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ISLAMIC REPUBLIC OF MAURITANIA

Honor — Fraternity — Justice

Ministry of Economy and Finance

**Directorate of Studies and
Programming**

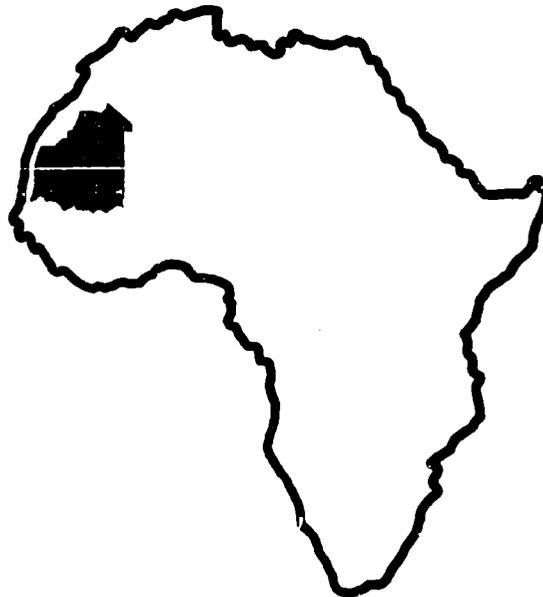
RAMS PROJECT

Rural Assessment and Manpower Surveys

Education As A Development Tool

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1. JUSTIFICATION AND LIMITATIONS OF THE PROPOSAL

The evaluation of the educational sector in Mauritania has demonstrated that in its present context, education contributes to the decline of the rural communities instead of guaranteeing development. Indeed, while education has seen considerable expansion, it has not been able to activate the masses, who are inert from ignorance, any more than it has been able to procure chances of development for the poor in most cases. It has only benefited an elite urban group and the development of the modern and industrial sector: one must question whether the social cost has been worth it, for not only has educational expansion weighed heavily on the State budget, but at the same time, it has contributed to a very unequal distribution of revenues and risks bringing about the unemployment of the graduates in the near future, who for several reasons, will not be able to be reintegrated into rural sector development.

These negative effects are the inevitable consequences of an exogenous and ultra-centralized educational system of which neither the structure, content nor methods have been linked to development objectives. To ensure a minimum of congruence between the educational system and rural development, a global, wide-ranging reform of the educational system is imperative with regard to its methods.

This is even more imperative since the GIRM, having opted for a new model of development, gives absolute top priority to rural and endogenous development, while the existing educational system does not permit a change in attitude towards manual labor any more than it creates possibilities of rural development. On the contrary -- it has produced and continues to produce a labor force that does not want to stay in the villages and for which jobs in the city are becoming scarce.

However, it must be recognized that a reform in education is not enough to transform the rural communities. Without the integration of educational reform with the economic and social change which focuses on the transfer of means and power into the hands of the impoverished masses, this reform will only bring about frustration, bitterness and discontent.

For that reason, at any price, one must avoid transferring agricultural surplus to the modern urban sector in order to develop the industrial sector, which is the supplier of equipment to rural development. On the contrary, the lion's share of the surplus must be reinvested into integrated rural development activities and the educational system must create human capital permitting not only the creation but also the reabsorption of that surplus.

This productive reabsorption in the rural world is, moreover, a determining factor in the creation of jobs and consequently in a more equitable distribution of revenues.

Furthermore, it must be recognized that a rigid centralization of authority runs the risk of neglecting the importance of the decentralization which should be highly instrumental in mobilizing and activating the entire population and the rural population in particular.

2. OBJECTIVE OF THE PROPOSAL

This would entail inventing -- with the financial and human means at the country's disposal -- an organization, a structure, appropriate content and methods for training which could serve a double purpose: the satisfaction of basic needs for the entire population, in which education is an essential means and the well-being of every individual, where education is an end in itself. The human capital thereby built up is an essential means of guaranteeing an equitable distribution of employment and revenues. This double purpose allows one to view education from the point of view of group needs while recognizing the objectives and rights of the individual.

Given the precarious status of economic and social development and the absence of any basic training for the majority of the population, it is necessary above all to think of creating an integrated training system, in the sense that it aims at all categories of the population (men and women, youth and adults), is non-discriminatory (and therefore does not have a training network created outside of the existing system), is guided by the objectives of national development but adapted to particular local needs and that its design and implementation permits participation by local groups; that it bears in mind the knowledge required to accomplish the tasks identified in the different development projects as well as existing knowledge in order to put them at the service of development; finally, it should find a way to establish a bond between the different training areas on the one hand and real life on the other hand.

This would be a matter of creating, from known experiences and characteristics specific to Mauritania, a bona-fide basic education for the masses and suppressing an elitist educational system by bringing it closer to the needs of these masses, that is, by the creative formation of essential tools to satisfy the basic needs of the deprived. (1)

(1) This concept of a basic education is very similar to that expressed by the Lagos Conference (1976).

In choosing a strategy of educational development, there is no longer any room for a formal training network that is separate from a non-formal training network. If training can be seen as a continuum ranging from the formal to the informal passing through the non-formal, the differences between the systems affect the organization and structure much more than their methods and content.

Moreover, the formal school presents an obstacle to change at present because it is dogmatic in its method and its content. The instructors are constrained both by their original training and by the program forced upon them, to blindly follow fixed curricula. The pupils are the raw material to be molded according to dogma, while their actual needs and their surroundings are ignored.

Hence, the objectives and real potential of a non-formal system of education are not acknowledged by formal education as being important or representative, which lends formal schooling a false air of superiority based on an unacceptable dogma.

Finally, rural development demands an increase in productivity which in turn involves health, hygiene, nutrition, management, literacy programs, etc. Even if the contribution of these factors can be judged as indirect, they must be linked with -- and integrated into -- basic training.

3. IDENTIFICATION AND ADAPTATION OF THE OBJECTIVES OF BASIC EDUCATION

The list of objectives is enumerative. It fixes no priorities for three reasons: firstly, basic education must address itself to formal education and to non-formal training in such a way that although the priorities may be different, the objectives will be the same. Secondly, ordering priorities must depend on the ultimate goal of each type of training and on the extent to which goals are being attained in the way things are at present, and thirdly, the priorities of the objectives must result from a political choice.

Therefore, if it has been proposed that the goals of basic education should be common to all types of training, it is possible that in actually setting up each type of training, the order of priorities may be different and even that the weighting of an objective may be modified based on objectives going beyond those of basic education itself, still without sidestepping or neglecting them, and especially without being able to claim any kind of superiority for itself.

The goals of basic education must be linked to development goals. Even though at present it is difficult to identify all of the goals, a consensus should be reached on the first objective, which is to

satisfy the basic needs of every individual. These needs are food, clothing, housing, education, health, hygiene, water and transportation. Beyond this first objective, the consensus is less clear, to such an extent that it seems extremely difficult to deduce educational objectives from development objectives other than the ones relating to basic needs.

Such being the case, the objectives to be attained are:

1. The acquisition of functional literacy meaning ability to read a newspaper, write a letter to authorities, do simple bookkeeping, be familiar with the weights and measures utilized in agriculture, animal husbandry, artisanal work and trade.
2. The acquisition of knowledge (theoretical and practical) necessary to productive labor, including the new techniques permitting a growth in productivity without deteriorating the environment.
It would be difficult to underestimate the importance of environmental protection in training. The danger of training which focuses on the immediate future and neglects to awaken people's awareness of the long term, is very real.
3. The acquisition of (theoretical and practical) knowledge necessary to the improvement of nutrition, child care, hygiene, health and getting the family involved in the development process.
4. The acquisition of knowledge required for active participation in and the management of community life, on the economic as well as the political and social domains.
5. Preparation for gaining access to a higher level of education.

If these objectives can exist in every type of basic training, notwithstanding, they must be evaluated according to the categories of the population to be trained.

4. THE "CLIENT" POPULATION OF BASIC RURAL EDUCATION

- 4.1. School-age children (boys and girls aged 6 to 14) not attending school.

This covers a population which varies between 250,000 to 260,000 persons per year for the 1981 to 1985 period. It is noteworthy that two-thirds of this population are girls.

In the Evaluation report on the educative sector in Mauritania it was emphasized that the forecasts for school enrollment levels reveals an optimism (10% annual growth rate in enroll-

ment) which is little justified, given the paucity of human and financial resources. That part of the population excluded from attending school risks exceeding 260,000 units.

Consequently, one must determine what growth rate for the school levels of elementary education is deemed compatible with the resources, first of all, and secondly with the generalization of a basic, complete education.

Whatever kind of education is anticipated, it must avoid sacrificing the younger generation at all costs.

4.2. Boys and girls now enrolled in elementary school.

In reality, given a primary education enrollment level of less than 30%, these children constitute a privileged group by having access to the present system of education. Since this education does not fulfil the goals of basic education in any way, these children must be provided with an education that can be integrated into a new educational strategy while using the existing infrastructure (\pm 100,000 pupils, \pm 600 schools, \pm 1,600 classrooms and \pm 2,000 Mauritanian teachers), but also by modifying its content, organization, methods and especially its philosophy.

Moreover, this educated population should become both the "clientele" population and the "supplier" population training, in so far as this group can make a sizable and coordinated contribution to making the entire population and the rural population in particular, functionally literate.

Several experiments have clearly demonstrated that the "client" populations of an education become the "supplier" populations of that education by introducing skills into the program which allow the transfer of knowhow required outside of the academic environment per se.

4.3. Children who have dropped out of primary education.

This is in fact a large and very heterogeneous group for which a smooth reintegration into a basic training process must be studied. In as far as children have not found employment or they are a part of a household, an appropriate training program must be created. This group must be provided with inter-technical "assistance" from students in the upper grades of primary school.

4.4. Young people who are graduates of primary education but were unable to get into secondary school.

These persons have been made literate, but not in a functional manner. Plus, they do not possess the knowledge aimed at by goals 2, 3 and 4 of basic education.

Specifically, this entails studying how these objectives can be achieved for this group, considering their level of knowledge. Possibly, this group could take part in training weaker students (the "supplier" function of education).

Finally, it is necessary to analyze how these pupils can be integrated into post-primary training which is useful to rural development or for those who find themselves in urban settings, to the development of the modern and traditional sectors there.

The first concerned in this group are obviously the unemployed.

- 4.5. The illiterate adults (men and women), i.e. the majority of the adult population.

It has become customary to concentrate on the issues of educational problems for the school-age population and to forget the adult masses who are unable to play a part in development because they lack any training. This attitude must certainly be considered, for not only does training of young people yield productive results in the long term, but it also risks compromising these results if the training is not understood and supported by the adults, who are the ones responsible for the life of the community. Therefore, one must consider introducing basic education for adults at the same time as for young people, and the goals of this education must -- by means of a different weighting -- be the same as those for youth.

It must also be stressed that adult training must take into consideration the main characteristics (geographic, demographic, technical, occupational, economic and sociological) of this population and its environment. It is mandatory that these characteristics be identified based on the RAMS surveys.

It must also be noted that this population includes the employed as well as the unemployed and the under-employed. This means that a flexible training system for adults must be created.

5. DETERMINING THE CONTENT OF BASIC TRAINING

The content of a basic education could be defined as a function of a few major principles:

- 5.1. The training for each of the groups must be set up in such a way as to permit the acquisition of theoretical and practical knowledge capable of improving the quality of life in the environment in which the persons trained will have to live and work (inasmuch as specially-tailored and home-based training can be implemented).

It is first necessary to understand environment in order to pick out its strengths and weaknesses. So, for example, certain subjects such as history, geography and the natural sciences, could be combined and turned into a study of the environment, adapted firstly to the actual situation in the villages, secondly to that of the region and lastly to that of the country.

Secondly, it must be understood what needs to be changed in this environment in order to improve the quality of life within it and determine how this change can be implemented. Finally, the acquisition of skills and knowhow required to achieve the effective change must be introduced into the content of training.

It is worth emphasizing here that the method described above represents a logical approach much more than a chronological one.

- 5.2. Basic education must make maximum use of existing knowledge, whatever its source may be.

It must not be forgotten that even in the poorest village, there exists knowledge which can be used to facilitate, for example, the transformation of an existing technology or the adoption of a new technology. Moreover, each housewife and mother of a family has skills and knowledge to be valorized in training youth.

- 5.3. In education the vernacular must be the primary language used, thus allowing an easy flow of communications in the village between the young people and adults, between trainers and those being trained, and it will also allow illiterate persons to cross the threshold into school more easily.

One must not forget that the possibility of getting the entire village community involved in the educative effort will depend in part on the communications among its members.

The present bilingual practice may constitute an obstacle -- at first sight an insurmountable one -- to the introduction of the vernacular tongue as a teaching and training language.

Without wishing to deny the importance of that obstacle, it would be appropriate to point out that certain training experiments have failed precisely because the vernacular language was not utilized (e.g., adult training in Upper Volta before 1973).

Utilization of the vernacular language should not exclude introducing a common or official language. Hence, the simultaneous or sequential introduction of the mother tongue

and of a common, national or official language could be envisaged.

- 5.4. All that is a part of the "hidden curriculum", that glorifies the Western civilization, urban life and non-manual labor must be eliminated from the training program.

A great effort must be to debunk matters.

The elimination of the hidden program certainly will not be made easier by the excessive number of foreign teachers in teacher training and in secondary education. The debunking in question could imply a drastic reduction in the number of foreign teachers and the acceptance by foreign assistance programs of a reorientation of the educational system.

- 5.5. For each group of the population to be trained, it would be necessary to create an education system which permits education at the same time as occupational or household work, as well as which integrates education with work and work with education. A flexible and imaginative organization of training activities should allow those who are not working to be trained, as well as those who, because of their working life, are available for training only for regular or irregular intervals of time. Hence, no one should be excluded from the possibility of acquiring a basic education, which would allow any discrimination to be avoided from the beginning.

- 5.6. More particularly for elementary education, it would be necessary to eliminate subject content which aims exclusively at being promoted to secondary education, would be just as it is necessary to change the system of selection itself.

In its present way of thinking, primary education aims, through its contents and methods, at preparing the pupil, for the obstacle course which is embodied in the famous competitive examination at the end of primary education.

The abolition of this competitive examination should make it much easier to modify the curriculum in the final years of primary school.

- 5.7. The awareness of the rural condition. Every basic training program should bring its "clientele", be it rural or urban, to face the realities of rural life. In a country, where the great majority of the population lives in villages and where food self-sufficiency and even economic independence depend primarily on an increase in productivity in agriculture and animal husbandry, it is fitting that each and every one can be made aware of the role that rural development must play

in the country's future, that he or she be capable of making his/her contribution by acquiring the necessary knowledge and be prepared to devote his/her career to a vision of the future in a spirit of solidarity and with a willingness to make equitable sacrifices.

Hence, it is a question of thoroughly rethinking the basic education program, in order to create new forms of education for specific groups. It goes without saying that this reform is an undertaking of considerable magnitude requiring the initiative and support of the national authorities just as much as the regional authorities, and the participation of the entire population, which will be both trainer and trainee.

6. MEANS FOR IMPLEMENTATION

The means for implementation depend in part on the training methods chosen, which in turn depend on the objectives chosen, how they are assessed and on the characteristics of the client population. From all appearances, the global reform of the education system is such an all-encompassing mission that one must endeavor to select methods that make maximum use of the limited material, financial and human means at the country's disposal.

6.1. Administrative organization of education for development.

Faced with the fragmented administration of formal as well as non-formal education, immediate reform is mandatory. The effectiveness of a training system which aims at the participation of the majority of the population depends first of all on coherent and harmonious organization. It seems impossible to fulfil this first condition without giving a clear-cut definition of responsibility for organizing an educational network, which, without too many branches, should concern all the types and forms of education at all levels. At present, no fewer than 10 different ministries are responsible for the formal educational system as a whole and six for non-formal education (of course, in both cases, this concerns public education only).

The ruralization of education must be conducted on both fronts simultaneously. That is to say that the profound change of the formal educational system to an adaptation of the needs of rural environment and the use of the educational resources available in this environment in order to create a means of reaching drop-outs and the unschooled, fully justifies the search for a better instrument for designing educational policy oriented towards endogenous development, appropriate strategy planning, and the supervision and follow-up of a coordinated and coherent implementation plan.

If education is the Ministry of National Education's responsibility, it will be necessary to supplement it with a high-level council comprised of representatives from all ministries capable of directly contributing to endogenous development, and even to development in general.

Education and training organized by private concerns or by foreign organizations should be explicitly associated with this unit. It is inefficient to see training facilities develop (especially in the non-formal sector) without their being integrated into training activities on the whole. At any rate, these efforts can not have the same multiplying effect that one could expect, any more than they could meet the objective of basic training.

Moreover, the administrative structure of education must leave the door open to the possibility of having major participation at the local level in establishing planning objectives, especially for basic education. The reform being proposed can not succeed without the intense collaboration of those concerned, for it is certain that in current circumstances local groups are barely cooperating in education.

For illustrative purposes a scheme of the education system is presented for the purpose of indicating how all interested parties could be brought together into an administrative structure which would make it possible to coordinate their actions. First, there would be a Conseil Supérieur de l'Éducation et des Ressources Humaines (Executive Council on Education and Human Resources), attached to the Office of the Presidency.

The members of the Council would be: the Minister of National Education, the Minister of Economy and Finance, the Minister of Health, Labor and Social Affairs and the Minister of Rural Development; it would be chaired by the Head of State.

They would have the tasks of designing a joint educational policy directed towards rural development, of planning an appropriate strategy and of supervising and following up on implementation.

Hence, the main function of this Council would be to arrive at a consensus for the design of an educational policy and for its execution, which would be assigned to a single ministry -- the Ministry of National Education.

The Council would handle the coordination and harmonization of all efforts in the training of human resources. Its creation would constitute a concrete expression of the will to put human resources at the service of development. Its authority would make it possible to achieve the integration of education pari passu with economic and social change.

As pointed out above, the diffusion of responsibility in the organization and management of education renders the system particularly ineffective in budgetary, study and educational planning terms.

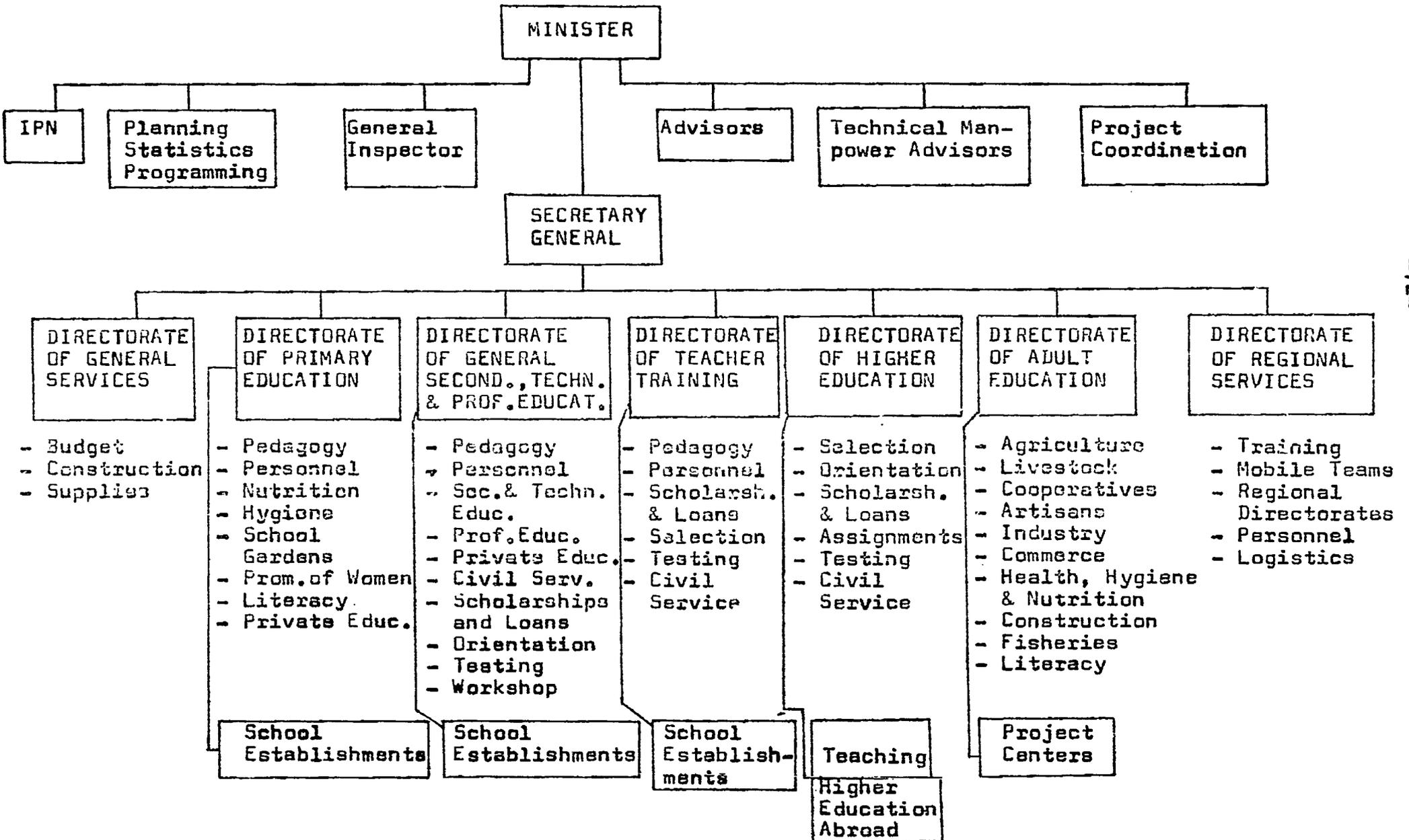
In the following organization chart, responsibility for all levels of education, formal as well as non-formal, is concentrated under the Ministry of National Education. Without going into detail, there are several points to underscore: first, at the Minister's level, there would be a Conseil Technique pour les Ressources Humaines (Technical Council for Human Resources). It would consist of senior civil servants from every ministerial office capable of contributing to training and management of human resources. Hence, all offices which in the past had some responsibility for managing educational facilities would be represented on the Council. The civil servants would advise the Minister of Education on technical matters, by making known their experience from earlier years and their knowledge of the requirements in the areas familiar to them. At the same time, they would serve as the link between their respective offices and the central department of national education as a means of harmonizing the actions to be undertaken. In that way, the harmful effects of exaggerated diffusion and administrative instability could be avoided, at the same time benefiting from regular and expert coordination.

Second, the proposed organization accentuates an integrated education system since all forms of education are grouped together under the same ministry. In this fashion, one avoids the cleavage between a national education system (i.e., academic and general education) and other training activities (technical, vocational and particularly non-formal) being sacrificed by an administrative structure which confirms a false superiority of one part of the educational network over another.

This integration is indicated by:

- an IPN serving all training activities,
- joint planning and programming,
- a coordination office for all projects concerning training,
- inclusion of private education,
- creation of a division for adult education,
- creation of a division of regional services

ILLUSTRATIVE ORGANIZATION CHART OF MINISTRY OF NATIONAL EDUCATION



Third, this combined structure would permit, to a very large extent, local groups becoming associated with training activities, given the identification of such activities under a single national education ministry and the possibility of the ministry delegating a comprehensive set of responsibilities through the office of the Inspector General and the Regional Services office.

The active participation of the local organizations in all aspects of basic education is an essential condition for the success of the ruralization of the educational system. From that point on, it is deemed indispensable to create a well-defined link between them and the Ministry of National Education.

The Inspector General's office would be set up so as to permit the establishment of this linkage. Hence, the function of inspection would not only be pedagogical and administrative supervision but even more to provide assistance and counseling to local organizations, as well as to national education officials, in fields that extend far beyond the pedagogical aspects of education.

In the light of this new function, the retraining of inspectors must be given top priority; the training of new inspectors at ENS should be modified to take the foregoing into account.

6.2. An Expanded National Pedagogical Institute (IPN).

It would be well to study the possible role of an expanded and strengthened IPN which would be responsible for the design and planning of programs, teaching techniques and methods, supervision of education activities and training of teachers and monitors.

Although these responsibilities theoretically fall within the competence of IPN, their execution is very often deficient because of the lack first of all of human and material means and, secondly because of the absence of planning and a policy which have long since been out-dated since the 1973 reform, a reform which had not included economic and social development among its objectives.

Hence, expansion of the IPN should be included in an education serving endogenous development, which should imply a reorientation and intensification of its activities as a function of such an economic and social development.

The IPN should also be given responsibility for undertaking surveys to learn what the specific and operational objectives of a basic education program are at the village level and at the project level.

The task should also fall to the IPN to design and draw up the specifications for, or even organize, the training and especially retraining of teachers in view for the ruralization of education. It should redefine the role of the teacher who, from the perspective of a basic education, would become a training agent, thereby losing a commanding role in the student-teacher relationship to become a trainer among trainers and even a student of practical experience. If IPN is to be a part of the national educational strategy, it would, however, have to favor a regionalization while taking into account the social, cultural, economic and linguistic characteristics of each region.

Furthermore, subject matter content and techniques will have to be adapted to each "clientele" group to be educated. (Hence, the content of basic education in elementary education would be different from that designed for the education of school drop-outs and for the uneducated. This would also be true for the methods and techniques used.) However, for all groups, two essential elements will be the same: the practical orientation of education and genuine participation of local communities in establishing goals and in making the educational system function.

6.3. The "People's" School (L'Ecole du Peuple).

Even with the intensive participation of local groups, one must recognize the fact that it is in the human resource area that a great effort must be made. Imagination and initiative must be exercised in order to quickly multiply the number of catalysts that will transfer practical and theoretical knowledge. If for some aspects of basic education a flexible and even a spontaneous training system can be provided rather than depending on a distant administration, the fact still remains that the specialized trainer and instructor will remain indispensable to guarantee a basic literacy program which is elementary, functional, structured, effective and long-lasting. For, despite everything else, the multiplier effect of functional education must come from a solid core of elementary skills acquired systematically and based on a valid pedagogical program. This is where the instructor trained in an educational institution remains irreplaceable. While the GIRM now disposes of 2,000 or so teachers for elementary education, it still does not mean that training of the present school-aged population is adequately provided.

First of all, many of these teachers are insufficiently qualified and, secondly, they have been trained for primary education without a proper ending. So, instead of being catalysts, they tend to block all initiatives to adapt education, since they are unprepared to accept a new education philosophy which aims at

integrating a basic education with an ultimate goal in village life and with a permanent link to productive labor.

Any attempt to extend the role of the basic school must be accompanied by extensive retraining which prepares teachers for their new responsibilities. This not only would involve retraining them for a new program content but also and primarily retraining them mentally to help them understand the meaning of endogenous development and of teaching as a service to village communities. With a basic education which would root its goals in the needs of the village instead of preparing one for secondary education and urban life, a new type of teacher would emerge which, in turn, poses the problem of revising pedagogical education.

It is evident that, if the number of available teachers limits the expansion of elementary education, its development must be planned from a realistic perspective. The 10% average growth rate of elementary teachers projected by the Ministry of Education appears difficult to achieve with the present structures of elementary education. Moreover, a pure and simple expansion of the school attendance level in elementary education without revising the final objectives and the content of this educational system will lead to a higher level of unemployment, mounting rural exodus and negative development in rural areas. First of all, a well-defined basic education structure should be created which conceptually, organizationally and operationally will utilize all existing human and material resources. Thus, teachers, students, parents, agricultural workers and artisans would be called upon to create and operate in such a system with the assistance of and under the supervision of local and national officials.

From the outset a reform of the structure and content of primary education with well-defined goals must be envisioned.

As previously noted, the goals must find inspiration in the reality of rural life, and of endogenous development and flow from social and economic development policies established by the national government. Students must be prepared for life in their setting, a life oriented towards the survival of the rural population and the reintegration of the urban employed and uneducated into productive work. Hence, basic education should be a preparation for self-sufficiency and this objective should dictate the organization, structure and content of its techniques.

The transition from the world of education to the world of production and work should become the raison d'être of basic educational reform. Hence, an important element of the reform would be the definition of the skills required for rural production. It would not be really a question of preparing for the traditional type of lucrative work but more that of acquiring a mixture of skills essential to self-employment and self-sufficiency in the traditional sector, without at the same time eliminating the acquisition of skills required for more advanced training, the needs for which are expressed at the national level, or in terms of training for employment in the modern and industrial sectors.

The People's School with a Modular Structure

A basic training of this type could consist of three modules, each of two years' duration.

The first two-year module would be entirely devoted to literacy, i.e., learning how to read, write, count and calculate -- a functional literacy based on the usage of examples and vocabulary drawn from daily usage.

This first module would not contain any practical work, so that students could concentrate on becoming literate and becoming accustomed to disciplined study. Rapid progress in acquiring elementary knowledge would be essential, establishing the foundations of a basic education in the best of circumstances.

The content and techniques of this first module would be the same in all of the basic schools of the country, as established by the central authorities.

The promotion from first to second year level would not be automatic and two repeats would be authorized, one in each school year of the first module.

Keeping the practice of having poor achievers repeat grades and consequently abandoning dismissals in the first module would give teachers a real opportunity to measure student aptitudes, such that at the end of this first module an equitable choice could be made and, thus, from the second module all students would be promoted yearly (see above).

Besides, this selection in the first module would imply an adequate system for dealing with deficient students. It could include better nutrition, medical care, teaching the handicapped, etc.

The pupil/teacher ratio would be about 50% or 60% and a strong effort would be made to prepare good quality didactic material L; IPN.

Teaching in the first module would be reinforced by frequent radio broadcasts which would be directed at both students and teachers (for in-service training). It would be clear that this first module would include two pedagogic divisions for a teacher. In other words, it would require a grouping of one class. From a pedagogic and economic point of view, this partial solution to the paucity of qualified primary school teachers seems justified, even desirable.

The second module, also of two years, would have as its goal a knowledge of the environment. At this point, reading and writing would be taught in order to assure the retention of ideas but with particular attention to the understanding of the national, regional and social milieu. Science, history and geography courses would be integrated in order to sensitize the student to what constitutes his environment. This education of the student vis-a-vis his environment would go along with his first introduction to productive labor. To this end, productive units would be established under each basic school on property provided by a local cooperative.

In the first year of the second module, students would observe production work accomplished by third module students (see above). Above all, the idea would be to link the teaching of environmental sciences to the concrete observation of those activities which enable the adaptation of man to his environment in order to conserve the environment while using it to satisfy his needs in a productive effort organized in the form of a cooperative. This would reinforce attitudes of solidarity and mutual assistance. At least half a day per week would be devoted to this activity. Field observations would then be used in teaching environmental science just as practical experience. During the second year of the second module, reading and writing would be continued but more time, two half-days per week, would be devoted to supplementary productive work. Thus, the students would follow a progressive apprenticeship of productive work which would make up the essentials of the third module.

As in the first module, the method of grouping both years of the second module in one class would be followed with the single exception that each teacher would have only 45-50 students. It should be noted that careful scheduling of the productive work would have more study time for weaker students to use in catching up.

The third module, also of two years, would be for students already grounded in reading and writing. In this module the emphasis would be on productive work. The work would be done under guidance of scholastic production units (unité scolaire de production-USP). These would be made up in buying, selling and producing cooperatives and would aim toward food self-sufficiency for the students, as well as producing surplus food

It would be invested in school operations in order to help the school become financially self-sufficient. Once financially self-sufficient, the basic school would belong to the local community in terms of management, function and financing. The central administration would simply provide pedagogical assistance and help with the selection of students for advanced studies from those deemed capable, nominated by local communities and, following quotas to assure equitable opportunities for post-primary education.

Two-third of the school time of the third module would be dedicated to production deemed appropriate to school needs and for creating a marketable surplus.

The land for this undertaking would be placed at the school's disposition by the village as a whole. The initial capital investment would be provided, one-third each by the central government, region and village. But the labor would be provided by the village (construction and maintenance). Eventually, the school would take over its own financing, on a geometrically progressive schedule; the government's contribution would be proportionally reduced.

Management of the school productive units would be given to a mixed committee composed of students, teachers, relatives and trainers.

The remaining one-third of the time would be dedicated to theoretical discipline useful in practical work. Thus, the agricultural techniques, production and sales, planning and management of a production unit would be introduced into the programs.

The sixth year students would be expected to help the "apprentices" in the second year of the second module. Also, the students of the third module would have to spend a half-day per week outside their regular school work in teaching, reading and writing to young adults (illiterate or failed students). To this end, an introduction to teaching methods would be included in the fifth and sixth year programs.

In the second and third modules promotion would be automatic, with the student receiving an attendance certificate and an overall evaluation of studies, practical work and attitude.

For the teachers, the following would be expected:

for module 1 -- the teachers trained either by the ENI with a revised program, or by intensive in-service training, reinforced in either case by radio broadcast and by cassettes recorded for this purpose by the IPN;

for module 2 -- a) teachers with the same credentials as for module 1;
b) sixth-year students (second year of module 3) who would be expected to introduce students to productive work in the USP;

for module 3 -- a) trained teachers taking in-service training for theoretical and practical courses;
b) trainers forming teaching and training teams formed under the jurisdiction of the village and including farmers, artisans, housewives.

This organization should bring about a savings in teachers; they will be needed only two-thirds of the time in the fourth year (second year of module 2) and one-third of the time during module 3.

This reform of basic education would assure a smoother transition to self-use in village education; it is evident that the system could be enlarged in order to integrate those aspects which facilitate using students in specific development projects. First, it would be indispensable to work out basic training which could contribute to rural populations becoming self-sufficient and reduce poverty, evident as well as concealed unemployment now plaguing young students as they finish basic education.

National authorities would also have to accept virtual autonomy in the management of basic (or public) schools. Administrative decentralization and recognition of training needs as identified by local communities should motivate the national administration to give all its support to local efforts. Furthermore, national officials should take care to see that access to post-primary education and its adaptation should not obstruct an understanding of the real needs of the rural population.

First, it would be necessary to study other means of arranging fair and uniform admission to post-primary schooling and, second, the curricula of the latter should be improved (see above).

With regard to admission, a rationale should be defined which aims at developing post-primary education needed for rural development on the one hand (training of teachers, agriculturists, paramedics, etc.) and of the skills needed in national development, on the other hand.

Post-primary education would be strictly programmed to ensure equitable admission for rural children and to ensure a reasonable parity between supply and demand of labor. If qualified workers are actually required to achieve development goals, it would be a delusion to think that training alone creates remunerative employment. As for the level reached by the young as they leave the public schools, obviously the curricula of these schools could be severely criticized because it is radically opposed to the typical primary school which prepares students by successive levels for admission, exams for entering secondary schools, and whose quality is already considered mediocre. How then could the adapted basic program also ensure an adequate preparation for more advanced studies?

The answer to that question is certainly not easy. It should be mentioned, however, that present secondary education is an imitation of the western model, where individual accomplishment and acquiring knowledge needed for higher levels dictate the type and level of skills required to move to an intermediate level. This progression in a one-dimensional adaption, that of higher education, is not indicated for a country which places rural development and meeting basic needs as first priorities. The latter should raise the question of adapting secondary education; nothing should hinder the efforts to work post-primary education in an overall scheme, with the goals of the country and the real needs of the population being met.

6.4. Rural professional training centers (CRFP).

Another problem which must be faced in the case of rural-oriented basic education is that of professional training for the students finishing basic education and intending to become self-employed, or even salaried workers in the villages. If basic education has qualified them for production, this training was primarily aimed at forming a positive attitude toward productive work in general to arrive at self-sufficiency, rather than to prepare them for the specific collective tasks which integrated rural development requires.

Thus, it would be necessary to form Rural Professional Training Centers (CRFP) for the students finishing basic education and wanting to seek employment. Creation of these centers would be the first positive step in integrating formal and non-formal education. All work done in the villages would be taught there by farmers, herders, artisans, etc., according to a flexible curriculum which would allow the starting or stopping of courses according to the needs of the apprentices. The training would not even be taught in a single location or shop but would be conducted in the field. In return, the students would help teach adults to read under the direction of a training team created at the village level.

The rural professional training centers would have a family and housekeeping section where women would be welcomed for training in nutrition, midwifery and infant care, health, vegetable raising, etc. The work of the centers would also be reinforced by radio broadcast with management being entrusted to a mixed committee where students, trainers and members of the training team would be in charge.

The centers would also be prepared to receive adults with no primary education who would wish to be apprenticed or better skilled in their chosen jobs. Their stay at the center would be used to have students teach them to be marginally literate. The students would be trained for this task by members of the training team, with the use of didactic methods prepared by IPN.

Financing of the rural professional training centers would be handled by the national government, the regions and the villages in equal amounts. The trainers, however, would not be compensated and financing would be limited to providing materials which the village would be unable to produce.

On the other hand, the rural professional training center would call on personnel assigned to a particular development project in order to ensure continuation of project activities after the departure of trained personnel of a comparable level. This kind of mutual assistance could even be made a condition of projects being approved.

Finally, in the interest of bringing the basic school more in line with village life, the maintenance and repair of the schools, as well as technical assistance for the USP, would be given over to the students of the rural professional training centers. This measure would cover part of the center's operating expenses which would be paid by the village.

Thus, these centers would become a nucleus of professional training within each village where the need is perceived and this according to a flexible method requiring great financial outlay and sufficiently adaptable to meet job requirements from endogenous development.

As for training the trainers of these centers, mobile, multi-disciplined teams would be trained for this task by the CFPP which would be enlarged for this purpose with a section of trainers to meet requirements. They would have all skills and training necessary to ensure the needs of the rural professional training centers.

6.5. Rural literacy centers for adults (C.A.A.).

The third stage of basic education concerns teaching functional literacy to illiterate adults.

As indicated above, students of module three would be required to devote half a day per week to teaching literacy to weaker students and to young illiterate adults. There is also the possibility of teaching literacy in the rural professional training centers. Finally, there is the large group of adults who must be accepted into the literacy centers. While a number of these centers already exists, they are not functioning well and the quality of their instruction is questionable.

A broad adult literacy campaign must be worked out, calling for solidarity among all men and women and in a common, grassroots effort, with the goal of cutting the illiteracy rate in half within five years.

To this end an adult literacy center would be created in each village. These centers would be established by training teams of volunteers from the villages and by project personnel. The teams would be trained by multidisciplinary, inter-professional mobile teams, under the guidance of IPN and of all teaching institutions which are now offering professional and technical training (ENFVA, ENISF, ENECOFAS, Collège Technique, ENA, etc.).

The mobile teams would undertake, after training at IPN, to prepare the local literacy teams to focus on functional literacy, that is, satisfying the immediate needs of the local illiterate population.

Thus, IPN would develop a literacy program that would be explained to the mobile teams, translated into pedagogic and didactic terms. At the same time, IPN would supervise the preparation of didactic and radio materials needed to achieve their tasks.

After training, the mobile teams would be sent into the villages where they would stay long enough to train local literacy teams and to familiarize them with didactic methods furnished by IPN. Since the mobile teams would be inter-disciplinary and inter-professional, their presence in the villages would be useful in establishing USP and rural professional training centers.

The members chosen for these mobile teams would be chosen according to rigorous standards to ensure their professional competence. They would also have to be strongly motivated and be able to adjust to the real needs of each village.

They would be employed as representatives of the government, which would pay them. There would be an inspection service under the jurisdiction of the Ministry of Education, which would supervise and assist the mobile teams.

The literacy teams would be aided by high school students. These students, which are from a very privileged segment of society, would devote a year after the first module of secondary education to teaching adult literacy. In this capacity they would, on the one hand, serve as an instructor in literacy but, on the other hand, an apprentice in the world of practical knowledge of rural life. It follows from this that the curricula of secondary education would be adapted to prepare these students to their job (see above).

The financial aspect of this operation would doubtless cause problems. But it could be planned to cancel scholarships, replacing them with a system of low interest loans.

Since the period when the students would be working in the literacy campaign would be considered voluntary service, a partial offset of any debt could be allowed.

During their work in the villages they would be housed and fed by the village. A similar arrangement would be made for students from ENECOFAS and the ENA.

For those students studying in institutions where a delay in studies could impede rural development (ENFVA, ENISF, ENS, ENI, etc.) another solution would have to be found. A practical, unpaid session during vacation periods and required service of at least a year in the villages before employment in public service could be envisioned. Especially for ENS and ENI, it would be essential to expose the students to the reality of rural development and to integrate their experience into their training.

For students who would be in advanced studies overseas, their selection would depend on their having completed an assignment to a literacy center. An evaluation of the candidate's performance would be made by a commission, in which the village's opinion would be decisive.

To achieve the maximum result in basic education, the school buildings and their existing equipment would be fully utilized, that is, for all the groups to be trained, wherever it would be necessary to modify or develop school facilities, the village communities would be encouraged to take action making grounds available to the USP, making and repairing tools, erecting buildings, making furniture, etc. It should be remembered that the basic schools would become production and sales centers (see above). If external financial assistance is needed at the start, the school cooperatives would henceforward work towards self-financing and self-sufficiency to meet operating costs, except for instructors' salaries and their teaching materials.

It is especially in the area of material and teaching methods that the needs are great: books, illustrations, and material for practical training must be found with external assistance and with participation of trainers from all educational institutions, with IPN's guidance and supervision. (This should not hinder local communities from creating their own didactic means where they are able to do so).

In the same context massive usage of educational radio should be introduced through a specific project. It seems unbelievable that Mauritania has not yet used educational radio on a large scale, given the very good results achieved in the third world countries. The country has the characteristics which favor widespread use of this tool: low population density, an inadequate road network, a scarcity of human resources, a lack of financial resources to distribute printed materials, on a wide scale, and, undoubtedly the most important, many radios in use, even in rural areas. This is a resource to be used without delay; an educational radio service should be established as an arm of Radio Mauritania. This unit should prepare broadcasts directed as much toward training teams as toward the target population, and should be organized in consultation with IPN, the Ministry of Rural Development, the Health Ministry and the Ministry of Education. The broadcasts should be supplemented by cassette recording which could contain either the text of a broadcast, or new information, or even instructions which explain other didactic methods.

From these broadcasts a dialogue should develop among the listeners. The broadcasts should also demonstrate the interest which the national authorities are taking in rural development.

The benefit/cost analysis of such a program should be quite favorable because it would allow the entire population to be reached by installing a sufficiently powerful transmitter and putting a radio-cassette/recorder in such training unit, reaching radios which can be found everywhere in the country.

7. FINANCIAL CONSIDERATIONS

In the evaluation of the Mauritanian educational system, it has been repeatedly pointed out that the system is extremely costly, considering the limited financial resources of the country as a whole. At first extending primary education throughout the rural area and extending basic training throughout the entire country seems out of reach, even over the long run.

Such a pessimistic outlook is unwarranted. A careful study of the education budget shows clearly that some costs could be reduced by reform and frugality. Besides, the partial integration of formal and non-formal education would allow some economy of scale, as it goes without saying that having more people use the existing infrastructure would result in more efficiency for the same costs. Finally, the extra spending to make education more functional should justify a tax on training. Such a tax would be temporary and specific in the sense that the revenues would be used exclusively for basic rural education.

7.1. The National Budget.

As it is planned that each primary school would have a USP, financing primary teaching from the national budget could be provided. First, the government's financial contribution would be a third of capital and operating costs other than teachers' salaries and teaching materials for academic studies (including one radio/cassette recorder per school). Then, gradually, as the USP is able to generate a surplus, it would be used to reduce the government's contribution to financing primary schools, so that the schools become financially autonomous, enabling the government to create new schools with the budget savings on existing schools.

Another possibility for savings would be sought in an improvement in the internal efficiency of primary education. Drop-outs should be reduced thanks to a positive attitude on the part of the rural community toward education, as well as better nutrition, which should lead to better health for the students. On the other hand, repeating grades would be allowed only in the first module (first and second years) of primary education. In the second and third modules promotion would be automatic, with selective sessions for catching up. There is no reason why the best students could not conduct such sessions.

With these measures it should be possible to reduce the total operating costs per student by 40% compared with 1980 costs. Given the cost per student in 1980 and the basic education budget for that year, an additional 35,000 students could be taught. As for the teachers, the establishment of single class modules should allow considerable savings on teachers' salaries. Moreover, the initiation of practical skills should lead to an appreciable reduction in the number of teachers necessary to make the school function. For a school with six grades and six teachers, the savings would be 17%. Even in cases where the teacher must take on additional duties such as supervision-principal of the USP (which would not be advisable), the duties would not lead to additional salary costs.

Finally, there is the increase in the pupil/teacher ratio up to 50-60, which would result in salary savings of 10-20% compared with the situation in 1978-1979. The savings achieved in the national education budget must be channeled into the expansion of schooling children where basic education has been neglected so far. To this end, a scholastic map should be established by the planning service of the Ministry of Education.

Another portion of the savings should be earmarked for upgrading educational equipment and for financing a research curriculum for ENI.

7.2. The Regional Budget.

It remains to be seen whether the regional budget could afford to pay more for basic education than the one-third planned for financing USP rural professional training centers and adult literacy centers.

7.3. The Village Association.

As previously noted, village associations should participate actively in formulating the curriculum of basic rural education. In time, the training should become the concern of the villagers, as much in its operations as in its financing; the role of the national authorities should be limited to general guidelines following the plan's goals and to overall supervision, in order to ensure a minimum uniformity in the level of the studies (especially for basic education of youngsters in the three modules).

Of course, in the beginning the creation of non-formal training will require financing from the government or from a foreign donor, especially for materials. One could hope, however, that generating productive work and increasing production

would enable the local communities to rapidly pick up financing, replacing the regional or national government.

Otherwise, maximum use of the infrastructure created for basic education should allow some economy of scale, and the government's financial participation should be strictly limited to that which can not be created or produced locally with available means.

8. CONCLUSIONS

The proposal for educational reform for endogenous development can be seen as fundamental, because its point of departure presents a very different philosophy from that which inspires existing primary education.

Its essential characteristics are the following:

1. Basic education has a natural finality: the rural milieu in which the majority of the students are destined to live.
2. Functional literacy enables a student to know, understand and change the environment in which he grows up and also gives him the tools for the development of his mental and physical capacities.
3. Introduction of the concept of productive work from early youth provides an adequate preparation for gainful employment. (1)
4. Creation of the spirit of cooperation, solidarity and responsibility by collective productive work, as opposed to acquiring academic knowledge which is individualistic.
5. Integration of training for all elements of the people. The USP, the CRFP and the CAA function at the same time with the same goals and partially with the same staffs.
6. Decentralization of management, operation and financing of training. The school becomes a concern of the village which understands its needs better than the national authorities who should guide rural development while stimulating the initiative and autonomy of the villages.
7. The demystification of the urban dream and its model of development, thereby halting rural-urban drift and the development of underdevelopment which it fosters.

(1) Education does not create jobs but only facilitates their creation in that it allows the acquisition of skills and attitudes necessary to productive work induced by the social and economic environment.

8. The replacement of the idea of assistance by the idea of self-sufficiency.
9. Assistance of all the country's youth in a nation-wide literacy campaign, reinforcing solidarity to attack poverty.
10. Creation of an essential tool for achieving the goals of integrated rural development as outlined in the national plan.

9. THE PEOPLE'S SCHOOL AND SECOND LEVEL TEACHING

If the reform of basic education to benefit endogenous development can rapidly be realized, it will be more difficult to introduce this same finality of endogenous development as the basis for reforming secondary education. This will be particularly true of secondary school teaching in general which is the most developed at present. But it is also a relic of the colonial period, and constitutes a major obstacle to human resources development that is needed for balanced endogenous development. A reform of basic education along the lines indicated above without a parallel reform in secondary education, could compromise the program. It should be remembered that teaching at the second level, and secondary teaching in particular, are oriented toward an urban culture and, as such, offers better and more direct opportunities for salaried employment in more pleasant conditions than self-employment, or even a salaried job, in a rural environment. The effect of this situation on ruralizing basic education is evident. Neither parents, students nor the administration will easily understand the utility of ruralized primary education so long as the opportunities for social and economic advancement (salaried employment in the modern sector or in government) remain linked to an educational network which only prepares one for advancement and for which the entrance requirements indicate a need to keep a primary system with no other purpose than to prepare students to pass the admissions examination for the secondary level.

The small number admitted and the dropping out of most students to unemployment, also ill-prepared for self-employment, will only reinforce the social and economic advancement of the few who finish. If the number admitted into the second level will be even more limited during years to come and could even be reduced in relative terms while first level education develops considerably, the danger for the ruralization of basic education is found in the selection process and in the curriculum of the second level. The curriculum and its focus will continue to influence the real meaning of primary education, even if it is simply ruralization. The competition for admission can not but reinforce the dichotomy between reality and intent.

If admission to second level schooling could be achieved following a quota system assigned equitably among the cities and villages of the country, and with a balance of the elements which must be acquired in a functional basic education, it remains to define the focus of teaching of the second level in the context of ruralizing development while respecting the needs of national development.

It is a question of reforming second level teaching according to two fundamental conditions: to introduce and succeed in the installation of instruction at the functional first level and, second, to safeguard the possibility of forming a limited number of high achievers of upper level necessary as much for national as for rural development. In other words, the teaching of second level should not discourage the ruralization of basic education, nor reduce the possibility of giving the entire country the highly qualified manpower it needs for development.

It should be a type of instruction which has an eye on the needs of rural development as well as on professional and artisanal training, and on academic program which could prepare students for study at the third level. Thus, training would be responsive at once to the goal of ruralization, the training of intermediate qualified manpower and the development of human resources for higher education.

Teaching at the second level would then be a training system favoring ruralization of basic education and by its philosophy and by putting people who are qualified and sensitive to the rural situation to work in villages, capable of contributing to development and ready to put its training at the disposition of the community, according to the needs expressed in the social and economic development plan.

The reform of teaching at the second level would be an indispensable complement to the ruralization of first level education to the extent that a parallel system which favors academic training leading to salaried employment in the city or with the government would be advanced as inequitable and of no interest to the masses. The latter, as it now stands continues or reinforces the dualist quality which characterizes the economic and social structures of the country. Thus, it seems indispensable to link the transformation of teaching at the first level to a reform of teaching at the second level and, above, all, to a reform of secondary education in general.

The rough sketch of a reform in this sense is presented below, based on successes and failures in other third world countries.

9.1. Reform of Secondary Education in General

9.1.1. Organization and Structure

The evaluation of the Mauritanian education sector has shown the very high cost (37.3% of the education budget in 1980) for instruction which has benefited only a minority (15.7% of students) and the focus of which is too far removed from productive work in general and from the rural environment in particular.

However, the influence of this type of teaching on the attitudes and motivations of the young has been considerable. Actually, the colleges and high schools, however, limited in number, are spread over the country with at least one college in each region and one high school in each urban center with a relatively high population. On the other hand, secondary education in general admits students selected according to a single criterion: academic knowledge acquired in fundamental education, which has already conditioned attitudes and motivations in a practically irreversible manner. Finally, admission to general (and technical) secondary schools governs admission to virtually all other types of education at the second level. Thus, failing students in general secondary education continue to have professional instructions after one or several years' exposure to the mentality and glorified pretensions of general education. Finally, secondary education must operate with a staff of professionals, mostly foreigners, increasingly hired under local contracts, and whose orientation is often more obviously to western values than to the reality of under-development.

For secondary teaching to play a role in promoting ruralization of primary teaching, and considering its influence in the present educational system, a reform is indispensable. Just as for lower level teaching, this reform should first define the focus for the CEG and for the high schools, but without reducing the opportunity to attain a level of general and academic knowledge which would qualify one for admittance to the third level.

With the aim of bringing secondary teaching in line with the reality of development, and especially of the tie between education and productive work, three modules would be established, each with two years of study.

The first module would be a cycle of observation and orientation; its program and testing methods would enable instructors to identify and develop the capacities of the students.

A major part of each day (one-third to one-half with schedules rearranged) would be dedicated to practical training, that is, agriculture, livestock raising, applied technology, arts and skills, commerce and housekeeping, the rest of the time for traditional courses, but with particular attention to environmental sciences (history and geography, natural science and technology). The curriculum of this first module would be a massive effort to orient the students toward work (salaried or not), toward professional training in another type of field, or toward the continuation in the second module of general education. Thus, the first year of the first module would be solely for observation. By means of a permanent evaluation which would consider practical work as well as abstract knowledge or attitudes and motivation, the student could be advised to continue in the second year of the module or to consider a different kind of training.

For the students (or parents) who express the interest, entry into the second year of module 1, that is, the year of orientation, would always be open upon completion of the year of observation.

The structure of the curriculum of the second year of the first module would be basically the same as that of the first year, with the sole exception that the student would have to choose among practical courses, for example three courses, which would mean more concentration in the selected subjects.

After the second year, at the end of the first module, the student would attend a one-year session in a USP, a CRFP or a CAA.

At the end of this session, a recommendation from the school would indicate the forms of the student's subsequent studies, depending on the evaluation of his first two years of study in the first module and on his performance in the one-year session, as judged by inspectors or by the institution conducting the session. This recommendation would be required for students wishing to continue their schooling.

- In this orientation several elements should be remembered:
- the mix of the group of students (sex, level, attitudes),
 - the requirements foreseen by the national planning office,
 - the requirements foreseen by the Education Ministry to ensure development of leaders who can go into basic education.

To this end, each year there would be a large meeting under the auspices of the Council on Education and Human Resources to draw up guidelines.

The student chosen for the second module could be progressively oriented toward a focus. In this process they would have to choose among four majors: science and environment, technical science, economics and literature. Each student would choose two majors, retaining the option of changing his choice for the second year, provided he could catch up with the others. Practical work would still take one-third of each school day.

Passing from first to second year of the second module would constitute the basis of a standing evaluation. After the second module, the students would have to take a certification examination which would entitle them to go into the upper level of these types of training of the second level, to go into the third module of secondary education or to find a job. (The certificate should confirm the level BEPC, CAP, the cycle of the ENA, etc.)

The students admitted into the third module would be chosen according to their scores on the certification examination and the needs of higher education, as established by the Council on Education and Human Resources, and on the student's attitude during the five previous years.

In the third module the student would have to choose one of the two majors he had been following in the second module. The other major would not be completely abandoned, but it would take up no more than one-third as many hours as the chosen major. Practical work would be continued in the third module, but with emphasis on management of a cooperative or a project.

At the end of the third module, the student would have to take a nationwide examination whose focus would be to measure the knowledge acquired in secondary education and not to select candidates for higher education.

Students finishing secondary education could go into the ENA (cycle A) and the NES, but not directly to overseas higher education. For technical secondary teaching, a similar reform would be undertaken to integrate it with general secondary teaching.

9.1.2. The Means of Getting Started.

a. Infrastructure.

At each college or high school there would be a specific development project, directly impacting on integrated development. Thus, for at least twenty institutions, an integrated project would have to be organized, associating practical work with food and agricultural production in the form of a cooperative. As these production units must allow a transition between traditional and technically advanced production - in view of the level of training - a fairly large investment must be planned. Financing these projects should be covered by donors, at least in the beginning. Each production unit would also be responsible for maintenance and repairs of school buildings. The production units would take care of feeding the students either directly or through sale of production which should progressively take over the operating costs, except for salaries, which should permit a reduction in the government's financial contribution.

b. Personnel Trainers.

Besides teachers for the academic program which should be rapidly Mauritanianized as a result of the recruiting campaign of ENS, the practical program would be staffed by Mauritanian trainers recruited from graduates of ENFVA, ENA, ENECOFAS, etc. with the assistance of a foreign advisor attached to the project. On the other hand, the project could be used to organize periodic training sessions of ENS students. Thus, they could in turn be integrated into the leadership of the practical program, which should promote a better exchange between the academic and practical curricula.

To this end, the curriculum of ENS would be adapted (see above).

c. Cost and Financing.

As already noted, secondary education is very expensive, taking about 40% of the national education budget. The excessive cost is explained by the frequent and, so far, considerable use of foreign instructors on the one hand and the scholarship system, too generous for the financial resources to support, on the other. A cancellation of the scholarship program should be considered replacing it with low-interest loans. Since these projects should result in commercial production or in self-sufficiency in food for the students, the use of loans could progressively be diminished. On the other hand, the one-year service could allow the reduction of the amount to be repaid by deserving students, given that this service would considerably improve the social benefit of education.

Finally, the necessary investments in the practical program would be financed by donors, while purchase of educational materials would be paid for by the government. Each school would be required to keep detailed accounts of the production project and would submit a budget every year for the following year.

d. The pedagogic aspects of the reform would be formulated by IPN in collaboration with the Council for Education and Human Resources.

9.2. Reform of Professional Education.

If technical and professional education is not widely available in Mauritania -- a characteristic shared by other African countries -- the contribution of its education to endogenous development seems all the more doubtful, even for ENFVA which provides training for agriculture, animal husbandry and ecology. It should be noted that its technical and professional training by its very structure, content and localization, is almost exclusively oriented toward the modern and urban sectors and its significance for the rural milieu rests in the possibility of having a few students come from rural areas. Once graduated, they concentrate on finding salaried work in the modern and industrial sector or in government work. Thus, professional training serves the modern aspect of national development and underscores the economic and social distortions between the active, urban, salaried on the one hand and the mass of unemployed, poor, deprived on the other, who live in a rural environment where underdevelopment expands.

If general secondary education, by its origin and by its philosophy, has not been able to make a real contribution to a harmonious endogenous development throughout the country, it should not be the same for professional training. In the immediate future the latter should have a rural orientation, training manpower for the development of agriculture, live-stock raising, and small local industries, for the improvement of health and sanitation, and management and administration of local institutions.

9.2.1. National Training and Agricultural Extension School (ENFVA).

The ENFVA, which has very high operating costs, is ineffective in its role of promoting rural development despite its seventeen-year operation. It is urgently in need of several reforms, as proposed by FAO in its report "Assistance to the ENFVA, 1979", viz. increased enrollment, in-service training, specialized worker training.

At the same time, the effective and efficient use of the ENFVA graduates must also be ensured. It would be useful to require these graduates to put in a field session of at least a year before admitting them as professionals in the public sector.

It is unfortunate that ENFVA no longer trains officials for the Agriculture Cooperatives Service. If such training is not provided by another institutions, it would be a major mistake, since the Cooperative Service is very important to ensure tangible results for the farmers. In this area, better cooperation between ENFVA and SONADER would be desirable.

The ENFVA should establish a model of a production unit in the form of a cooperative in order to expose the students to productive work and prepare them for organization and management of an agricultural cooperative. Besides, the production should allow the financing of a large part of the institution's costs.

As for ENFVA's entrance requirements, they must continue to be by competition for cycle C students. That should allow entrance by worthy graduates of the rural professional training centers with enough field experience. For recruitment by means of direct competition, it would be desirable to accept students after the first year of secondary education or recommendation of the school counselor, and those students who

have finished the second year. The former would have to make up courses prepared by ENFVA, if needed. The latter group would be exempt from having to do a session in a USP, CRFP or CAA after the second year of the module of secondary education, as a session of one year during the third year of cycle C at ENFVA would be planned (see FAO report). In the final evaluation, as well as for admission into the public service, a great importance would be given to students' attitudes of solidarity and cooperation. This last point is particularly important, given the discontent expressed by farmers during a survey undertaken by RAMS. Actually, the results of this survey show the inadequacy of technical assistance offered by agents trained at ENFVA. This distrust seems to originate primarily from the deplorable attitudes of the agents, which reinforces the idea that the training given by ENFVA bears no relation to the needs of farmers and livestock raisers who would like demonstrations and practical advice rather than academic knowledge.

After two years in the field the graduates of cycle C could advance to cycle B by way of professional competition. Entry by direct competition would be reserved for students having a certificate from the second module of secondary education.

The program of cycle B would be reformed according to the proposals of the FAO report, except that there would be a one-year training session after the third year, instead of the recommended three months. This session should be preparatory for admission to category B of the civil service. It should also permit the evaluation of the candidate's attitudes and his genuine commitment to rural development.

Entrance to the training of specialized workmen would be reserved for students finishing basic education and accomplishing a specified apprenticeship as determined by the rural professional training centers. Entrance should be controlled by means of professional competition.

Finally, all present ENFVA corps A & B now publicly employed would be recalled promptly for in-service training and an evaluation of their attitudes. Those judged insuitable would be replaced.

In order to accentuate the importance given to rural development, the courses at ENFVA would be financed by the government (including scholarships) until the time when the institution could become self-financing through the operation of its production unit, with the result that government financing will diminish progressively. The initial investment for the production unit would be financed by external donors under a specific project.

Finally, it would be useful to introduce training in communication techniques into the curriculum of the ENFVA, and to install a low-powered radio transmitter to ensure guidance by radio to the farmers of the region and to accustom the students to techniques of dialogue exchange of ideas and advice by radio. This experiment would be financed as a project and with pedagogical assistance from IPN.

As ENFVA is the only agricultural training establishment in the country, its leadership must be of high quality and Mauritanian. When choosing candidates for foreign study, the former priority must be considered. This would provide another chance for the government to demonstrate the importance it attributes to rural development.

9.2.2. The National Midwifery and Nursing School (ENISF).

In a development plan where health is considered one of the most urgent needs, the shortage of medical and paramedical personnel is enormous.

Besides, training in this discipline is diffused throughout the non-formal education sector and thus often escapes control by national authorities, especially in the area of preventive measures.

The training at the ENISF should be oriented on the one hand toward treatment, and on the other hand toward extension work and preventive measures. Thus, treatment could be organized in a consistent and well-planned manner, while preventive measures could be taught by a wider sampling from attitudes undertaken by a number of organizations, both Mauritanian and foreign. This being the case, ENISF enrollment should be tripled very soon, especially in the case of nurses and graduate nurses. It may be necessary to plan to decentralize training for subordinate paramedical personnel in order to reduce training costs and to reduce congestion at the Nouakchott school. Also, the contact with the "real" rural world could not help out benefit the students. Also, ways of reducing the time necessary for training and increasing field training

sessions must be devised. As for preventive medicine, training should focus essentially on sanitation and giving mothers hygienic and nutritional education, as well as vaccinating against common diseases. For treatments, an integration of modern and traditional medicine should be studied, with particular emphasis on primary health care.

Thus, the understanding of preventive medicine, pedagogical aptitude for teaching it and expertise in basic medicine would be the primary essentials in training paramedical personnel. The content and organization of paramedical training should galvanize manpower toward the villagers and end the concentration of trained personnel in the urban centers.

For nurses and graduate nurses, recruiting would occur after the first module of secondary education. Just as for the ENFVA, the candidates would be exempt from the year of service in the villages. After a year of training in preventive medicine, the students would follow a one-year training session in a rural adult literacy center. There, work would be primarily pedagogical, that is, to explain and show within the context of teaching literacy how to prevent illnesses. This session should enable a doubling of recruitment the following year, thus increasing the enrollment capacity of ENISF.

After two years of studies and a year-long training session between the first and second years, students would receive certificates as nurses or a diploma as graduate nurses. For the training of nurses and government nurses, the entrance by way of direct competition would be only for students who have completed the second module of secondary education. The graduate nurses and nurses with three years of service would be admitted through professional competition.

It would be equally desirable to study the possibility of training supervisory nurses at ENISF. They, as part of the mobile team, would train literate village women to become nurses' aides. The supervision would have the standing of government nurses with additional training in teaching methods for several months.

It is recommended that ENISF's scholarships program be maintained - but that entrance be contingent on an agreement to work five years of more after graduation. The agreement would serve to integrate the graduates

into the villages. As training does not allow productive, commercial work at the same time, the government would continue to fund the increasing costs of medical training while watching to make sure that the benefits of this training accrue principally to the rural population.

It should be stressed that the great number of training activities in the non-formal sector should receive special attention from the authorities. Better coordination of these activities could be achieved through a national publicity and training campaign under the auspices of the ministries of health, labor and social affairs. It would seem, actually, that it is in the health sector (in a rather broad sense) that a large number of non-formal training activities are now being developed. On the assumption that these activities actually improve the general health of the people, their almost fortuitous organization and even their existence over the medium to long term should merit a serious coordination effort by responsible authorities at the national and regional levels.

Even when non-formal training is the result of efforts by a private or non-governmental foreign organization, there is no reason why the government should not try to integrate such training activities into its own efforts. This is essential if the government is to face up to the deficiency in medical personnel. As but an example, the training curriculum of ENISF could graft into it some practical sessions of other training efforts in health.

Efforts to improve health should not be allowed to lose their efficiency from lack of adequate coordination because of an indifference to the broad variety of training activities.

9.2.3. The National Commercial, Home Economics and Social School (ENECOFAS).

It would be desirable to develop the home economics and social section of ENECOFAS with the aim of increasing the number of instructors in rural development. Since the current enrollment capacity and recruiting are inadequate, recruitment should be tripled as soon as possible. Further, it is true to strengthen the curricula while reducing the duration of studies. The students having finished the first module of the secondary education (without the necessary service in the villages) would be admitted to ENECOFAS competition for the home economics and social section. After one year of similar studies

they would do a year of service in the villages in a medical-social center, under direction of a CAA or even in rural professional training centers.

After a year of service the students would be placed in a major field of study for a year. Thus, the duration of course work would boil down to two years. Moreover, it would be necessary to use 50% of the scheduled time for such subjects as hygiene, nutrition and infant care instead of the present 20%.

The students in the home economics and social section would continue to receive scholarships linked to a work agreement of at least five years. It might be necessary to plan a complement of teacher training for a number of students in order that they may become instructors for practical courses. Recruiting exclusively graduates (under work agreements) who have at least three years of experience could also be adopted. This teacher training could be done by IPN or ENI with the cooperation of teaching personnel from ENECOFAS.

For the commercial section, the students would be admitted in competition for the first cycle after the first module of secondary education, including the year of service in the villages. The second cycle would accept candidates having already obtained certification of completing the second module of secondary education. The scholarship program for the students in the commercial section would be replaced by a low-interest loan program. It should be emphasized that the coexistence of a commercial section and a home economics section under the auspices of the same institution (ENECOFAS) is probably not a desirable situation. It is even less desirable with the transfer of cycles B and C from the ENA. Actually, the purpose, content and openings of these two types of teaching are so different that there seems no good reason for placing them in the same institution, if only because these types of training are traditionally for women. The most obvious disadvantages of this situation are the relatively small enrollment in the home economics and social sections (especially after the integration of ENA cycles B and C) and the false social and economic prestige accorded to commercial studies. Actually, if the latter could possibly lead to a job in the modern and urban centers, it is likely to create a mind-set which considers the home economics and social section (which is intended principally to benefit the

traditional and rural sector) as a type of inferior training. It is clear that this could have disastrous consequences on recruiting and on student attitudes.

It would also be useful to study the establishment of an autonomous home economic and social training center, perhaps outside the capital, in a town where the rural scene is more apparent than in Nouakchott, and where integrated development projects on a national scale were being implemented. Thus, this training could undergo quantitative and qualitative autonomous development without seeing its own purposes compromised by the presence of other types of teaching.

9.2.4. The Mamadou Touré Professional Training Center.

This center should be considered as a model for training, adapted to the realities of the country for the following reasons: reasonable entrance requirements, course of study limited to nine months, flexible schedules, an essentially practical curriculum, simple and inexpensive equipment and the low cost for training a student to graduation is only 20% of the cost of training for a technical college CAP.

The establishment of other centers of this type should be envisaged in areas where rural development efforts are concentrated.

It is doubtful that expanding the Mamadou Touré center in Nouadhibou would answer the needs of rural development, given its geographic location, local enrollment and the proximity to the mining sector, which employs many of its graduates. But, the centers to be established should be modeled after its pedagogical system, while maintaining a professional orientation adapted to their surrounding regions and training the necessary manpower for endogenous development in the rural setting. An agricultural and artisanal manpower orientation, indispensable to an improvement of agricultural techniques, would be desirable without forgetting the skills necessary for creating small enterprises for the production and processing of goods. The establishment of this kind of center should also be planned in regions where modern irrigated farming is planned because of the high level skills required for success. Thus, it should not be ruled out that the initiative of SONADER to train mechanics for the maintenance and repairs of irrigation pumps could form the nucleus of a Mamadou Touré type center in towns such as Boghé, Kaédi and Rosso.

Centers of this type should be for students who have finished basic education and who have spent a limited time in a rural professional training center. Their admission to this type of center could be considered as a sort of refinement of their skills. Another group of candidates would be students having finished a year of the first module of secondary education and who would be oriented toward short-term professional training.

It would also be important to develop a staff of Mauritanian teachers for these centers. To accomplish this goal, the CFPP in Nouakchott would have to be directed to train Mauritanian instructors as soon as possible in those areas judged useful for centers of this type. The contribution of CFPP could even go further. To the extent that the CFPP must acquire vast experience in short-term professional training, adapted to the immediate needs of its users and constituting a sort of refinement beyond acquired levels, it would be advisable to draw upon the experience of CFPP for any development of professional instruction, especially that which will have an immediate return. Otherwise, theoretical courses could be given to graduates of secondary education who had a technical major. These students would take a pedagogical training session organized by the IPN, the ENS, or even ENI at Rosso.

If, in the beginning, the financing of the centers must be covered by the government, financial self-sufficiency must be achieved progressively through the sale of produce and services by the centers. The initial investment would be made by foreign donors. There would be no scholarship program, but the graduates of the centers could obtain initial capital for starting a small industrial or service enterprise in the rural setting. This capital would be in the form of a long term, low-interest loan. It would be possible to add the proviso that the enterprise be a cooperative and include an apprentice program. To this end, a nationwide organization would be created for promoting small industries and training apprentices. It would also be necessary to plan for the establishment of women's professional training centers with the cooperation of the Red Crescent organization. It should be remembered that any expansion of basic education must increase female participation so that post-primary specific training becomes necessary.

9.2.5. The Center for Professional and Advanced Training (CFPP).

The results of the CFPP's operations are awaited before drawing any conclusion on whether to expand this type of training. It provides on-the-job training for workers in different occupations and for certain categories of employees. In an initial evaluation it would be interesting to examine the following points:

- To what extent is the training of instructors judged acceptable?
- What is the contribution of these instructors to the training of other instructors?
- Does the performance of the council of representatives of the government, employers and workers correspond to expectations?
- Do the organized training programs offer any particular interest for rural development?

The experience of the CFPP would be important to the extent it could contribute to the organization -- outside of Nouakchott -- of activities in:

- Professional in-service training
- Creation of a national apprentice system
- Teaching literacy to people along with a skill
- Training (in Nouakchott) of people qualified to work in the villages -- to encourage an urban exodus
- Help to establish Mamadou Touré type centers.

Among CFPP activities, considerations should also be given to establishing a center of applied technology, with help from the Technical High School. This center would be responsible for planning, formulation and execution of technology and simple techniques, under the guidance of foreign assistance. Establishment of this center could facilitate and improve the integration of indigenous technical skills with non-African ones. Thus, it would not be a transfer of technology but mastery of a new technology based on cooperation and exchange between Mauritanian agents and foreign personnel of the Technical High School. The substance of the technical training would be oriented toward seeking practical solutions in the realms which touch an endogenous development. Even if simple solutions to equally simple problems can not be found, the activity of this

sort of center could stimulate the initiative and imagination essential for working out practical solutions to specific problems.

9.2.6. The School of National Administration (Cycles B and C).

A large number of agents are formed at the B level preparatory to entering public service. This seems to indicate that the specific purpose of this cycle is training of middle grade officers for the national and regional services.

It should be noted that the curriculum of Cycle B was shortened in 1976 and 1977 to relieve it of general subjects and to strengthen it in practical instruction and for specialized courses. This measure is surely an important step in the right direction. Nonetheless, it would be useful to add to applied teaching some practical experiences of accounting and management and also to increase the number of hours reserved for applied teaching in general, at present, from 6 to 8 hours out of 25 to 28 weekly in the first year and 9 to 11 hours out of 24 to 27 weekly class hours in the second year. Otherwise, the program should be more oriented toward departmental and regional needs. In this context a "regional administration" and "management of cooperatives" section could be established.

In the same sense practical sessions should be decentralized so that students would be put into contact with regional and societal realities.

From the point of view of reforming secondary education, the recruiting for ENA's cycle B could be done by means of competition, immediately after the second module of secondary education. Entrance by professional competition would be only for government employees of Category C who would have three years of service, with a priority for those who would have already done this service at the regional or local level.

To finance these studies, a revision of the entire ENA would be necessary, given the fact that nearly 65% of its operating budget is used for scholarships and 32% for salaries of students who are senior government employees. This overly-generous arrangement should be modified so that student-employees would pay 50% of the cost of their studies. Scholarships for student-employees should be proportionally reduced.

The ENA's cycle C should be transferred to ENECOFAS, because there is an unnecessary duplication of some programs in the commercial section of the latter institution. The entrance requirement and the financing of studies would then be the same as those proposed for the commercial section of ENECOFAS. As already noted, the transfer of cycle C to ENECOFAS would further justify the transfer of home economics and social teaching to a new institution yet to be established. The role of this teaching in the framework of development is important enough to enhance by the creation of an autonomous institution.

10. PEDAGOGIC INSTRUCTION

It seems evident that any reform of a level or type of teaching implies an adequate preparation in pedagogical training.

In an ideal situation, the preparation should precede the reform(s) in question by in-service training of the teachers or by adapted training of new generations of teachers.

In most cases it will be necessary to arrange a transformation by simultaneously giving in-service training to existing teaching staff and adapted training to new teaching candidates, all according to a formula which would allow its inscription in the limits of human and financial means available to the educational system and the country. These means will always be very limited, compared with the needs of the educational system, which imposes the necessity of electing priorities. From the point of view of endogenous development, resting on the highlighting of the rural setting, it would be desirable to give an absolute priority to basic education, that is, the fundamental teaching of both children and adults. Thus, in-service training and training of teachers would have high priority in the reform of the educational system in Mauritania, which explains why it is regrettable that present educational policies favor spectacular recruitment at ENS while at ENI the growth in admission is relatively low. (1)

The concern of the authorities to reduce the costs of secondary education by "Mauritanianizing" the teaching staff must be understood; there is a danger that increased numbers of Mauritanian teachers will serve to entice more students to the second level rather than creating a corps of Mauritanian teachers.

(1) In 1980-81, the attendance at ENI was 15% higher than in 1978-79, while that of the ENS went up 300% in the same period

10.1 The National Teachers' School.

For the reform of basic instruction for children of school age, the mission of the ENI should be redefined, considering the principal ideas which should direct basic education toward endogenous development. The evidence that primary education has no purpose of its own and thus does not enable a smooth transition from scholastic education to productive work requires, in addition to reforming primary education, a change in attitudes and, consequently, in the training of teachers, for any reform in basic education will only be an illusion if the teachers are not convinced of the merits of the reform. If the identification of positive attitudes concerns primarily the selection criteria and procedures for entrance to ENI, their development should result from the curriculum which aims toward this goal.

At present, admission to ENI is very flexible compared to other types of studies at the same level. Thus, one can enroll in the ENI at almost any level of the program. But, if this policy is supposed to make it easier to enter ENI and thus more attractive for those who fail elsewhere, the scholastic advantages are much less evident. It would perhaps be better to limit admission to ENI to several levels selected on the basis of pedagogical efficiency in training teachers for work in basic education, as described in this document.

Thus, access to the first school year of ENI should be maintained by means of competitive examination for graduates of primary education. The diploma would be given after five years of study. If recruiting at this level seems premature, it should be borne in mind that one's attachment to one's social setting is stronger after the sixth primary year than after any of the classes of the second level. Consequently, the number of candidates with attitudes favorable to the rural setting should logically be rather high. Otherwise, recruiting just after primary education should enable the selection of students particularly gifted for pedagogical instruction who, for one reason or another, would not be admitted into secondary education. Finally, recruiting after primary education could probably increase female participation in teacher education, which should be an important factor in the growth of the teaching ranks. The selection at this level, however, could cause some problems unless an observation period, similar to that planned for secondary education, were used.

In order to get around this problem, the first year at ENI would also be an observation year, allowing a possible reorientation into another type of post-primary teaching, with authentication of release.

Another possible entry level for studying teacher education at ENI could be at the beginning of the third year for students having completed the first module of secondary education, that is, the cycle of observation and orientation. These students would be admitted without having already completed the obligatory one year of service planned at the completion of the first module of secondary education. The justification for this exemption would be based on the fact that the dearth of teachers for basic education restricts its expansion and by the fact that students should attend sessions during school vacations, as well as a year of required service after the fifth year and before admission into the ranks of public service. However, at the third-year level, admission based on attitudes should be rigorous in order to avoid admitting candidates who attend ENI to avoid the required year of service, scheduled after the first module of secondary education.

The other entrance avenues would be closed to avoid the qualitative dilution of diplomas by accepting large number of students who dropped out from other types of studies. If a change in ENI entrance requirements enables the identification of capable and motivated students for basic teaching in a rural area, the acquisition of necessary skills for achieving a reformed program of basic education and the reinforcement of attitudes favorable to integration of teaching into the social and economic development of local communities a modification of ENI's curriculum would be necessary. Such a modification should be based on the focus and specific objectives of basic education.

In ENI's present program, the space given to practical work is severely limited. And for applied agricultural education it is non-existent. Thus, of 32 weekly class hours the first year, barely three hours, or 9% are given to drawing, manual work, trades and industries. Of these three hours, two are for drawing and manual work. If this manual work is intended for development of future teachers, for example, the use of discarded raw materials to make useful objects, decoration, weaving, treatment of hides, etc., it does not seem explicitly oriented toward the idea of productive work or even toward attaining food self-sufficiency. It is, therefore, hardly likely that this part of the program could make more than a minor contribution to ruralized basic education. Besides, the weekly hour used for trades and traditional artistry is purely theoretical and of no particular interest unless it could be integrated into courses on science and environment. The situation for the second and the third year is similar; in the first three years of ENI, 6 weekly hours of a total of 96, or 6%, are devoted to drawing and to manual work, and one hour, or 1%, to purely theoretic study of trades and industries.

It would be better to integrate the weekly hour devoted to trades and industries into environmental studies, still without increasing the time devoted to this part of the program, and to devote at least five hours weekly to rural manual work and to drawing.

For the fourth and fifth years, the present situation is even less favorable to practical work. Actually, only one hour per week is given to drawing and manual labor, which clearly shows the tendency for advancement in studies to distance the student from the focus of basic education for endogenous development. Another weekly hour is devoted to trades and to traditional artistry, but once again this part of the training is exclusively theoretical and primarily concerns the modern and industrial sector.

As in the three earlier years, the studies of trades and artistry must be integrated into environmental studies and the time given to manual and practical trades must be increased from one hour to five hours per week. Finally, it would be well to have one hour per week in cooperative and financial management in the fifth year. This training could even be done by a professor from ENA. A modification of the ENI program along these lines would require an organizational and physical structure quite different from the present one.

First of all, ENI should have an infrastructure to provide for practical work both in Nouakchott and in Rosso. For this reason it would be well for ENI to have a model of the USP and the CRFP so that practical teaching and the whole range of rural activities could be reflected in the course content. Thus, future teachers would have the required skills to ensure proper training of the students and for theoretical courses and especially to establish a rational link between practical work and academic training. This more general training (compared to the overall village life) should be accepted by and integrated into the local community. The authority of the teacher should not be based on his academic standing; it should be justified by his knowledge of the rural world and by his desire to improve the lot of the community to which he could be sent to accomplish his mission. The practical work of the ENI would not be aimed primarily at achieving commercial production. It would, above all, attempt to achieve a production of quality with limited means, the goal of teacher education being not preparation for productive work (in a narrow sense) but rather the proper training of students.

Promotion from one year to the next would not be automatic due to a need to weed out poorly motivated or low-achieving students. After the fifth year the teacher would work at least a year of required services before joining the ranks of public service.

This service would be paid at the rate of 50% of beginning salary. The required service would be done under the supervision of a session director and admission to public service would be after a favorable evaluation by the training instructor and by the inspection service.

In order to recruit more girls, a national campaign should be organized.

Since the practical work of ENI will not be directed toward commercial production, it would be necessary to retain the ENI scholarship program. This advantage would also be compensated by a practical, unpaid session during vacation periods. In this way, the duty roster of the USP could be staffed by student-teachers with the cooperation of the training team of the concerned village.

For those teachers who are already on the job, intensive in-service training must be organized as soon as possible. It stands to reason that this will be a difficult job, given that there are 2,000 of them, a great many of whom are clearly under-qualified. On the other hand, it is not just a question of up-grading the background of the existing teachers but rather an in-depth in-service training program which stresses attitudes as much as content, in order to provide the grounding which is absolutely indispensable to the achievement of basic educational programs which are responsive to the needs of endogenous development.

To begin with, the teacher must absorb the notion of the need to prepare the students for a life where productive work is an essential element of individual and collective survival and that no training is properly directed unless it can contribute to achieving this fundamental condition.

At the same time, the teacher should not forget that the dimension of survival does not exclude maintaining traditions and present culture, because every disruptive change caused by education compromises the goals of basic education, which is to prepare an individual to function in the social, economic and cultural life which makes up his surroundings. It is a delicate adaptation of the individual to his surroundings, which can only be done through careful preparation of existing teachers. This preparation should contribute toward making the school an instrument of social reconstruction. The reorientation of education goes beyond an understanding of content and teaching methods, as well as the study of means for developing cognitive aptitudes of the students, the new function being to develop the child's social role in the local community, which would go far beyond book learning. It goes without saying that this role should include

the development of an open spirit in light of the need to make better use of the environment.

The in-service training institution for basic education teachers should be IPN, cooperating with ENFVA, ENECOFAS and ENISF. It would be well to organize the in-service training before starting the USP, that is, before the generalization of a basic education program. It would also be better to have intensive retraining, using most of the teachers' free time (school vacations), supported by pedagogical materials and above all, the radio. Finally, it should be stressed that retraining without the necessary didactic material (e.g., manuals) would inevitably lose considerable efficiency.

Financing ENI as well as retraining at IPN would be covered by the national budget, using savings in secondary teaching. The promotion of teachers either to the inspection corps or as professors of the first module of secondary education. Promotion would depend on an evaluation by the inspection service and by competition.

On the other hand, salaries at the community level for work linked to basic education should not be out of line with teachers' salaries.

The decentralization of teacher training for basic education should be considered in the immediate future; hence the opening and regular operation of the ENI at Rosso seems quite urgent.

Finally, the entrance of teachers into higher level teaching should be made possible, depending on their taking the examination scheduled at the end of secondary education. The instruction for this examination could be done in a secondary teaching institution where make-up sessions could be given every three years. This would help more to have a fair chance at receiving higher level training.

10.2. The Advanced Teacher Training.

The analysis of the education sector has shown the extent to which Mauritania depends on foreign personnel to staff the general and technical secondary education institutions. This solution, which is increasingly costly and undesirable for an education adapted to the needs of the country, should only be temporary. That is why a great effort must be made by ENS to rapidly increase the number of Mauritanian teachers. Of course, this effort should not be to the detriment of the development of basic education for the maximum number of students of the appropriate age. The growth of secondary teaching should be strictly limited to the needs of endogenous development, which requires rigorous planning for this teaching. Thus, the

extension of ENS should stress the Mauritanization of secondary teachers even more than the expansion of secondary enrollment which would require a revision of present policies.

To accomplish the expansion of ENS, the recruitment of teaching candidates could be envisaged just as they finish the national examination which is taken after the third module of secondary education and by direct competition. On the other hand, recruitment through professional competition must continue for graduate teachers having five years of seniority in this group. This second avenue of recruitment, however, must be used carefully in order not to deprive basic education of its best teachers. In this case the recruitment of teachers must be limited in numbers, and competition should be used only for those candidates having shown their devotion to their school and to village associations. This last quality should then be certified by the village authorities and by the inspection service.

Another means of increasing the number of Mauritanian teachers in secondary education could be found: promoting teachers directly into the first module of secondary education. This type of promotion would be exclusively used for teachers with at least ten years of service and exceptionally meritorious in their work with the Peoples' Schools. The candidates for this promotion would be selected rigorously by a commission, with an inspector, a village representative, an IPN representative and an ENS representative. The promotion of teachers into the first module of secondary teaching would follow special retraining, organized by the ENS. The teachers who would do the first two years of the first cycle of ENS could teach in the first and second modules of secondary teaching.

For teaching in the third module of secondary teaching, teachers leaving the ENS second cycle (CAPES) would be sought. Admission could be automatic for those holding a diploma from the ENS first cycle.

Placing the CAPES in the third module of secondary teaching should result in significant savings in personnel and financing, as well as in contributions to the creation of an all-Mauritanian professional corps.

As for the inspectors of basic education, their recruitment should be equally accelerated, and they should also be trained at ENI in order to create a program for training inspectors of secondary education at the ENS. The Mauritanization of the professional corps of secondary education would require a lengthy program of pedagogical assistance.

It should be pointed out that in many countries the inspectors of basic and secondary teaching are recruited from teachers and professors with sufficient experience and that instruction in these countries has been found to be adequate.

Especially at the level of basic education such a solution could work well in Mauritania, even better because it would permit the retention of the best teachers in the network of Peoples' Schools and would free up a number of vacancies at ENS for training of secondary teachers.

As for the programs of ENS, it would perhaps be preferable to limit any changes. This should not prevent the familiarization of ~~future~~ teachers with the practical courses organized in the first module of secondary education. To this end, CFPP, ENFVA and ENECOFAS should plan to train several instructors who would be in charge of organizing practical courses after a one to two-month pedagogic session.

It would also be desirable to add a course in management and accounting to the ENS curriculum, in order that future teachers might learn how to set up a cooperative. This would make a positive and efficient contribution to production projects attached to secondary teaching institutions. Such a course would constitute an extension of the economics course which would then be carried to one or two hours in the second, third and fourth year of ENS.

Finally, as previously stated, ENS students would have periodic assignments in production projects of secondary schools to prepare for their integration into the redesigned secondary teaching program. This should result on the one hand in a better exchange between the academic and practical programs and, on the other hand, in a progressive apprenticeship of managing a production project, attached to a secondary school.

Before their entrance into the ranks of the public service, the graduates would complete a two-year assignment in a secondary school under the supervision of a training director. Finally, the graduates of ENS would be bound by a work agreement of at least five years.

The scholarship system would be maintained, but the amount of the scholarship would be reduced. Besides, the payment of full salaries for teachers-cum-students would be seen as an opulent benefit. A reduction of this salary during the training period should, therefore, be planned, since there is no reason for a teacher in training to become a professor in secondary education to be paid 100% during a period which will end by placing him on a higher salary scale. The savings which could be achieved would be earmarked for improving didactic materials for ENS and for expanding programs of IPN.

For the retraining of active teachers, the modified parts of the ENS curriculum would be offered during a period of intense training and practical sessions would be taken during scholastic vacations.

11. HIGHER EDUCATION

For higher education the proposal concerns ENA's cycle A and higher education abroad. It is evident that the government's impact on higher education abroad is more limited than on ENA. But in the selection of students, courses to study, countries and institutions, it should be possible to establish a rational policy.

11.1. ENA's Cycle A.

Concerning ENA's long cycle A, courses on general economics, management techniques, development economics and especially integrated rural development should be strengthened.

This would result in forming a staff of rural development consultants. In an initial stage, these consultants would be sent as counselors to production projects in colleges and high schools where they would work in collaboration with foreign advisors, a type of on-the-job training. Then the consultants would be sent into regions where their assignment would be to actively support all cooperative projects. At the same time they would maintain liaison between all of the projects and the administration in Nouakchott.

For ENA's short cycle A, there would also need to be a strengthening of economics, accounting and management courses.

As the ENA is oriented primarily toward public service and administration, it would be well for responsible national and regional offices to study its deficiencies in the context of a redefinition of social and economic policies. It would be well to consider establishing a training branch for indoctrination of students in cycles B and C. This branch would then be part of ENA's short cycle A. Even for the training of students of short cycle A, one could foresee a training section for professors in long cycle A. One might imagine that the training of these teachers could only be done abroad or by foreign technical assistance. This is debatable. As under-developed countries must master endogenous production technology, they must also formulate a training technology for the same reason. A precise formulation of the goals of each type of teaching should be the basis of research on such a technology. In this context, IPN, the user agencies and a special commission created at ENA could jointly identify and analyze these goals.

11.2. Higher Education Abroad.

In order to ensure the maximum contribution of all students to endogenous development and in order to sensitize to the maximum those students who, by their behavior and abilities, would be the most able to benefit from higher education abroad, every candidate for an overseas scholarship would have to devote two years to development work in the field before being considered for study abroad.

If this measure appears draconian, it is no less logical insofar as it seeks to instill in highly trained candidates the idea that they will one day be a part of the intellectual and technical corps which makes up the elite of the country. In this sense, the mission of community service should develop, while assuming responsibilities in different aspects of social life and in achieving the well-being of all the country's citizens, especially of the great majority of the disadvantaged. Admission to higher education abroad need not be based solely on scholastic achievement but, even more, it should demonstrate the confidence which the community places in an individual in order that he may enter development work with every academic skill to achieve the results described by the GIRM.

The receipt of a scholarship would be strictly linked to this work experience and every precaution would be taken to avoid abuses or exceptions.

Secondly, preference would be given to training in an institution in the third world, preferably in Africa. Even if advanced training in sub-Saharan institutions weighs heavily on the higher education budget (the cost per student to be paid by Mauritania is higher there than anywhere else except China), the advantage of training in Africa seems evident. Better coordination and cooperation in the university community under the auspices of the CEAO could probably enable many more Mauritanian to study in member country universities, because now barely 7% of students are trained in black Africa, most of them in Senegal, against 67% in Arabic countries and 18% in Europe (1979-1980).

Then, the recruitment by major study or discipline would be strictly regulated according to the real needs of the country. The large number of students who are trained in human and social sciences should be restricted if a comparison is made with medical, applied and natural science and agronomy.

The reform of secondary education described herein should increase the attraction of these scientific courses at higher levels and should also facilitate the task of orienting the authorities responsible for granting scholarships.

Finally, it should be stressed that higher education abroad should emphasize the training of Mauritanian professors, who are needed to staff national education institutions. This would enable a rapid reduction in the requirement for foreign professors who are too expensive and are too often placed in an alien context for the African student.

12. INTEGRATION OF EDUCATIONAL REFORM IN ECONOMIC AND SOCIAL CHANGE

To achieve a basic education for the largest number of Mauritanian boys and girls requires an increased enrollment of youth in formal and functional education, professional training for the unemployed, functional literacy and professional training for adults. It is a vast educational program in which the non-formal is integrated with the formal and vice-versa and in which the cooperation of all education and training institutions is sought. It is also a program which seeks to stamp out the elitest attitude which reigns in the present educational system. The conclusion of these points is that most of the reforms must be achieved simultaneously. For those which will not be costly, there will be no major problem. For the others one must await the assignment of priorities. To avoid as much as possible upsetting the measures, a partial application of the measures (e.g. establishing pilot villages) could constitute a point of departure and a testing ground in the hope that positive results would lead to a multiplier effect.

On the other hand, the introduction of partial measures might aggravate the situation. Thus, a simple increase in primary education could cause an increase in unemployed youth and encourage rural exodus, producing new problems in the cities while solving none in the villages. It is, therefore, necessary to change the content of primary education at the same time as it is enlarged. But to what advantage would it be to achieve both expansion and reform if there is no space in post-primary institutions for professional studies? The poor would still have nothing but unemployment, while the rich would still go into secondary teaching and beyond. Even if the reform of the primary cycle increases rural employment, part of the students would be able to go on to more advanced professional studies.

It would be equally dangerous to ruralize teaching for the young without training the adults because new ideas and methods could be contrary to those of the adults with a resultant impasse instead of change and conflict instead of solidarity. The same is true for the mobilization of students for secondary teaching. Without their active participation in rural development, a deeper chasm could open up between, on the one hand, a system of education for the poor and ignorant which tends to hold them in their wretched circumstances and, on the other hand, an education system for the elite who would have access to power and high incomes.

If the reform of education is to be global, it must also be accompanied by measures which provide for the transfer of money and financial means to local collectivities. A policy on income, on commercial trade between the city and the country, and on fiscal and financial matters favoring the redressing of existing inequities should -- to avoid the danger of failures -- accompany the ruralization of education.

L' E D U C A T I O N D E B A S E

L'ECOLE DU PEUPLE
(groupes d'âge 6 à 14 ans)

LES CENTRES RURAUX DE
FORMATION PROFESSIONNELLE
(C.R.F.P.)

CENTRES D'ALPHABÉTISATION POUR ADULTES
(C.A.A.)

Structure des études

Observations

MODULE 1

- Redoublement autorisé pour les deux années d'études
- Accueil à prévoir pour les défaillants

- Formation de durée variable
- Avec sections multiples (représentant les métiers pratiqués au village par les hommes et les femmes)

- Alphabétisation fonctionnelle de durée variable

1e année) enseignement théorique
2e année) alphabétisation

MODULE 2

- Promotion collective
- Création d'Unités Scolaires de Production
- Alphabétisation par étude de l'environnement

- Accès : - élèves sortant de l'école du peuple
- adultes non scolarisés
- Alphabétisation par entr'aide

1e année : enseignement théorique + observation travaux pratiques (½ journée semaine)
2e année : enseignement théorique + travaux auxiliaires (1 journée semaine)

MODULE 3

- Promotion collective
- Travail productif dans les U.S.P.
- Acquisition de connaissances techniques
- Action d'alphabétisation (½ journée par semaine)

1e année : enseignement théorique (1/3 de l'horaire)
travaux pratiques (2/3 de l'horaire)
2e année : enseignement théorique (1/3 de l'horaire)
travaux pratiques (2/3 de l'horaire)

↓ VIE ACTIVE ↓ CENTRES RURAUX DE FORMATION PROFESSIONNELLE ↓ ENS. SECONDAIRE ↓ ENI

TEACHING AT SECOND LEVEL

SECONDARY EDUCATION	<u>Remarks</u>
MODULE 1	
<p>First year: theory (1/2 to 2/3 of schedule) practice (1/2 to 1/3 of the time)</p> <p>Second year: theory (1/2 to 2/3 of the time) applied practice (1/3 to 1/2 of the time)</p>	<ul style="list-style-type: none"> - Promotion on basis of continuous evaluation - Opportunity for optional orientation towards: ENFVA, Mamadou, Touré, CRFP - Opportunity for orientation to: ENFVA (Cycle C) ENISF (Diploma) ENECOFAS (home economics and social section) ENI
<p>NATIONAL SERVICE 12 months under auspices of a USP, CRFP or CAA. FINAL ORIENTATION</p>	<ul style="list-style-type: none"> - either Module 2, or other type of teaching, on level C (admitted to second year for ENFVA, ENECOFAS (home economics and social section) and ENISF.
MODULE 2	
<p>First year: 4 courses of study; choice between two practical training courses (1/3 of the time)</p> <p>Second year: same as first</p>	<ul style="list-style-type: none"> - promotion based on continuous evaluation
CERTIFICATION EXAMINATION	<ul style="list-style-type: none"> - entrance to level B training - entrance to module 3 on basis of country requirements.
MODULE 3	
<p>First year: 1 major option (2/3) 1 second major (1/3) practical work (1/3)</p> <p>Second year: like first year</p>	<ul style="list-style-type: none"> - emphasis on project management
NATIONAL EXAMINATION	<ul style="list-style-type: none"> - entrance to ENA (cycle A) - entrance to ENS - consideration for higher education abroad after two years of national service.