This ratio was much lower in the past.

Table 77 Ratio of Part-time Teaching Staff to Full-time Teaching Staff

School Year	Part-time Teachers / Full-time Teachers
1972-73	0.36
1973-74	0.60
1974-75	0.33
1977-78	0.52
1978-79	1.00

SOURCE: Calculations by the author.

Just as for ENA, a high number of free lance professors can jeopardize training for the students.

A high number of Mauritanisns among the free-lance professors seems to imply that one can attract part-time but not full-time Mauritanian teachers. In fact, for 1978-79 there were 4 full-time Mauritanian teachers

and only one remaining in 1979-80, who was teaching religion. The defection of the teachers once again reflects how little the teaching profession attracts the country's qualified labor force. This is even more regrettable since the substitition of foreign teachers by nationals must be considered technically possible.

The necessity of improving working conditions for teachers has once again been confirmed.

III.4.2.4. Financing and Budget for ENS

ENS operating budget for 1980 surpassed 100.0 million UM compared to 33.0 million UM for 1979 and 33.0 million for 1978 (see Appendix 16). Compared to the total budget set aside for education, ENS has obtained 47.0% of the operating funds against 32.6% in 1979 and 28.0% in 1978. This favorable development in the budget for ENS must be considered as against the backdrop of an alarming shortage in teachers for secondary education.

Excessively rapid growth in student numbers in general secondary education risks bringing on expenditures with a very uncertain yield for higher national pedagogical instruction. In fact, if it is possible to increase the recruitment level at ENS because of greater financial means and especially because of a very generous scholarship policy, the quality of the finished product, i.e., of the teachers trained may be compromised.

Again, it is the scholarships which weigh so heavily on the ENS operating budget.

Table 78 ENS Operating Budget - 1979 to 1980

(In Millions of UM)

Expenditures	1979		1980	
	Millions of UM	%	Millions of UM	%
Personnel Expenditures	7.6	14.7	19.0	18.4
Operating Expenditures	6.2	12.0	9.7	9.4
Salaries of C.S. Students	22.9	44.2	37.1	35.8
Scholarships of C.S. Students	15.1	29.1	37.7	36.4
Total	51.8	100.0	103.5	100.0

Note: These figures differ from those in Appendix 16 because of amounts brought forward: 18.8 million UM for 1979 and 2.5 million UM for 1980.

SOURCE: ENS.

For 1980, a minimum pf 74.8 million UM or 72.2% of the budget is projected for financial assistance to students. This represents an average of 357,895 UM in financial aid per student. In 1979, it was 342,342 UM per student.

In 1980, the salary expenditures represent 19 million UM or 18.4% of the ENS budget, compared to 14.7% in 1979. Finally, as is the case for many educational systems in Mauritania, operating costs other than

for staff salaries and scholarships represent barely 9.4% of the ENS budget for 1980 against 12.0% for 1979.

The sum of contributions to foreign teachers must also be added to the ENS budget. It is calcualted as follows:

technical assistance teachers: 419,430 UM x 19 = 7,969,170 UM
teachers under local contract: 440,402 UM x 7 = 3,082,814 UM

Total operating costs for ENS for 1979 are therefore:

Table 79 Total Operating Expenditures for ENS 1979

	Amount
1. Salaries	7.6
2. Contributions to Foreign Teachers	11.1
3. Total (1+2)	18.7
4. Operations	6.2
5. Scholarships - student salaries	38.0
6. Total (3+4+5)	62.9

The Operating cost per student in the ENS budget alone for 1979 totals 247,847 UM including scholarships and salaries. Excluding scholarships and salaries for the students, the cost per student is 66,029 UM.

If the total ENS operating budget is considered in addition to contributions to foreign teachers, the per student cost is 300,957 UM including

student scholarships and salaries, and 119,139 UM excluding scholarships and salaries. From this, the conclusion must be drawn that education at ENS is extremely costly because of overly generous financial assistance to the students, on the one hand, and a high number of foreign teachers on the other hand.

III.4.3. The Centre National de Formation des Cadres de la Jeunesse et des Sports (National Training Center for Supervisors in Youth and Sports)

III.4.3.1. Study Program

This training center, which is under the Ministry of Youth and Sports, Crafts and Tourism, was created in 1978-79. It assures the training of teachers and supervisors for youth centers in the areas of physical and sports education and youth.

Training is provided at two levels: the middle level, which trains youth commissioners and physical education and sports teachers in two years, and the superior level, which also trains assistant inspectors and assistant teachers in physical and sports education in two years.

At the middle level, candidates are recruited through direct examinations if they have a BEPC or a certificate for the incomplete second cycle. EPS monitors and youth assistants who have proven that they have completed 5 years of good service are admitted through a professional examination. Studies lead to the Diplôme de Maître d'EPS and the Diplôme de Commissaire à la Jeunesse (EPS Teaching Diploma and EPS Youth Commissioner's Diploma).

At the superior level, candidates who have a Baccalaureat and pass a direct competitive examination are admitted, as well as those holding a diploma for assistant inspector of Youth and Sports who pass a competitive professional examination and finally, candidates holding an EPS diploma for assistant professor.

Graduates find employment in the collèges and lycées of the Youth Centers and the Civil Service.

This is a full-time program with a schedule of 35 hours a week, chiefly spent on physical education and application of sports. To date, the superior level has not yet been organized.

III.4.3.2. Student Enrolment

For 1979-80, the school has 52 students, all male.

Table 80 Student Enrolment at the Centre National des Cadres de la Jeunesse et des Sports - 1979-80

	AVERAGE LEVEL						
	Commissioners			Supervisors			
	1Y	2Y	Total	1Y	2Y	Total	Overall Total
Students	10	10	20	15	17	32	52
Resident Students	4	2	6	10	12	22	28

SOURCE CNFCJS

Over half of the students are residents

The school's enrolment capacity is approximately 75 students per year.

Over half the students are residents. The school's enrolment capacity is approximately 75 students.

III.4.3.3. The Teaching Staff

The center has 10 teachers, 6 of whom are Mauritanian and 4 Moroccan. It plans to recruit one permanent teacher and 2 extra free lance professors who will work when the school is operating at full capacity.

III.4.3.4. Financing and Budget

The school has a rather high budget: 11.7 million UM for operating costs, for which the State is responsible.

Table 81 Budget for the Centre National de Formation des Cadres de la Jeunesse et des Sports 1980 Projected Budget

(In Millions of UM)

		%
Salaries	4.8	41.0
Other Operations	3.6	30.8
Scholarships	3.3	28.2
Total	11.7	100.0

SOURCE: CNFCJS

For 1979-80, the per student cost is 225,000 UM, scholarships included. Without the scholarships, it would be 161,538 UM.

The significance of this new establishment is hard to pin down from the viewpoint of economic and social development. Nonetheless, one must not overlook the fact that its function of training youth center supervisors could also include training graduates in duties other than sports and physical education. Neither is it inconceivable that this sports training could serve as a catalyst for other activities more directly useful for the economic and social life of the communities in which the youth centers are located.

Another interesting aspect of the center is that it provided proof that it is not an impossible undertaking to have a majority of national teachers in post-elementary education.

III.4.4. The Institut Pédagogique National (IPN)

III.4.4.1. Objectives, Structure, Operation

The educational reform of 1973 made it necessary to create appropriate structures in order to make it operational, so a national institution was established. Its goal was to apply the reform and develop the goals set up the GIRM within the educational system, meanwhile assuring the maintenance if not the improvement of the quality of education (internal and external efficiency). In this way, IPN came into being through a decree issued August 26, 1974 to attack the problems posed by the reform, beginning in 1975.

Therefore IPN, which operates under the Ministry of Elementary and Secondary Education, is not a training system in the strictest sense. Although one of its objectives is to provide refresher courses for elementary and secondary school teachers, its activities are mainly focused on research, educational documentation and the extension of teaching methods.

However, it is difficult to accept that a state educational institution should serve the objectives of just one reform. Obviously, anything connected with experimentation in formal and nonformal education should fall under the jurisdiction of IPN.

Moreover, in the present situation, IPN's field of action is limited to elementary and secondary education, which in the context of an educational system serving devepment, considerably reduces its impact on all educational and training activities. Right now, the IPN is functioning in isolation in relation to the economic and social environment in which human resources could play a fundamental role provided they have been trained for that role. Starting with the content of that role, IPN must identify and articulate the goals for all levels of education. It must also try to smoothly integrate formal education and informal training. If educational plans should be based on the development goals stipulated in the national plan for economic and social development, IPN's contribution, by choosing adaptive and pedagogical technology and activating the training system, constitutes an element of prime importance. This is true insofar as it contributes to educational plans with input factors (students, teachers, buildings, etc...) and output factors (graduates) as well as techniques of production, i.e., the conception and preparation of programs, of teaching means, controlling the development of the teaching process and providing refresher courses for teachers.

We believe that IPN's participation in all activities concerning training of human resources is indispensable. For that reason, IPN should be a member of the National Programming and Planning Commission (to be created). In this way, the operation of the commission and attuning the goals of development, employment and education would be reinforced.

Though the 1973 reform guidelines for the creation of IPN have been followed for the most part, hereafter it should prepare to set up all educational reforms. To accomplish that task, IPN must be supplied with the necessary human, material and financial means.

For 1979, there are 57 persons at IPN: more than half of them lower-ranking staff members. Clearly, a larger personnel is required to carry out the tasks previously mentioned. Among the 19 supervisory staff members, 14 persons have the standing of instructor and are employed as pedagogical advisers. The integration of IPN into the entire educational system will require other qualifications.

In 1977, the IPN operating budget equalled 19.0 million UM, 16.7 UM in 1978, and 16.3 million UM in 1979. For 1980, it is estimated at 33.0 million UM.

Until 1980, financing for IPN was certainly insufficient for implementing all the tasks envisioned during its creation. It is equally certain that part of the funds recovered by making less generous contributions to scholarships should be channelled into IPN before anything else, so that it can become a major support for education and training and consequently for development.

III.5. Higher Education

III.5.1. National System of Higher Education

Mauritania has two establishments providing higher education. These are: 1) cycle A of the Ecole Nationale d'Administration (ENA) and; 2) the first and second cycles of the Ecole Normale Supérieure (ENS).

Since these two establishments were already analyzed in detail - the first in the chapter on vocational and tedhnical education (III.3.11) and the second in the chapter on pedagogical education (III.4.2.), a brief reminder of a few important points should suffice.

For 1978-79, 294 students were enrolled in the ENA A cycles (long and short) and in the two ENS cycles.

As shown in the following table, this student population in the national system of national system of higher education is the result of a decrease in student numbers in the ENA A cycles and a strong rise in student enrolment at ENS.

Table 82 Development of Student Enrolment in National System of Education
1972-73 and 1975-76 to 1978-79

Nat. Higher Ed.	1972-73	1975-76	1976-77	1977-78	1978-79
ENA	10 1/	137 3/	109 3/	107 4/	85 4/ +
ENS	72 2/	81 2/	112 2/	111 2/	209 2/
TOTAL	82	218	221	218	294
% of Higher Ed. (Nat. and Abroad)	21.3	22.5	23.7	20.0	20.0

\+ 1979-1980

SOURCES: 1/ Rapport Ressources Humaines Education.
2/ ENS.
3/ MEFS.
4/ ENA.

Given that ENA trains persons at the request of the public administration, this decrease in enrolment in the A cycles implies that the Civil Service has reached the saturation point for this sort of labor force. Thus, it appears that the time has come to modify the functions of ENA in the A cycles. It might be a good idea to transform ENA into an institute of higher learning for applied economics, planning and management, given that this kind of institute can adapt as well as possible to the demands of the private and public services utilizing it, and that the latter give preferential treatment to this institute for training.

The rapid expansion of ENS echoes the (all too) rapid expansion of secondary education. Since this expansion can only be accommodated in the present situation by a very large contingent of foreign teachers the concern for creating "import substitution" seems to be justified. However, it must be remembered that this substitution process operates slowly, given the growth of student numbers, which risks creating a greater shortage in national teachers (especially if their disenchantment with education persists), and also given the training capacity of ENS, for which any precipitous increase risks inducing improvised reforms, which could compromise the quality of the teachers' training and subsequently (with a snowball effect) that of training for students in elementary school. The resulting shortage of qualified teachers should inspire caution.

There should be no serious concern about the slight drop in recent years in the percentage of students in higher education being trained in Mauritania. (See Table 82).

The development of the national system of higher education will always be expensive, and the possibility of adapting it strictly to the

to the true needs of the country will depend in part on the availability of national human material required to conceive, organize and ensure its formation. It is our opinion that for now, Mauritania must grant top priority to the reform of primary education, which should become a system of foundation and application permitting self-sufficiency and development in general. It should also permit the development of a technical and vocational system which will allow the training of the qualified workers and technicians needed for assuring the feasibility of projects planned.

Encouraging the development of a national system of higher education reflects the inevitable sequence of primary education - secondary education - higher education. Any educational structure based on this model can no more serve a strategy satisfying the basic needs as it can contribute to a more egalitarian society.

Of course, recourse to higher education must be selective when choosing the candidates, subjects and country.

In that same vein, the creation of an Institut Universitaire Polytechnique and an Institut Agronomique et Zootechnique[1/] does not seem to be an urgent matter. In the first place, it would be necessary to study the extent to which the Lycée Technique in Nouakchott can train highly qualified technicians while utilizing the existing infrastructure;

1/ Polytechnical University Institute and an Institute of Agronomy and Zootechnology.

in the meantime, the ENFVA in Kaédi could offer an A cycle when necesaary, again utilizing that establishment's infrastructure.115/

In our opinion, the creation of higher training levels based on existing establishments should permit scale economies to be rationally exploited.

III.5.2. Higher Education Abroad

Just like the majority of Third World countries, Mauritania sends a certain number of its graduates in higher levels of training (and even in middle and secondary training) to foreign institutions. The basic problem posed by this type of training is the financial question, which makes it difficult to make plans for higher education abroad. Evidently, some countries and organizations offer study scholarships which do not always cover subjects vital to development or for which there are enough candidates with the required qualifications.

Furthermore, sending students into approximately 30 countries can only result in a wide range of mixed training and contradicting attitudes.

However, the problem of higher education abroad is not inherent of Mauritania alone. All of the Third World countries are largely dependent on the university systems of the industrialized countries, whether they are socialist or capitalist, to such a degree that the lack of integration of such education in the socio-economic and political context of the scholar's mother country will continue to be a problem until the Third World countries have established higher education adapted to their needs.

115/ It is important to note that the implementation study for a future Institut Universitaire Polytechnique has cost 18.0 million UM to date.

Cooperation between the Third World countries in order to accomplish this project is essential so that they can draw more from the scale economies which a university education can obtain (especially in the area of applied science and medicine).

In light of this, for 1978-79, there were 1,179 Mauritanian students enrolled in higher education establishments in foreign countries; this represents 80.0% of all students in higher education (national + abroad).

Table 83 Development of Student Enrolment in Higher Education Systems Abroad

Development	1972-73	1975-76	1976-78	1977-78	1978-79
Number	303 1/	753 2/	713 2/	874 2/	1.179 2/
Index 1972-73 = 100	100	249	235	288	389

SOURCE: 1/ Rapport Ressources Humaines Education
2/ MEFS

The number of students enrolled in higher education has nearly quadrupled in five years. Obviously, this major growth is linked to the increase in the number of graduates from secondary education. In fact, this number doubled between 1974 and 1979 (from 149 to 302). With 1,179 students in higher education abroad for 1978-79 and a total production of 884 graduates from 1974-78, a few problems are posed in regards to development of student enrolment in the higher education systems abroad, especially if one considers that 20.0% of the students in the higher education system are trained in Mauritania.

When analyzing the situation of higher education abroad by year of study and subject, one observes that for 1977-78, 32.5% of the students are in the first two years of school.

The humanities, social sciences and administrative sciences attract the students the most: 55.8% of the students are enrolled in these areas compared to 11.0% in the medical sciences (including veterinary medicine), 4.7% in agronomy, 17.2% in the applied sciences and 3.9% in the exact sciences. (see Table 84)

This large number of first-year students is partially due to the difficulty they have in advancing. If such is the case, a better selection of candidates entering higher education systems abroad should solve this immediately. If, on the other hand, their slow progress is due to insufficient preparation, a short-term remedy will be difficult to find.

This high number of students enrolled in the humanities is a well-known phenomenon in the Third World countries. The attraction of a well-paid career strewn with possibilities of quick advancement into highly responsible and powerful posts is certainly not unfamiliar in this situation. Moreover, it must be conceded that this kind of training costs less to the countries granting the scholarships: 1 year-place in a department of applied science costs much less than a place in the department of law or sociology.

Distribution of the students by host country reveals that France and Morocco receive nearly 47.0% of the students, which already gives an idea of the orientation of higher education. If we add to this the U.S.S.R. and Saudi Arabia, the percentage shows that two-thirds of the students are in four countries.

It is interesting to analyze the student distribution by major area and by country. As shown in Table 84 Saudi Arabia, Tunisia, Egypt and

Morocco are hosts for students chiefly in the humanities and social sciences. Senegal and China concentrate their support on Mauritanian students in the medical sciences. Germany's support is concentrated on agricultural training, and Canada gives special attention to training in the field of applied sciences.

Table 84 Higher Education Abroad - Distribution of Mauritanian Students by Host Country and By Major Area - 1977-78 (Percentages)

1. Morocco	50.4	7.9	5.5	12.2	3.2	17.3	3.5	100.0	254
2. France	43.7	3.3	0.0	13.3	9.9	27.2	2.7	100.0	151
3. U.S.S.R.	8.2	12.3	6.9	31.5	0.0	1.4	39.7	100.0	73
4. Saudi Arabia	82.6	5.8	5.8	1.5	4.4	0.0.	0.0	100.0	69
5. Senegal	32.8	56.3	0.0	0.0	4.7	6.3	0.0	100.0	64
6. Canada	11.4	4.6	0.0	75.0	0.0	9.09	0.0	100.0	44
7. Rumania	9.4	12.5	0.0	34.4	6.3	0.0	37.5	100.0	32
8. Egypt	55.2	0.0	10.3	0.0	3.5	24.1	6.9	100.0	29
9. Tunisia	65.2	13.0	0.0	0.0	4.4	13.0	4.1	100.0	23
10. Koweit	44.4	0.0	0.0	5.6	0.0	38.9	11.1	100.0	18
11. Germany (FR)	0.0	0.0	47.1	29.1	0.0	0.0	23.5	100.0	17
12. Spain	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	14
13. China	0.0	54.6	27.3	9.1	0.0	0.0	9.1	100.0	11
14. Other Count.	44.0	9.3	5.3	32.0	1.3	2.7	5.3	100.0	75
Total	42.6	11.0	4.7	17.2	3.9	12.9	7.8	100.0	874
Total in Absolute Figures	372	96	41	150	34	113	68		874

The differential selection index, which permits an evaluation of each host country's training effort for each group of subjects, can be calculated from this table. It has been presented in Appendix 41. From this index, it is confirmed that students in the administrative sciences are trained mainly in France, Morocco, Koweit and Egypt.

Students in the applied sciences are trained mainly in France, Rumania, and Senegal. Pilots are chiefly trained in the U.S.S.R., oceanographers in Rumania, and data processors in Germany. Finally, France is host for the largest number of students in the applied sciences.

It must be stressed that very few students are trained in agronomy and in the applied sciences in the Third World establishments.

While the management of higher education abroad should cause many problems for the Mauritanian authorities and control of this education escapes them completely, nonetheless, one must hope that the Ministry of Public Office and Training for Supervisory Personnel will make sure that the student's progress is constantly studied and analyzed and that an orientation program will be established.

Plans should also be made to tie the awarding of scholarships for learning abroad to an employment contract in community-related work (for example: education, health, agricultural services, etc.) . The majority of students trained in the humanities and social sciences should gradually relieve foreign teachers in secondary education, pedagogical education and at ENA.

Neither must it be forgotten that despite the existence of scholarships being offered by the host countries or by the organizations, the Mauritanian contribution to higher education abroad is very high. Since 1975, the budget for this education has nearly doubled.

Table 85 Operating Budget for Higher Education (In Millions of UM)

	1975	1976	1977	1978	1979	1980
	105.4	138.4	152.8	110.0	141.8	208.2
Index 1975=100	100	131	145	105	135	197.5

SOURCE: Appendix 16.

This budget now represents 13.0% of the Educational budget. In relation to the budget allocated to technical and vocational education, it is 146% higher, and approximately equal to the budget for pedagogical education.

The column for scholarships and airplane transportation takes up 76.5% and 15.9% of the budget, respectively, or a total of 92.3%. The average cost per student for 1978-79 reached 120,271 UM. The budget load for a student in higher education abroad is apparently much lower than that of a student at ENS, for example. While it is true that the host country bears an important part of the training costs, a cost of 300,000 UM per student at ENS is still exaggerated.

Even though the Mauritanian Government disburses 120,271 UM per year for a student abroad, it also disburses 300,000 UM (including scholarships and salaries for civil service students) for a student attending ENS, or 2.5 times more.

This makes training abroad, with all of its inconveniences, appear to be a desirable solution!

CHAPTER IV: GENERAL CONCLUDING REMARKS

IV.1. The Persistence of an Educational System Poorly Adapted to the Realities of the Country

For several years now, evaluation teams of the CIRM educational system have been emphasizing that the Mauritanian educational sector is at an impasse: the system is extremely costly, has little functional content, favors the education of the urban population to the detriment of the masses, suffers from a lack of adequately qualified national teachers, is poorly adapted to the labor market in the modern sector, has poor internal efficiency (drop-outs) and poor external efficiency (employment) and no training opportunities for adults.

Today more than ever, this impasse is bearing down with all its weight on the development of Mauritania. Compared to 1978 and 1979, the budget is declining slightly due to the economic situation of the country, and this is affecting the education budget, despite rapid growth in student population at nearly all levels.

Moreover, implementation of the development goals retained in the Third National Plan, whose key features are to satisfy basic needs and to create jobs, risks being compromised by an educational system which in its present structure is incapable of providing the required human resources for this development.

In fact, neither the progressive elimination of illiteracy, the training of youths for jobs which can be incorporated into rural development, nor employing young adults in the urban areas, can be resolved in a training system which, despite the objectives of the Third National Plan, continues to develop according to an internal logic with financial and human means chiefly reserved for general education, which must serve as preparation for a general secondary education whose first objective is to prepare for higher education.

If it is also acknowledged that the majority of students enrolled in primary education will never gain access to either secondary education or vocational education, it is easy to understand that training for the unemployment of at least 60% of the students coming out of primary school is an enormous waste of budgetary and human capital. Although the two reforms of elementary education (1967 and 1973) aimed at adaptating that system to the cultural realities of Mauritania, they should be followed by a new reform adapting this educational system to its economic and social reality.

The underdeveloped state of the vocational education system in areas of training which are vital to improving life for the majority of Mauritanians - that is, the rural populations - and the relative freedom with which general secondary education is being developed, leads one to think that the goals for economic and social development are not the main objectives of the educational system.

The predominance of a rural population scattered over a vast territory, demographic growth, the rural exodus, urban unemployment and rural underemployment, and the economic situation of the conntry demand the general revision of the educational policy, whose principal component should be the integration of training programs into the development program which - and we repeat - requires granting top priority to rural development in order to guarantee the improvement of the welfare of every Mauritanian, with the knowledge that this comes about by satisfying basic needs and through employment.

It is in this framework that we would like to briefly summarize the problems in each educational system.

IV.2. Bottlenecks in the Different Types of Education

IV.2.1. Elementary Education

As already pointed out, this educational level has no ultimate objectives of its own, in that, by reason of its subject content, it is incapable of preparing a student for an active life, thus making its integration difficult if not impossible.

It will be necessary to redesign the primary education system in its entirety in order to adapt it to the special needs of each environment in which it is called on to make it possible to integrate youth into the economic and social life, for neither the reduction of costs, the improvement of teachers' qualifications, nor build-up of student numbers in the less favored regions will be able to lessen the need for training with a functional base that contributes significantly to the realization of the chosen objectives.

Since this would involve a profound reform of the primary education system, meticulous preparation is mandatory, and experimental projects will have to be designed.

As concerns basic education and literacy programs for adults, much remains to be done. Nevertheless, it is clear that any development operation, however modest it may be, requires a direct link between the planning organism and the population. Therefore, the creation of cooperative-type organizations presupposes minimal instruction of the workers so that they can participate in the organization and management of the operations.

It is unlikely that the few attempts by the adult training centers are meeting this demand, in light of their irregular operation, their programs which are styled after the elementary education programs, teachers who have not been prepared for training adults, and their teaching methods which have also been copied from elementary education.

The endeavor to integrate the Koranic schools into the effort to extend elementary education to a greater number of children must be pursued at all costs. It is deplorable that the project designed to study this possibility has been suspended.

IV.2.2. Secondary Education

With 17,647 students for 1979-80, this educational system is growing at an extremely fast pace, just when financial means are most limited, while this system must operate with the help of a very large and consequently costly contingent of foreign teachers. Despite a most fortunate reform in the scholarship system, it is difficult to see how the secondary edcuation system could admit 29,940 students for 1984-85 as projected by the Ministry of Elementary and Secondary Education, with a selection level of 35%, to be applied to graduates from elementary education. This would necessitate 818 secondary classrooms instead of 430 for 1979-80 and 1,282 teachers against 652 for the same year.

Yet, by its very ultimate goal, secondary education may be a major obstacle to the development of other types of education. This is clear for all higher training, both nationally and abroad. This is less evident although very real for other middle-level training.

Actually, one of the peculiarities of the Mauritanian system of education is that nearly all the training institutions organized by the State recruit students from one of the secondary education classes, so that access to vocational and technical studies depends on first being admitted to secondary school. (This double selection is even more surprising in that it is not applied to the Ecole Normale des Instituteurs, which recruits at all levels beginning with the end of the elementary cycle).

Therefore, students who do not pass the secondary education examination or the one for technical education find themselves with a very limited choice of studies. In fact, they can only apply to the Centre Mamadou Toure, ENI and one section of ENECOFAS with an elementary education certificate. ENA, ENISF, EFVA and CNFCJS are closed to them. This situation appears problematic to us, especially for ENISF, ENFVA and the home economics and social section of ENECOFAS; this involves the training of a labor force which the country greatly requires if the objective of satisfying basic needs through rural development is being taken seriously.

It is neither the Centre Mamadou Touré, the SNIM centers nor the typing section of ENECOFAS which, by working for the modern and industrial sectors, will be able to train the necessary labor force needed in the underprivileged regions of the country.

The selective functions accorded to secondary education can only be justified as long as certain factors of general training missing in primary education and indispen able for vocational training cannot be included in the first year of studies of the vocational training program in question. If primary education is lacking in this respect, the task of correcting that deficiency should not be transferred to secondary education for several reasons.

First, the capacity of the vocational training system is linked to the enrolment capacity of secondary education such that one cannot develop without the other. Second, vocational education only recruits drop-outs from secondary education and consequently risks admitting persons who are poorly motivated or at low levels. Third, those students who are accepted into secondary school and who succeed in entering higher education and in the distant future are assured of high positions in the urban setting will not choose the more difficult life and low social station guaranteed by careers linked to vocational training.

Fourth, it is very likely that the number of students coming from rural areas is underrepresented among those having access to secondary education, so that there is already a majority of "urban" students in secondary education for whom a career leading to the abandonment of city life holds absolutely no interest.116/

Fifth, selection for secondary education is very costly insofar as students drop out after several years of vain attempts to obtain the BEPC or even the Baccalaureat. One can question whether the subjects learned during these years, each costing nearly five times that of one year of elementary education, were all necessary in preparing for vocational training. If such is the case, the justification of a six-year elementary education program is called into question.

Finally, due to its general content, general secondary education is unlikely to prepare youths for vocational training.

As concerns the other ultimate goal of secondary education- preparation for higher education - several questions arise.

On the one hand, this concerns the growth in student numbers in the second cycle of secondary education; in 1978-79, there were 7 times more students in the second cycle than in 1969-70 (3,496 students against 442). On the other hand, the level of students passing the Baccalaureat has stabilized at a very low percentage of approximately 50.0%. This means that 15.7 year-places are required to train one graduate. This represents a very high investment for a 6-year cycle of study, for even with

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116/ The ratio of $\frac{\text{students enrolled in secondary school}}{\text{students enrolled in elementary school}}$ is 6.4% for region 10 compared to 41.2% for Nouakchott.

a reduction in the number of scholarships, the average cost for one graduate (operating costs only) still represents 536,965 UM.

With this low pass rate for the Baccalauréat, the actual production of graduates does not reach 300. This means that the available input for higher education is relatively low and requires considerable investment.

Furthermore, over half of the graduates choose the modern arts series, which considerably reduces the chances of orienting them towards the technical and scientific disciplines of higher education.

The high number of candidates who do not pass the Baccalauréat examination represents a doubtful investment in human capital, given that very few institutions of vocational training are attracted to the incomplete second cycle of secondary education, i.e., up to the last year, but without the Baccalauréat.

Generally speaking, some vocational training institutions recruit from a year of the second cycle which is not the last year of secondary school (ex.: Cycle B of ENFVA, the second cycle of the commercial cycle at ENECOFAS, the State Nurse section of ENISF, cycle B of ENA, the fifth year at ENI and the first cycle at CNFCJS).

Passage into the second cycle of secondary education also fulfills a selection function, since the student is only admitted to the second year of the secondary cycle upon the recommendation of the class council and the head of the establishment. Once admitted to the second cycle, the students remain there, as substantiated by the drop-out level, only to fail in hordes at the Baccalauréat examination.

It is highly likely that the BEPC could be adequate as a condition for gaining access to cycle B vocational training.

Sixth, access to the secondary cycle and consequently to higher education is very limited for girls. In fact, they represent only 1.3% in the second cycle.

Finally, several regions have only one lycee, so entry into the second cycle implies a problem in mobility for the students, especially for the girls. This is another handicap for youth in the rural and impoverished zones, and only encourages the exodus towards the city.

In addition, the teacher situation for secondary education has become very difficult. With a rapidly rising student-teacher ratio, reaching 27.1 for 1979-80 (with great disparities from one establishment to another) and three-fourths of the teaching staff of foreign origin, the secondary education system is the principal user of foreign teachers, a growing number of whom are employed through local contracts (60.0% at present).

Consequently, economies made through the reform of the scholarship system will be quickly absorbed by personnel expenditures, which are becoming heavier and heavier, to such an extent that operating costs other than for staff and scholarships will no longer represent more than a small percentage of the total operating budget. Already for 1979-80, this percentage has dropped to 10.4% of the budget compared to 12.8% for 1978-79, despite the reform of the scholarship system. Thus, on the State budget, secondary education can disburse 3,734 UM per student for school supplies, consumed goods, maintenance and repair, compared to 26,633 UM per student for staff expenditures.

As will be seen further on, pedagogical education (ENS) as it stands now will be unable to make any major contributions allowing the reduction of the foreign teaching corps without incurring the risk of jeopardizing already mediocre teaching in elementary education.

The Mauritanization of secondary education teachers and the rapid expansion of this educational system are two conflicting objectives, in that an urgent choice must be made between 1) the rapid expansion of a costly general educational system whose primary ultimate goal seems to be selection rather than training, and 2) calling a halt to this expansion, thus allowing a gradual Mauritanization of the teaching corps under favorable conditions and with a more reasonable operating cost.

The problem of having an insufficient number of candidates for vocational and technical education will, therefore, have to be resolved in a manner other than through the general secondary education selection process.

IV.2.3. Vocational and Technical Education

The analysis of the technical and vocational education system reveals that there are very few students enrolled in this system compared to those in secondary education for each student in all of the technical and vocational establishments. All of the technical and vocational establishments -except one - are located either in Nouakchott or in Nouadhibou.

Due to this fact alone, nearly all of the students who attend technical and vocational schools and vocational schools and who have left their rural surroundings for that reason are subject to the influence of city life and undoubtedly succomb to its attraction, since they have the means to participate in urban consumption, thanks to their scholarships.

Furthermore, the presence of a relatively large job market for a qualified work force and salaries which are at times (relatively speaking) very high for the modern sector cause problems for returning to the original environment.

Further still, the technical and vocational education system tends to be developed as a function of the modern sector given, on the one hand, that

several training program are provided at the resuest of the services using them,whether the latter be in the mining industry, in banking or in public administration and, on the other hand, that in several training establishments, the students are employed in the modern sector before being put through training (ex.: the SNIM Centers, the CFPP and the SONELEC training center).

In reality, only the Lycée Technique, the Collège Technique, ENECOFAS and ENISF recruit their students from among the unemployed and are not in very direct relationship with the demands of a particular entreprise or even a particular subsector.

As a rule, these are the only establishments which would be able to train a qualified work force, and would therefore be most likely to contribute to the development of all regions in the country. However, because of their location in the capital city, their extremely low enrolment capacity and often a lower training capacity, the significance of this type of education for the execution of the goals of integrated rural development is very limited.

There is no doubt that the training of qualified workers by the Collège Technique constitutes a precious contribution to the country's human capital, but if we are obliged to point out that from 1966-67 to 1979-80, only 397 CAP's were issued, 101 of which were for mechanical construction and 108 for auto repair, it is not difficult to imagine how easily the modern sector will absorb this human capital.

Neither is there any doubt that ENECOFAS, in addition to other private schools in the capital, is contributing to the supply of lower-ranking staff in the administrative areas of the modern sector, but the home economics and social sector as well as of the modern sector, would be the prime beneficiary, yet it has an enrolment capacity of only 15 students per year in the first year.

It is equally certain that ENISF could satisfy the demands of the rural populations by providing basic health care. There is a chance, however, that the national hospital, where more classical medical care is practiced, may absorb most of the trained nursing personnel, again because of ENISF's limited training capacity and its geographical location in relation to areas where a basic health care system could quickly improve the well-being of the population.

Finally, it is obvious that these training centers are not the most expensive, despite a staff overburdened by its enormous dependency on foreign teachers which until now has been unavoidable (see Appendix 42).

The internal efficiency of these training systems is very satisfactory, given the extremely low level of repeats and drop-outs at the Collège Technique.

The function of the Lycée Technique seems to be very poorly defined. To date, it has awarded 43 Technical Baccalaureats. The drop-out level in the first two years of school is too high, reaching nearly 30% for the first year and 14% for the second year.

Also, the level of those passing the Baccalauréat examination is no higher than that for general secondary education. Studies last one year longer than for the general lycée (and two years more for students graduating from the Collège Technique). The average cost per student is 110,898 UM and it costs 1,128,942 UM to train a student for a Technical Baccalauréat, which is much higher than for general secondary education where, beginning in the second cycle, it costs only 228,812 UM to educate a graduate, or one-fifth of the cost for a Technical Baccalaureat graduate.

In our opinion, the Lycée Technique is providing long-term, western-style technical education in which technical subjects are taught in the image of

western institutions at a very high cost. One must question whether this kind of education in its present structure can train technicians capable of developing technologies appropriate for the traditional sectors of the economy.

In the technical and vocational education sector, finally, only EFVA is specifically oriented towards rural development and located in an agricultural and pastoral zone. This establishment is striking proof of how little Mauritanians are interested in agricultural training.

From 1967-68 to 1977-78, only 131 low-ranking agents and 77 middle-ranking agents were trained, or a total of 208 graduates at an average of 19 per year, while an FAO report recommends from 105 to 125 per year over a ten-year period.[117/]

It seems obvious that rural development and the satisfaction of the basic needs of the impoverished rural population will never be realized with such inadequate supervision and with a true training capacity that is quasi-stagnant and even declining. The lack of continuity will also jeopardize the operation of the ENFVA if the school's foreign teaching staff must be replaced by national staff members.

Still, ENFVA disposes off great financial resources which permit an operating cost of 391,667 UM per student. Of this sum, 34.4% comes from FAO contributions.

We believe that the training cost at ENFVA is exaggerated and that it could be reduced by 50.0%, bringing it down to a level comparable to that of the College Technique and the Centre Mamadou Toure.

117/ See p.... of this report (III.2.4.)

This does not imply a reduction in the ENFVA budget but rather an expansion in its field of action. We are therefore of the opinion that ENFVA should recruit its students after the elementary cycle and provide one year of supplementary education for the C cycle, if the level is judged inadequate, rather than recruit from general secondary education. In addition, ENFVA should provide training for qualified workers in the specialized areas needed to develop service crafts in the agricultural sector. In this way, the school could integrate part of the traditional crafts into the rural development program and contribute to the implementation of an integrated development.

As already pointed out, vocational training in the SNIM centers and in the Centre Mamadou Toure holds no real interest for the mining sector of the economy. Furthermore, the CAFM of SNIM operates at such a high cost that it is a poor example for the creation of vocational training centers adapted to the realities of the rural environment.

On the other hand, the Centre Mamadou Toure responds more to this concern. Its flexibility, methods and equipment are feasible on a nation-wide scale.

The immediate concern of a center of this kind in the southern part of the country (Boghé, for example) could eliminate the greatest fault of the Centre Mamadou Toure, which is to train only for the modern industrial sector of the economy.

Finally, consideration must also be given to the gradual Mauritanization of the technical and vocational teaching staff. At present, foreign teachers represent 75% to 90% of the total staff (except at ENFVA, where it is 50%). To that end, IPN could study the possibility of providing a short session of pedagogical training through one of the teaching establishments. This training could complete real vocational training which would be offered by the establishment concerned.

IV.2.4. Pedagogical Education

Of all the teacher training centers, certainly ENI merits the most attention before allowing the expansion of elementary education with qualified staff.

In analyzing the situation of elementary education teachers, we have noted that the quality of this training is deteriorating, first of all because of the growth of the student population, which is much more rapid than for teachers and, secondly, because of the growing number of poorly-qualified monitors in relation to the entire teaching corps.[118/]

It is quite clear that the utilization of monitors will occur most often in the rural schools, since teachers request to be assigned to the urban schools. Even more serious is the fact that most teacher graduates do not seek to practice the teaching profession: thus, for 1977-78, ENI delivered 166 diplomas (DEFN), while the net growth in the teaching personnel for elementary education for 1978-79 was 60 units.

With the present growth rate of student enrolment in elementary education, the teacher shortage is 515 units for 1979-80, and if this trend persists, it will be 1,485 units for 1984-85.[119/]

Another unfavorable feature of ENI is the low percentage of graduates with bilingual option: 3.9% of all graduates in the past three years. This situation risks increasing the teacher-classroom ratio and consequently the demand for teachers.

118/ See p. 48 of this report.

119/ See p. 47 of this report.

We would also like to point out that at ENI female participation is low; barely 9% of the students for 1978-79. The absence of a boarding school does not improve this situation. Yet, it must be recognized that women could play a larger role in elementary education, despite all the obstacles.

Even more than the other post-primary teaching establishments, ENI provides expensive education in which scholarships take up the lion's share, with 75% of ENI's operating budget. Added to this are the extremely high personnel expenditures for a staff of which 85% is foreign.

One must conclude from this that ENI's situation is a major bottleneck for the improvement of the quality of elementary education and for its expansion, quantitatively speaking. Opening the ENI in Rosso can relieve this situation to some extent, under the two-fold condition that the center opens quickly and that the students, once they receive their diplomas, all return to the elementary education system.[120/]

Finally, it is our observation that the present structure of ENI does nothing to solve the problems of an education system with no ultimate goals of its own.

In order to absorb the sudden rise in student numbers in secondary education, the ENS has (belatedly) increased its recruitment level. The extremely high number of foreign teachers in secondary education, the defect of Mauritanian teachers, and the growing demand for teachers as a result of the system's expansion, have rendered the training capacity of ENI largely insufficient. For this reason, a study is under way on increasing this capacity through the creation of a training center for

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120/ Granting an incentive allowance for the teaching service is a good idea, provided it is totally paid.

CEG professors. It must be stressed that this project is being envisaged, as the expansion in student numbers is already a fact; moreover, the center will only be able to issue diplomas every two years. Meanwhile, financing the creation of a new training center for CEG professors only accentuates the justification for expansion in secondary education, which is not at all evident from the viewpoint of fulfilling basic needs or from the viewpoint of rural development.

ENS has a low level of internal efficiency in the first cycle, for only 50.0% of the students finish it.

ENS education is one of the most costly, surpassed only by the exhorbitant costs of the ENFVA at Kaedi. For the cost of one student at ENS, one could pay for 2.2 students at ENI, which is already expensive. The extremely high price of training at ENI is due to a teaching staff which is over 96.0% foreign, and a scholarship system which consumes more than 72.0% of the ENS operating budget.

In the present state of things, pedagogical education is lagging behind events as they are developing in elementary and secondary education. Moreover, the bottlenecks created in training teachers are the immediate results of 1) an education policy which continues to favor a rapid expansion in elementary education with no ultimate goals of its own, and 2) a general secondary education system that also lacks ultimate goals, aside from an extremely costly, inefficient selection process for technical and vocational education and aside from preparing for higher education, whose orientation towards the liberal arts risks guiding few students to the disciplines most profitable to the development of the country.

Finally, IPN should above all convert the qualitative needs in human capital useful to development into training for qualitative needs in training.

Today, this institute is very far from this realization, which is, however, fundamental for the construction of an educational system which measures up to the country's needs.

A better integration of IPN with greater financial resources should secure that indispensable link between planning development and qualitative planning of the school system at all levels and of all kinds.

IV.25. Higher Education

As concerns higher education as it is organized in Mauritania, certainly ENA's A cycle has played a major role in training higher administrative staff, who are indispensable to the Civil Service. At present, the training capacity of ENS is adequate and even excessive in relation to the demands of the services utilizing it.

Training costs at ENS are high, again because of the study scholarships and the expenditures for foreign teachers. The reorganization of ENA's A cycle into an institute of higher learning for applied economy will justify maintaining this type of higher education, as long as part of the costs would be borne by the services using it and/or by the students, and especially if the latter are already employed and wish to upgrade their qualifications. A very selective scholarship system could be maintained.

As for what ENS has become, we will restrict ourselves to repeating that the creation of "import substitution" of foreign teachers seems justified, but not at an average operating cost of 300,000 UM per student. Furthermore, this substitution should take place slowly, for any quick increase in the training capacity risks producing improvised measures which could compromise the quality of training or which could harm other types of training, therefore, the idea of admitting elementary teachers into ENS seems dangerous to us to the extent that it further encourages the teachers to defect from the primary education system.

We believe that the idea of establishing training institutions should be abandoned (at least temporarily). Such an education would obviously be too costly and would again require depending on a foreign teaching staff. Moreover, it would not allow economies of scale to be exploited satisfactorily because of the limited student population.

For a long time to come, the best solution to supplying the country with a highly qualified labor force will be recourse to higher education abroad. However, to date, the conditions for this have not been met. In fact, the choice of subjects, programs and countries must be made in the future from the double perspective of considering the true needs of the country and the cost of training. We stress that this is not just a monetary cost. Higher training programs abroad which are profitable to the individual may prove harmful from a social point of view if they tend to estrange the trainee from the common interest and if they tend contribute to the creation of an urban elite which feels threatened by integrated development.

In 1978-79, there were 1,179 Mauritanian students abroad but only 884 graduates from 1974 to 1978, 20% of whom were taught in Mauritania. If students'progress is slow in foreign lands, it will be necessary to analyse the cost.

It must be emphasized that the students are not adequately trained in subjects most likely to contribute significantly to the adoption of a development model in which the absolute priority is satisfying basic needs. This is possible in the fields of health, agriculture and education. In contrast, the humanities and applied sciences are over-emphasized among the Mauritanian students (73.0% of students abroad).

An orientation program for students abroad must be designed:

scholarships could be linked to job contracts in a priority sector.

Perhaps too, the time has come to reduce the number of students being sent to non-African countries. Training in institutes of higher learning on the African continent and in regional establishments is much more advantageous.

Furthermore, the higher education situation in the industrialized countries is characterized by over-training. In our opinion, these establishments will eventually develop specific programs for foreign students, in which the ultimate goals and consequently their content and duration of studies will serve the needs of Third World countries. Even though today higher education expansion in the rich countries scarcely encourages them to do more than accept Third World students into conventional programs, this attitude will quickly change once these establishments develop excessive training facilities.

This report has painted a rather dismal picture of the educational system of the Islamic Republic of Mauritania, perhaps even more more dismal than that presented in other reports.

This is explained by the viewpoint from which this analysis has been made -that of a model of development of a modern sector and growing impoverishment of a traditional sector being replaced by a viewpoint which redefines development goals by granting priority to the basic needs and the welfare of the entire population, with a very special accent on rural development, the creation of jobs and the development and application of an appropriate technology.

In this context, the mere expansion in the number of school-attending students, even if considerable, creates a false sense of well-being. If

the students educated do not find jobs, this training will have a double social price: unemployment and the spending of a budget which could have been used otherwise.

For those few fortunate persons who do have access to a secondary education and to higher education, the personal benefits are great: a high social station and a substantial salary is invested in them at a cost that is chiefly borne by the community. In contrast, the social benefits are small, for the graduates return to the modern urban sector which does not have a great effect on income redistribution.

Training programs for agriculture, health and education, which do have a favorable ratio of costs to social benefits are very poorly developed.

With an extremely precarious budgetary situation and a gloomy perspective for global growth, the immediate transfer of budgetary resources in favor of the educational sectors with
benefits simultaneously requires a major reduction in the operating expenditures of all the educational systems.

It must not be forgotten that projections for real GNP are only 2.3% per year[121/] for the 1980-85 period, and that during that same period, the population growth rate will be 2.5% per year.

Added to this is a public service debt which will become more onerous between now and 1985. Thus, even under the best of conditions, it will be difficult to increase the State budget and consequently the

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121/ Ministry of Plan and Mines: Economic and Financial Rehabilitation Plan, 1978, p.21.

educational budget. And, yet, in the latter budget the means must be found to increase operating expenditures for school supplies and maintenance, which will be made possible only by a reduction in staff and scholarship expenditures.

The reform of the scholarship system as it has been applied to secondary education should be extended to all of the education systems.

The attractiveness of any given training program can depend on the size of the scholarship, the financial perspectives of the career and the social status of the profession. If the scholarship reduces the private cost of training while increasing the social cost, we believe that the salary and the social status are the decisive elements governing the choice and utilization of one's training. Since the flow of revenues attached to a given profession stretches over a longer period of time than the flow of expenditures required for the training which leads to that profession, it is only natural that the individual should choose training which will guarantee him the greatest net benefit. An unbalanced social structure such as Mauritania's plays up the private benefits to the detriment of the social benefits, which explains the unattractiveness of training and careers which would be more beneficial to the community. Without a modification of this structure or mandatory orientation of training programs to be followed, it is feared that it will be difficult to find candidates required for training programs vital to integrated rural development.