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SOMALIA

EDUCATION AND HUMAN RESOURCES

SECTOR ASSESSMENT

January 1984

Coordinated for the Government of the Somali Democratic Republic by the Ministry of National Planning with USAID

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For the Government of the Somali Democratic Republic

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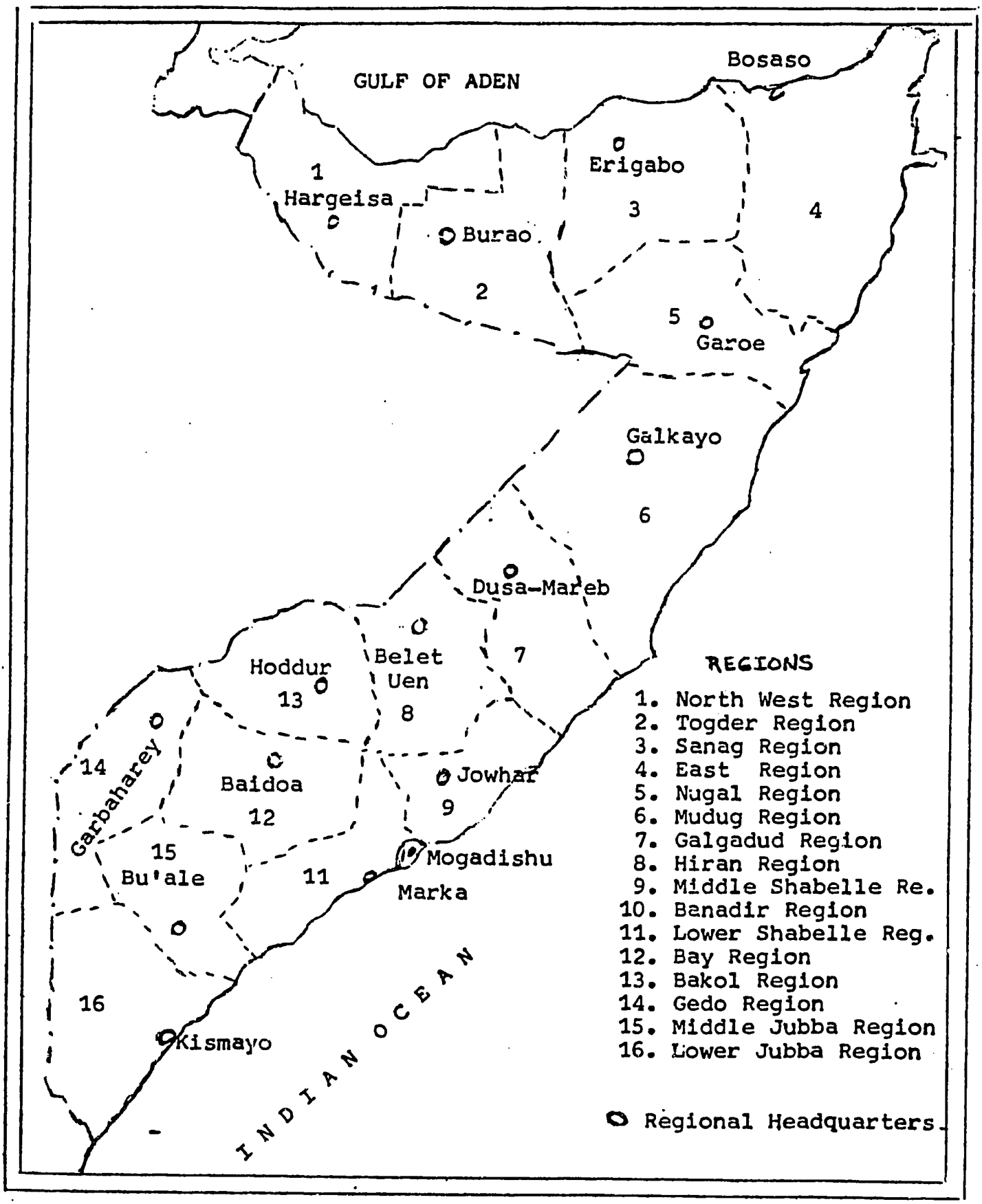
MAP OF SOMALIA



1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

This assessment of the education and human resources (EHR) sector in Somalia is the first such study to address comprehensively the nation's education and training system in light of national goals, constraints, and opportunities. It has been coordinated by the Ministry of National Planning and prepared by USAID-sponsored specialists working closely with a committee of professional staff from the concerned ministries and institutions. The purpose of the assessment is to:

- enable more systematic planning for the development of Somalia's human resources;
- identify priority areas of education and training for the investment of internal and external resources;
- focus attention on the constraints affecting the investments;
- provide a stronger base for monitoring system performance; and
- establish a sounder basis for external assistance.

The assessment begins with an analysis of the capacity of the EHR system. This includes an economic and financial analysis of human resource development, focusing on fiscal capacity, manpower supply and demand, program costs and rates of return, constraints, and opportunities for change. This sector-wide economic study and comparative program review foreshadows the more narrowly focused analyses and recommendations of specific subsectors. The assessment of EHR system capacity also

includes considerations of both management capacity and language in Somalia. Particular attention is drawn to the problems and opportunities associated with use of four languages at different levels of the education and training sector.

The assessment next addresses the formal education system, encompassing primary, secondary, vocational and technical, teacher, and higher education. The Koranic schools, an unofficial parallel system, are also reviewed at the beginning of the assessment of formal education.

The final part of the report examines nonformal education. This comprises health education, agriculture and livestock education, and adult education as available to the public. Considered within the last category are programs in such areas as literacy and income-generation for the following special target groups: adults, women, nomads, and refugees.

Each subsector assessment first presents a status overview covering goals and strategies and current programs. It then identifies needs, constraints, and plans. An analysis of current strategies with respect to national goals is then used as a basis for summary conclusions and a set of priority-ordered recommendations.

1.2 NATIONAL GOALS, DEVELOPMENT POLICIES, AND STRATEGIES

Four broad goals are stated in the Five Year Development Plan (FYP), 1982-1986:

- accelerate growth in production leading to increase in per capita incomes;
- reduce urban/rural disparaties in income and access to services to discourage urban migration and unemployment;

- reverse cropland and rangeland deterioration to improve productivity; and

- increase self-reliance and popular participation in the development effort.

These goals expand on those emphasized since the 1969 Revolution; namely, to:

- increase the standard of living to the highest possible level;

- provide opportunities for gainful employment for the entire labor force; and

- create a society based on social justice and individual freedom within a socialist framework.

To realize its broad national goals, government has set the following development objectives for education during the Five Year Plan:

a. continue the process of democratization and expansion of educational opportunities through compulsory universal and free primary education (classes 1-8);

b. improve the content of educational programs;

c. increase the effectiveness of the educational process in developing intellectual abilities, attitudes, and values and in improving practical skills;

d. diversify post-primary education, paying attention to expansion of technical and vocational education to cope with the critical demand for middle-level manpower;

e. expand adult education programs with emphasis on making them functional and strengthen follow-up programs to sustain results;

f. strengthen the teaching and popularization of the Arabic language;

g. expand facilities for higher education and research; and

h. provide training and research facilities for Somali planners.

Among the specific targets proposed by 1986 are:

- enrollment of 52 percent of 6-year-olds in primary school, with total primary enrollment reaching 440,000;
- enrollment of 80 percent of 110,000 students, completing Grade Eight, in general secondary (24%), technical secondary (14%), and vocational training (42%);
- enrollment of 25 percent of secondary school leavers by expanding university facilities;
- improve primary and secondary teacher training by improving methods and establishing primary teacher training centers in five regions;
- establish a curriculum development center;
- locally produce all primary and secondary school textbooks;
- establish seven regional adult education centers and ten literacy follow-up centers;
- establish family life extension centers in rural areas of all districts and set up family life teacher training centers in 16 locations; and
- strengthen Arabic language teaching in all education institutions and teacher training programs.

The target enrollment projections envisioned during the preparation of the FYP are now seen as unrealistic for the original time frame, and revisions are suggested in line with more current data on enrollment patterns. These topics are amplified later in this summary and in the body of the report.

1.3 HISTORICAL AND SOCIAL SETTING

Somalis share a common ethnicity and culture, characterized by a single language, adherance to the Islamic faith, and a life style and values derived from nomadism. Situated in the strategic Horn of Africa, Somalis have engaged for centuries in trade and exchange in the Arabian

Peninsula. The climate and the unpredictable availability of water have helped shape the ingenuity, drive, and pragmatism of the Somali people. The country comprises 638,000 square kilometers, mostly semi-arid, and has a 3,330 kilometer coastline, the longest in Africa. The northern part of the country is hilly, from 900 to 2,100 meters, while the central and southern areas are flat. Most cultivation occurs in the south between the Shebelle and Juba rivers.

While 60 percent of the nearly 5.3 million Somali people are nomadic and semi-nomadic pastoralists, it is important to note that this life style pervades the lives of all Somalis. Most individuals living in towns and cities also have immediate and extended family members living as nomads in the interior. They commonly invest in joint livestock herds. About 20 percent of the population combine semi-pastoral livestock production with small farming. Rough estimates place the country's total number of sheep, goats, camel, and cattle at 35 million, or about seven head per capita. The country is believed to have the world's largest camel herd, and camel have traditionally been the most prized form of wealth. For centuries, nomads have engaged in a large, monetized trade network across the Gulf of Aden and have assumed a major role in the remittance economy.

The vigor of the livestock sector is such that many prosper rather than merely subsist from it. During periods of favorable climate, the per capita consumption of milk and meat is large by international standards. The very low life expectancy at birth (43 years) largely reflects high infant and child mortality rates, which are among the

highest in the world. Only 30 percent of the population is estimated to have access to safe drinking water. When drought conditions prevail, the toll is enormous.

Although Somalis are a homogenous ethnic group, the country was not united as a single state until independence in 1960. Even then it functioned as two separate entities; one, the former Italian colony and trust territory in the south, and the other, the former British protectorate in the north. Separate administrative, legal, education, communication, currency, and accounting systems were maintained, and there was little formal economic contact between the two regions. The educated elite did not share a common intellectual orientation. More effective integration began to be achieved by the mid 1960s, but these two institutional legacies still influence aspects of the education and training sector, particularly regarding issues of language.

After the new government took power in 1969, the country set upon the course of scientific socialism and proceeded with several reforms and campaigns to develop the nation's human resources. In 1972 a Latin script was chosen for the Somali language, which had existed only in oral form, enabling educational expansion and administrative unification. Between 1973 and 1975 massive nationwide campaigns were undertaken to teach literacy in the new Somali script. Unfortunately, the country's resources were severely strained by the extreme drought of 1974-75, renewed border conflicts in the Ogaden, political realignments, and another drought in 1978-79. In addition, by 1980 Somalia had 1.5 million refugees, of whom some 450,000 to 700,000 remain in various resettlement camps, assisted by the U.N. A new Somali Constitution was approved by a

referendum in 1979 and a National Assembly created and members elected. The important role to be played in national development by an emerging private commercial sector is being recognized.

1.4 ECONOMIC AND FINANCIAL CONDITIONS

The statistics of the formal economy suggest that Somalis are among the world's poorest people. However, the effects of the non-monetary trading sector, the monetary but unmeasured commercial sector, and the earnings remissions by Somalis working abroad, all have led to a much higher standard of living than the nominal figures indicate. Since GDP measures only monetary and other easily measured economic activity that takes place within Somalia, it underestimates the country's economic condition.

Seven major issues concern the Somali economy:

1) external dependence--because of relatively inelastic demand for its exports, for food imports, for development assistance;

2) internal disincentives--manifest in the lack of capital for private investment, restraints on permits and licenses, and a largely undifferentiated pay system for public employment which contributes to a "brain drain";

3) potential overutilization of rangeland;

4) underexploitation of farming, forestry, and fishing;

5) environmental fragility;

6) the role of the private sector--and how to develop a more mixed public/private system;

7) the planning of human resource development--divisible into considerations of management, quality, and quantity.

The chief characteristic of the Somali economy is the potential for economic variability. While government cannot adequately contol some determinants of economic performance (i.e., external dependence and environmental fragility), its challenge is to structure a supportive administrative base, with a clear and positive incentive system, and to incorporate adaptive planning at both the macroeconomic and subsector levels.

Analysis of Somalia's fiscal capacity indicates that the country has a great opportunity between 1983 and 1990 because of the temporary decline in social demand for formal education relative to the system's present level of expansion. This has resulted from a variety of political and educational policies, socio-economic factors, and an unusual pattern of successive age cohorts in primary and secondary grades. This period will permit improvements in quality, expansion of access to underserved segments of the population, and the institution of a more demand-oriented planning of educational programs. The major constraints that government faces will be lack of capital funds, shortage of technical expertise, and inadequate management design and implementation. While this study's fiscal capacity analysis and Somalia's encouraging recent economic growth permit optimism about government's ability to absorb new recurrent costs, there is an immediate need for donor support of project development activities. With a coordinated program of donor assistance and government policy changes as earlier

noted, the education and training systems can develop to meet the needs of the next decade.

1.5 LABOR MARKET OVERVIEW

A 1978 manpower survey estimated that 149,249 persons were in paid employment. That total, however, excludes an estimated 1.6 million people engaged in traditional sector agriculture and livestock activities. A 1981 employment study estimated that the traditional sector provides 87 percent of all employment. Within the small modern sector, private employment constitutes 43 percent, public employment 34 percent, and employment in the cooperatives 23 percent. The majority of Somalis will remain in the traditional sector well beyond 1990, the endpoint of this assessment, and will not require extensive formal training to perform their primary economic tasks. Nonformal training in literacy and numeracy and income-generation skills will continue to remain important.

Projections of net manpower supply and demand for 1986 point to an apparent "oversupply" of school leavers at every level of education, reflecting a potential imbalance between the output of the formal education system and the intake of the formal or modern economy. Some of the surplus will be partially absorbed by demand in the Gulf States or it may be dealt with in one of the following ways. The educated unemployed or underemployed may adapt to (and potentially improve) new forms of employment, they may seek self-employment to use their skills more effectively, or they may be absorbed permanently into a situation of

underutilization. This last situation, a possible result of continued government guarantee of employment, is particularly wasteful of the nation's resources. Two conclusions result from these manpower projections. First, the expansion of education and training must be more attuned to market demand if future labor market imbalances are to be avoided or at least minimized. Second, there is a need to develop better labor demand information, including tracer studies of secondary school and university graduates.

1.6 UNIT-COST SUMMARY

Typical school costs, presented on a student annual basis, result in very low unit cost estimates at all levels except the National University (see Table 2.35). The average annual per-student cost for primary school is only So.Sh. 416 (US $28; US $1=15.108 So.Sh.). The corresponding figure for general secondary is 2.6 times that; for vocational, 3.1 times; for technical, 3.8 times; and for primary teacher training, 2.2 times, exclusive of boarding costs. These low costs are attributed largely to very low teacher salaries. Government's share of University costs, however, average So.Sh. 13,559 per student per year, or 32.6 times the primary cost. These costs would be dramatically higher if they reflected the additional financial and technical assistance provided by the Italian government.

1.7. CONSTRAINTS

Government identifies the shortage of skilled labor and of personnel with technical and managerial skills as the major constraints

impeding progress in most sectors. The current low skill level of teachers constitutes a specific constraint in the education and training sector. These constraints will persist because of limited financial resources, an inadequate system of wage incentives, inadequacies in organizational infrastructure, problems associated with language fragmentation, and lack of equipment, spare parts, and proper maintenance. None of these constraints should prove insurmountable, however.

With government's resources allocated to system maintenance, quality improvement, and extended access particularly at the primary school level, there will be few, if any, funds available for EHR development activities. Because of government's debt service constraint, it would be ill advised to finance EHR development programs through conventional loans. This means that donors will have to provide concessionary loans or grants to cover the capital and operating expenditures of EHR projects. Government will have to be prepared to absorb the recurrent costs for any EHR activities after the development project has ended.

The major constraints on efficient administration emerge from three sources. The first is the lack of adequate managerial training among individuals in the public and private sectors. The second source is the incentive system within which the manager operates. Recruitment and promotion and salary systems in the public sector are not sufficiently related to merit or performance. This often results in lack of explicit goal definitions for managerial units, no clear criteria

against which performance may be assessed, and less than optimum effort invested by mid-level staff in their managerial tasks. The third source of constraint on management is the low level of information technology. Low-cost, high-capacity microprocessing equipment would greatly alleviate this constraint.

Language fragmentation within the educational and training sector and the lack of a coherent, long-term language policy place great strain on human, financial, and material resources. While Koranic education uses Arabic, primary and general secondary schooling use Somali. Most vocational and technical education is in English. The majority of the faculties of the National University use Italian as the medium of instruction. However, Lafole College of Education, which prepares secondary teachers who will work in Somali, uses English. This situation results in loss of time and expense because of the periodic need for students to retool in a different language prior to successive levels of education or training. Instructional quality also suffers from lack of language fluency. There is a weak fit between language of instruction and further work or study, and limited availability of means for teaching the various languages.

1.8 CHARACTERISTICS AND KEY ISSUES OF EDUCATION AND HUMAN RESOURCES

Analysis of each of the EHR subsectors in this assessment identifies issues in five categories: external efficiency, internal efficiency, access and equity, administration and supervision, and costs and financing. These categories have proven useful for studies of the EHR sector in various countries and enable examination of the basic

concerns of education and development. Furthermore, use of this comparative framework for all subsectors makes it easier to discern strengths and constraints which may be systemic rather than specific to a given subsector.

An EHR system is externally efficient to the extent to which education and training can contribute to sustained economic and social development, build knowledge and skills geared to specific employment opportunities in the economy, and are balanced in terms of type and quantity of output. The system is internally efficient to the extent that it optimally allocates and uses available resources for improving the quality and increasing the quantity of education. Qualitative inefficiencies, when they exist, are reflected in low student attainment, weak teacher preparation and effectiveness, inadequate or inappropriate content and presentation of curricula, and low availability and utility of instructional materials and resources. Quantitative inefficiencies may be found in high rates of attrition and repetition, low student/teacher ratios, and underused physical facilities.

Access concerns the proportion of the target population reached by the educational system. Equity concerns the extent to which these opportunities are made available for all segments of the population, without restriction due to such factors beyond an individual's control as gender, socioeconomic status, and rural-urban location.

Administration and supervision concerns the capacity to effectively manage education systems, involving, in particular, managerial and analytic capabilities. Important in this regard is an

ability to assess needs and to design, analyze, manage, and evaluate education and training programs. Administration and supervision also includes specifying responsibilities and distributing them from the central to the local levels, and having supports available for monitoring and guidance.

Analysis of costs and financing focuses on aggregate expenditures for education and human resources development nationally, by level and type. It also involves growth projections and assessment of the likely impact on total recurrent costs.

1.8.1 External Efficiency

The EHR system has been basically supply driven, expanding in the last decade in response to the increased social demand for education and not in response to increased demand for education's graduates. The system now will have to refocus priority away from quantity expansion and toward quality improvement and an improved match of graduates to the needs of the economy and national development.

Serious data inadequacies constrain the shift to a more demand-oriented EHR system. No fully responsive EHR system can be developed until current information is available on the needs of the regional labor market. Because manpower surveys are too expensive and too rapidly outdated to serve the data needs for EHR planning, an ongoing effort to trace the job search and employment patterns of recent graduates is preferable. Such research should seek to identify the types of jobs found, the constraints and facilitating devices which exist in the labor market, and the quality of job performance.

The vocational, technical, and higher education programs, especially, must be more responsive to labor market demand to ensure that graduates have skills that are relevant to national development needs and the labor market. Because an increasing proportion of aggregate manpower demand in this decade will be for graduates to work in the private sector, inadequately skilled individuals might be an additional constraint on private sector development.

Over the decade of the 1980s, the post-primary schooling system will not expand appreciably. Beyond 1988, however, Somalia must face the issue of the trade-off between increased democratization in educational access and more years of schooling for a few. The priority investments for manpower purposes appear to be in functional literacy and numeracy training at earlier levels of the system and for quality improvements throughout the system.

1.8.2 Internal Efficiency

The internal efficency of the education system has suffered because more attention has been paid to access than to the quality of the education received. Improving quality at the primary level is dependent on longer formal education and more intensive preparation for primary school teachers, and on much greater availability of instructional materials. High attrition costs in primary schooling appear related to the problem of educational quality and, specifically, to teacher quality. Because of this, the analysis of attrition and its incidence will not be very informative until an acceptable minimal level of quality exists

throughout the primary education system. At the secondary level, one-third of the full-time teachers are recent secondary school graduates completing their year of National Service. These teachers have had little training beyond the level at which they are teaching. Few vocational and technical teachers have had much practical experience in their trade. The staffing problem at the National University is similar to that for the general civil service. There is an aggregate excess of staff as indicated by very low student/staff ratios, but wage and other incentives are inadequate to promote effective staff development. The alternative of having fewer but more competent and better paid staff deserves consideration. Means should also be found to use existing or potential donor resources to strengthen the instructional and research skills of Somali staff.

1.8.3 Access and Equity

Although government seeks to provide universal access to formal primary education, the challenge is enormous because of the large nomadic population. The more useful goal may be access to functional literacy, numeracy, and other knowledge and skills to assist economic productivity and greater participation in national life. Nonformal means rather than formal schooling may best achieve this goal. Equity disparities are greater by rural/urban distinction than by gender, and these will be lessened as the quality of primary schooling is enhanced.

1.8.4 Administration and Supervision

Major education and training programs are conducted by the Ministries of Education, Culture and Higher Education; Labor; Agriculture; Livestock, Forestry and Range; Defense; and, to a lesser extent, in several other government agencies. No central authority has been established to coordinate these activities to avoid redundancy and to promote responsive and efficient use of resources. A proposal does exist for a coordinating panel to be located in the Ministry of National Planning and this seems a useful beginning.

Within the various EHR ministries, planning activities suffer from inadequate physical, financial, and human resources. Although the accomplishments of the planning units are impressive given resource constraints, staff numbers, training, and equipment need to be improved. Microcomputer equipment requires minimal training for operation and would greatly expand information processing and recordkeeping capabilities.

Supervision is needed especially, but not only, at the primary level where teachers with little formal preparation must instruct classes with widely ranging ages, weak prior preparation, and few textbooks and other instructional resources. Supervision and support will be increasingly needed at the general secondary level as attempts are made to improve the distribution and assignment of teachers by numbers of students rather than simply by classes.

Staff use is hampered by the absence of a performance evaluation system relating competence and productivity to salary level and

promotion. Job expectations often are not clearly defined and procedures to ensure accountability tend to be lacking.

1.8.5 Costs and Financing

The present system of financing higher education subsidizes students' instructional costs and their lodging and boarding expenses as well. These latter subsidies cannot be adequately justified on either an equity or an efficiency basis. Because the graduates of higher education will earn incomes higher than all other Somalis, they should be prepared to pay for a significant share of their educational costs. One means might be for the University to establish a student fee system and a loan program so as to improve the equity of financing without discouraging students from low-income families.

1.9 SUMMARY CONCLUSIONS

Following are several conclusions which refer generally to the development of education and human resources in Somalia. The final section in this Executive Summary gives overviews and recommendations for specific subsectors of formal and nonformal education.

Conclusion 1. Somalia enjoys a transitory and unprecedented opportunity during the 1980s for education and human resource development because of temporarily declining enrollment patterns and the current success of the economy. Plans to take advantage of this opportunity should

focus on quality improvement before extension of access, and should be demand-oriented rather than supply-driven, especially in the technical, vocational, and higher education programs.

Conclusion 2. Lack of inter-ministerial coordination and data inadequacies hamper macroplanning for the EHR system and orientation towards the labor market. There is a need for improved macroeconomic data, and budgets should be organized more by program than simply by function. Information is required on emerging needs of the labor market, nationally and in the Gulf region. Planning activities of the ministries engaged in EHR development require coordination in order to benefit from cross-fertilization and to better inform national policy. The various planning units require additional staff, training, and equipment for data computation and analysis.

Conclusion 3. Improvement in incentives for private sector development will enable increased and more productive use of new vocational, technical, general secondary, and university graduates. This is critical to reduce government's burden to provide what is currently a large share of modern sector employment.

Conclusion 4. Government employment incentives should be reexamined and improved to retain high quality civil servants. For administrative and teaching staff, greater specification is needed

regarding position responsibilities, criteria on which performance is to be based, and mechanisms for recruitment, promotion, differential remuneration, and release from employment based on performance standards.

Conclusion 5. Donors should be prepared to fully fund education and human resource project costs through concessionary loans or grants to cover capital and operating expenditures. With government's resources allocated to system maintenance and quality improvement, and to expanded access at the primary level, few funds will be available for EHR development activities.

Conclusion 6. Development of a coherent, long-term language policy is important for efficient allocation of scarce human, financial, and material resources in the EHR sector. Consideration should be given, in particular, to selection of external language(s) based on extent of access afforded to study, employment, and international networks of commerce, communications, and scholarship.

1.10 SECTION-SPECIFIC OVERVIEWS AND RECOMMENDATIONS

This section provides abstracts for each education subsector covered in this assessment: Koranic (Section 5.0), pre-primary and primary (Section 6.0), general secondary (Section 7.0), vocational and technical (Section 8.0), teacher education and training (Section 9.0), higher

(Section 10.0), health (Section 11.0), agriculture and livestock (Section 12.0), and adult basic (Section 13.0). The abstracts briefly summarize the status of the subsector, principal challenges, plans, conclusions, and recommendations. For a more complete discussion of these topics, the reader is referred to the subsequent sections of this report.

1.10.1 Koranic Education

The Koranic schools constitute a parallel rather than the official schooling system since they are not supervised by government, nor are the teachers trained as such. Their manifest function is to inculcate in children a value system based upon the principles of Islam. Their key latent functions are to introduce children to formal education, the Arabic language, and written script. It is estimated that there are 5,480 Koranic schools in Somalia, about seven times the number of schools with elementary grades. Students who attend the Koranic schools begin at the age of 4 or 5 and may continue until the age of 14. Although girls are encouraged to attend, the percentage of female students does not exceed one-third of the student population, and there is usually a decline in the attendance of girls after the age of 9 or 10. Students spend approximately two years studying at the Koranic school before joining primary school and then continue to attend on a divided daily schedule thereafter. Only ten percent of the Koranic teachers, mostly semi-itinerant religious men, have completed primary school and few know Arabic as a language.

The principal challenge confronting the Koranic schools is to better realize their educational potential in basic skill areas. Although the Koranic schools nominally fall under the purview of the Ministry of Education and the Ministry of Justice and Religious Affairs, the communities actually establish the schools through private initiative and are responsible for their management.

There are four main conclusions concerning Koranic education. First, the highest priority should be placed on enhancing the capacity of the Koranic schools to fulfill their latent functions to prepare students in basic skills and language. While the Koranic schools are fulfilling their manifest function to instill Islamic values through rote mastery of the Koran, the system is not exploiting its latent functions to introduce children to primary education (especially the elementary skills of literacy and numeracy) and to Arabic as a language. This capability is important because Koranic schools are accessible to segments of the population that otherwise would be deprived of any formal education, i.e., nomadic children. Second, developing the capacity of Koranic teachers to provide instruction in elementary literacy and numeracy and in Arabic as a language should have next priority. Central provision of instructional supports to enhance the latent functions of the Koranic schools should be the third priority. Expanding access for girls and encouraging women teachers merits fourth priority.

The specific recommendations for Koranic schools are as follows, in order of priority. As the first priority, to enhance latent functions, (1) encourage expansion of subject matter on a modest scale to

include simple instruction in literacy, numeracy, and other elementary skills, and (2) teach Arabic as a language. As the second priority, strengthen the skills of Koranic teachers by providing opportunities for present teachers to upgrade their skills in Arabic, literacy and numeracy, and pedagogy. Third, make elementary instructional materials available to Koranic schools. Fourth, encourage female children to continue in Koranic schools by attracting additional females to Koranic teaching.

1.10.2 Pre-Primary and Primary Education

The primary schooling system is composed of an optional two years of kindergarten for children of ages four or five, followed by a compulsory four years of elementary schooling and four years of intermediate schooling. In practice, pre-primary schooling is rare. Enrollments in the elementary grades totaled 152,429 in 1981-82 with 34 percent comprised of females. One-third of the elementary-level teachers are female. The student/teacher ratio in the elementary grades in 1981-82 was 35:1 with an average class size of 37. Enrollments in the intermediate grades totaled 87,487 in 1981-82 of whom 39 percent were females. Twenty-eight percent of the teachers at this level are women. The student/teacher ratio in the intermediate grades is very low at 22:1 with an average class size of 32.

Low use rates for teachers are combined in rural areas, especially, with low use rates for facilities. Eleven percent of all elementary classrooms were unoccupied in 1981-82. The class/teacher ratio and classroom use rate is relatively high in urban areas. There are many

incomplete schools without full four-year cycles (47% at the elementary level and 68% at the intermediate level). This is both a cause and an effect of student attrition. The practice of teacher assignment by class rather than by number of students contributes to the problem but is difficult to alter without having teachers better prepared and supplied with materials to handle greater class and age diversity.

Relatively few of the children of nomadic families (comprising about 60% of the population) attend school. Including repeaters in Grade Eight, there are 357 students in that grade for every 1,000 who begin the primary cycle. Of these, 259 may be expected to pass the Grade Eight leaving examination at current participation and pass rates. Currently, the primary system must provide 12.4 student-years of education for every student in Grade Eight due to high repetition and drop-out rates. An average of 17.1 years of primary schooling are required to produce each student who passes the Grade Eight leaving examination. It presently costs So.Sh. 416 (US $28) per primary student per year, and So.Sh. 7,097 (US $470) per primary graduate.

Potential excess capacity will characterize the primary system in the short-term future. Partially because of events mentioned earlier in this summary (i.e., the 1974-75 literacy campaign, the 1974-75 drought, the 1975-76 school reforms, the 1977-78 border dispute, and the subsequent school reforms in 1980-81) and because of the decline in student preparation and instructional quality, there have been dramatic enrollment declines in primary schooling. From 1980-81 to 1981-82, elementary grade enrollments nationally fell by 19,565 with Grade One enrollments

alone declining by 12,302. Intermediate grade enrollments also showed an overall decline from 99,710 to 87,487. Unlike the case in elementary education, the enrollment decline in intermediate education was coincident with an increase in the total number of teachers. At the same time, 11 percent of all elementary classrooms were unoccupied in 1981-82, many of these in pastoral areas and some because of deterioration. Because of the nature of nomadic and semi-nomadic society, the distribution of students can change markedly from year to year, making it difficult to more efficiently place teachers and use facilities.

Nevertheless, this short-term situation of excess capacity offers an unusual opportunity for the system to focus on improvement of primary school quality for several years. Improvement in teacher and instructional quality is vital, and a necessary precondition for the system to begin addressing the enormous problem of extending access to children of the pastoral population.

The major emphasis of the Ministry of Education in administering the primary and secondary schools is to improve access "through compulsory, universal and free primary education" and to improve program content. The principal challenge confronting the government is to focus initially on quality improvement and then on expanding access. The key question in regard to access is whether the formal schools are the most appropriate or only educational vehicle for the nomadic population or whether various nonformal education approaches might be more suitable, at least in the short term.

The major constraints under which the primary system operates are poor teacher quality, inadequate quantity and quality of textbooks, inadequate planning and management data, and uncertain resource availability. Poor teacher quality, particularly apparent in newer teachers, is coupled with a salary and assignment policy that results in low teacher morale and motivation.

The major activity planned for primary education in the Five Year Plan (FYP) is the construction of 2,662 new classrooms to meet the goal of 52 percent intake for the age-6 cohort. Correspondingly, the FYP envisions the hiring of 5,101 new teachers as well as other personnel. Achievement of this goal may have to be delayed in light of the pressing need to improve quality throughout the primary system. The expansion may not be as urgent as originally anticipated, given dramatically revised enrollment projections. There also are plans to improve primary teacher training at both the pre-service and in-service levels, the former by establishing five regional training centers. Activities are planned for the Curriculum Development Center and to provide resource materials to rural classrooms.

One major and two secondary conclusions emerge from the analysis of constraints and issues. First, the improvement of school quality deserves priority over all other areas of concern regarding primary education. Second, expanding access to unserved portions of the population should follow improvements in instructional quality. Third, improving management of the education system should be given increasing attention

as goals of quality enhancement and then expanded access are reached.

The recommendations for primary education follow from the transitory opportunity which the system now has. For the next 5 to 7 years government has an opportunity to promote quality enhancement without incurring dramatic costs in system expansion. As the first priority, to improve teacher quality, (1) redesign primary teacher training from a post-Grade Eight to a post-Grade Ten activity, (2) review the pay and assignment sytem, and (3) improve supervisory and resource support assistance. As the second priority, to improve educational materials availability, (1) provide alternative (private sector) source(s) of printing capacity, and (2) continue review and updating of existing instructional materials. Third, to increase access to unserved and underserved populations, (1) restrain quantitative expansion and concentrate construction of new facilities in regions and rural areas where primary schools are not available (i.e., most of the expansion should come within existing schools), (2) provide complete cycle instruction at all elementary and intermediate schools, (3) design nonformal delivery systems to provide literacy and numeracy to the nomadic population, and (4) encourage the employment of more female teachers in primary schools and especially at the intermediate level. As a fourth priority, to improve system management, (1) upgrade the Ministry of Education's (MOE) planning department in staff size and support resources, (2) reorganize the MOE to clarify responsibility and to free senior managment staff for policy and long-range planning activities,

and (3) upgrade training in management, quantitative and statistical methods, budgeting, and basic planning skills for MOE staff.

1.10.3 General Secondary Education

General secondary education is the academically-oriented four-year program which follows primary education and leads, for a minority of the graduates, to the National University. Students who complete Grade Eight may take the Primary School Leaving Examination. They then have four schooling options: general secondary education, two-year vocational education, three- or four-year technical education, or primary teacher training. In 1982, 69 percent of those who passed the primary school exam chose general secondary. General secondary education consists of a program (Grades 9 through 12) covering science, math, humanities, and languages (Somali, English, and Arabic for Religion). The medium of instruction is Somali. After completion, students may take the General Secondary School Leaving Examination. Those who pass (about 93 percent) are required to spend the following year in National Service before receiving their secondary school leaving certificate. They are then eligible to sit for the University Entrance Exam.

Enrollments in general secondary schools totaled 44,860 in 1981-82, of whom 32 percent were females. The recent surge in enrollments will peak in 1983-84 (at a level higher than the last four years combined) and decline thereafter, through 1990, for reasons detailed in Section 7.0. The student/teacher ratio in 1981-82 was 22:1, while the student/class ratio was to 50:1. The high student/class ratio results from assignment of teachers by classes rather than by numbers of students

and from other problems of teacher distribution. General secondary teachers are drawn from three sources: 47 percent are permanent teachers employed by the MOE, 29 percent are secondary school graduates in their year of National Service, and 6 percent are expatriates. Another 18 percent are part-time instructors. This means that nearly one of every three teachers has not completed a teacher training program and is teaching close to the highest level he or she has just completed.

For every 100 students who begin general secondary school, 71 graduate. It presently costs an estimated So.Sh. 1,068 (US $71) per general secondary student per year, or about 2.6 times the primary school cost per student. Of the 44,860 general secondary enrollees in 1981-82, there were a total of 3,946 boarding students (9%). The average annual cost per boarding student is So.Sh. 3,353, equivalent to the cost of educating 12.4 primary students per year. The rate of return to general secondary education is much lower than for other levels.

The FYP strategy calls for increased diversification of secondary education with the goal of reducing the percentage of primary school graduates entering general secondary from a current 69 percent to only 30 percent, with 17.5 percent to enter technical schools, and 52.5 percent to enter vocational schools (including primary teacher training). This strategy would require a tremendous increase in expenditures for equipment and staff and does not appear realizable given the present financial and human resource constraints. The slow and irregular decrease in total numbers of secondary school students over the decade may allow for a more dramatic increase in the proportion, if not the absolute number, of students who go into vocational and technical education. A more modest

goal of decline in general secondary enrollments to 60 percent of all Grade Eight graduates seems attainable.

The FYP projected the need for 17 new general secondary schools by 1986; 25 are already under construction in 1983. At the same time, the secondary classroom occupancy rate dropped from 89 percent in 1980-81 to 84 percent in 1981-82, largely because of lack of furniture or instructional materials. The FYP also calls for the improvement of secondary teacher training, and this program will be extended from two to three years in 1983-84.

The chief constraints within general secondary education are inadequately trained teachers and the lack of instructional materials and equipment. The severity of these constraints is magnified by a series of historical circumstances which will result in students over the next five years entering secondary school with considerably weaker academic background than typifies Somali secondary students. Future educational development at the secondary level may not require increased levels of expenditure. Rather, the projected decline in enrollment indicates the possibilty of excess capacity in general secondary education during the remainder of this decade.

Three broad conclusions emerge. The first priority should be to emphasize the improvement of academic quality in general secondary education by developing a long-term, quality-improvement strategy. Second, educational planning and curriculum development need to link general secondary education to labor demand in both Somalia and the Gulf region.

Third, Government should develop a revised plan for the continued development of secondary education.

The specific recommendations for general secondary education are as follows, in order of priority. First, strengthen internal efficiency by improving educational quality as part of a long-term strategy, focusing on the quality of instruction and the quality and availability of instructional materials. Specific steps should include requiring formal teacher training for all teachers, extending teacher training to three years, expanding in-service opportunities for teacher education, encouraging the retention of effective teachers, and providing texts and instructional materials in adequate supply for all classes. Second, to improve external efficiency, (1) link educational planning and curriculum development to national and regional labor demand, (2) consider developing a manpower contracting system for providing Somali manpower to foreign countries, and (3) review and recast government policy guaranteeing employment to secondary school graduates. Third, to improve administration and supervision, (1) revise and update projections and plans in the FYP, and (2) increase the research capacity of the MOE.

1.10.4 Vocational and Technical Eduction

Vocational education refers to two-year, post-primary school programs, of which there are 12, oriented toward craft skill development. Technical education refers to three- and four-year, post-primary school programs, of which there are 19, involving both academic and occupational training to develop higher level technical skills. The MOE oversees

vocational and technical schooling but often shares costs for particular two- and three-year institutions with other ministries. Technical training also comprises various organized activities and schemes sponsored by larger firms within business and industry. The technical school graduate may apply to the University, while the vocational or business and industry graduate cannot. In 1981-82, 12,754 students were enrolled in vocational and technical programs. To attend either type of school, students must place in the upper part of the class on the Grade Eight leaving exam. Women make up 52 percent of the enrollees in vocational schools and 13 percent of those in technical schools. Enrollment patterns differ between technical and vocational schools. All but one of the technical schools increased enrollment between 1980-81 and 1981-82, averaging 20 percent. While aggregate enrollment in the two-year vocational schools also grew, nearly all of that increase can be attributed to the opening of four new institutions. Six of the eight schools already existing actually experienced a decline in enrollment totaling about 11 percent of their 1980-81 enrollment. Once enrolled, however, students have a low rate of attrition.

The current average student/teacher ratio for technical schools is 18:1, and the annual cost per student average is So.Sh. 1,562 (US $103). For 1981-82 the student/teacher ratio in vocational schools was 14:1 for an estimated annual cost per student of So.Sh. 1,805 (US $119). Were the ratio a more reasonable 22:1, these costs would drop to So.Sh. 1,301 (US $86) per student. The vocational and technical education unit costs relative to those for general secondary (So. Sh. 1,068) would be even

higher were it not for (a) the low and undifferentiated pay system which does not reflect the higher potential market value of vocational and technical instructors, (b) the inability to include the depreciation costs on equipment, and (c) the failure to factor in the higher salaries paid to expatriate staff.

Individual schools have responsibility for developing their own curricula, but instruction usually is not based on systematic occupational or task analysis. Those developing the curricula (i.e., the teachers) have little employment experience in their trade. The result is that programs of the same name vary widely in content, and performance standards are not uniform across schools.

The external inefficiency problem of weak instructional links with labor demand and occupational skill requirements is coupled with an internal inefficiency regarding instructional effectiveness. Most schools are without adequate equipment in good repair, and students generally need more opportunity to practice their skills. The language of instruction for vocational and technical schooling is English, and student's fluency with it is limited since no English instruction is provided until the student is about to enter the program.

Coordination among the various training and certification programs has yet to be developed. There are no unified school examinations for particular trades. Although trade tests have been developed by the Ministry of Labor, these are not used by the schools.

Major donor support for vocational and technical education has come from the Federal Republic of Germany, the World Bank, North Korea,

UNESCO, and ILO. Several foreign companies have provided on-the-job training tied to their businesses.

Government's goal is to diversify post-primary education with an emphasis on the expansion of vocational and technical education. The FYP recommends that 42 percent of primary school graduates enroll in vocational education and 14 percent in technical secondary education, which would represent a massive shift from the current attendance pattern. The percent choosing vocational school would have to more than double the 1980-81 level, while the percent going to general secondary school would be cut in half. The Plan calls for opening 10 new vocational schools and 16 new technical schools which would require over 1,500 new teachers and other personnel. As detailed in Sections 2.0 and 8.0, these plans now appear ambitious for the term of the FYP (1982-1986) given current enrollment patterns and financial and human resource constraints.

The principal challenges for vocational and technical education emerge in four major conclusions. First, future expansion and curriculum development should link training to the national and regional demand for skilled labor. Second, there needs to be an improvement in the quality of the trade and skill training received, and an incentive and reward system needs to be created to retain skilled workers in trade areas of high need. Third, an integrated plan for the subsector should be developed to improve planning and resource allocation. Fourth, reducing the extent of formal vocational and technical schooling should be considered if improved educational quality does not result in increased demand for graduates.

Several recommendations result. First, to improve external efficiency, (1) link training to demand for skills in Somalia and the Gulf region by conducting a comprehensive study to identify the occupational areas and skill levels for which demand is expected; and (2) increase the involvement of employers in curriculum definition and performance review through trade advisory commissions, and through, for example, work-study programs, modified apprentice programs, and the sharing of facilities and equipment with industry. Second, to improve internal efficiency, (1) reallocate resources to emphasize educational quality, for example by focusing special improvement programs on target schools, (2) offer selected technical education as two-year post-secondary training, and (3) begin offering vocational training as two-year programs following Grade Ten in order to provide students with a better foundation in basics. The focus on target schools might entail (1) developing in-service teacher improvement programs in pedagogy and the operation of new equipment, (2) adjusting policies regulating government employment to make it easier for teachers to leave and return to teaching in order to gain work experience in their trade, (3) increasing resource allocations to develop instructional materials which are competency based and systematically developed around task analyses, (4) adapting materials from existing sources, and (5) offering programs only when there are adequate human and physical resouces to instruct at the level necessary. As a third priority recommendation, to improve administration and supervision, (1) prepare a unified plan for the continued development of

vocational and technical education, and (2) once quality of graduates is improved through the pilot interventions in target schools, assess demand for those graduates and adjust plans for growth or reduction of the subsector accordingly. The unified plan would identify a government mechanism that would link responsibility for budget, curriculum, and administration within and across schools; coordinate educational resources with labor demand; oversee the target school effort; and help coordinate donor assistance.

1.10.5 Teacher Education

Most primary and secondary teachers are graduates of one of the three government-sponsored teacher training institutions--Halane Primary Teacher Training Institute (a post-primary, two-year program), Lafole College of Education (a two-year National University program, soon to be three years, for preparing secondary teachers), and the Technical Teacher Training College (offering two- and three-year post-secondary programs). Each of the institutions operates independently, although the Ministry of Education is involved with administration of Halane and the Technical College. The Ministry of Culture and Higher Education oversees Lafole since it is part of the National University. Of the 10,021 primary and secondary teachers in 1981-82, 18 percent were recent secondary school graduates completing their year of National Service. These teachers receive only a month of teacher training before being assigned to a school. An additional one percent of the primary and secondary teachers

are expatriates teaching at the secondary level.

For the next few years and based on the assessment of Primary and Secondary Education, Somalia is not faced with pressure to provide a large number of new teachers to meet an expanding formal education system, as is the case in many countries. In 1981-82, there were 8,371 primary teachers serving 239,916 students for a student/teacher ratio of 29:1. The 1,894 full time equivalent (FTE) general secondary teachers served 44,860 students for a student/teacher ratio of 24:1, although class size averaged 52 students because of teachers without full class schedules and problems in teacher distribution. As a result of system expansion which has already taken place at the primary and secondary levels, the major issue is not teacher supply but teacher preparation and performance. This is now the focus of government's training efforts.

All three teacher training institutions must deal with students who do not have adequate prerequisite skills. For those programs with instruction in English (i.e., Lafole College and the Technical Teacher Training College), lack of English fluency is the most serious deficiency. Students also lack sufficient content background. This is not surprising considering that teachers often instruct at a level very close to their own highest level of educational attainment. Eighth grade teachers have only two years of education beyond Grade Eight, twelfth grade teachers have only two years beyond that of their students. Once teachers enter the classroom, they face further difficulties. They are constrained by the inadequate quantity and quality of instructional

materials, assignment to remote primary schools without an optimum support structure, large classes at the secondary level, and weakly prepared students spanning a wide range of ages.

Enrollment in 1982-83 at Halane totaled 2,609 students, with just over half of these female enrollees. New enrollees are projected at 1,500 annually. Lafole enrolled a total of 1,014 students in 1982-83, and plans to accept 500 annually. About half of these recently have completed their year of National Service and passed the University Entrance Exam, and about half are graduates of Halane PTTI who have taught for at least three years and passed a Teacher's Evaluation Exam. The student/faculty (FTE) ratio at Lafole is very low at 8:1. The Technical Teacher Training College (TTTC) graduated 83 students in 1982-83. The number is expected to increase to 260 annually once the new TTTC campus is completed and fully operational.

Limited in-service training opportunities also exist. During the 1983 school vacation (July to November), over 600 headmasters and regional inspectors were slated to attend two-month planning and management courses. Also in 1982-83, 200 teachers in Mogadishu received a part-time, eight-month course in Arabic and social science, sponsored by the Arab League. Greater supervision of schools and teachers is needed to monitor teacher presence and performance and to provide instructional support, especially in remote areas.

The annual cost per student at Halane PTTI is So.Sh. 3,559 (US $236), 74 percent of which is for boarding expenses. Total annual expenditure per student at Lafole is So.Sh. 15,351 (US $1,016) of which

59 percent is for boarding. Since many students extend their program beyond two years, the estimated cost per graduate is So.Sh. 66,521 (US $4,403).

Four major conclusions result from the assessment of teacher education. First, because teacher supply is adequate for the near future, the emphasis should be on improving the quality of instruction over expanding enrollment and facilities. Second, teacher recruitment, selection, and training should be designed to enhance rather than deplete the quality of teachers at all levels of teacher training. Current policies tend to deflect better quality candidates away from primary education, and the use of untrained National Service Teachers affects the quality of the system. Third, policies concerning the primary language of instruction and related language training affect the internal efficiency of teacher training programs. At both Lafole and the TTTC, instructional effectiveness is impeded by students' limited English fluency. Fourth, the administrative structure for teacher training institutions results in inefficiencies in the system and necessitates a process for coordinating among responsible agencies.

There are six recommendations for consideration. To strengthen internal efficiency, (1) extend secondary teacher training programs to three years (this is already planned for the TTTC and Lafole and the importance of these decisions is underscored), (2) make primary teacher training a post-Grade Ten program, (3) revise teacher selection procedures to avoid depleting the ranks of high quality primary teachers, (4) require all teachers to have formal teacher training (and use National Service personnel as teachers' aides), (5) develop a more

effective policy on English language use and training (giving consideration to changing the medium of instruction for secondary teacher training to Somali, or developing more effective English language preparation for entering students), and (6) prepare teachers to teach at several grade levels and, ideally, across several subject areas. To strengthen administration and supervision, improve coordination among institutions and ministries concerned with teacher training.

1.10.6 Higher Education

Higher education is provided chiefly at the National University of Somalia (NUS), which is under the purview of the Ministry of Culture and Higher Education. Three additional institutions offer post-secondary education: the Technical Teacher Training College, the Somali Institute of Development Administration and Management (SIDAM) which is under the auspices of the Ministry of Labor and offers mid-level management courses for government personnel, and the Institute of Statistical and Applied Economics (ISAE) of the Ministry of National Planning which offers a two-year, part-time course of study. The National University formally began operations in 1968 with undergraduate programs in law, economics, and education. A joint program between Somalia and Italy for higher education was initiated in 1963 and has continued since. For the 1981-83 period, Italian support equalled 57,520 million Lire or approximately So.Sh. 579.3 million (US $38.34 million), with instructional and research assistance to the Faculties of Agriculture, Chemistry, Geology, Engineering, Medicine, and Veterinary Science. Beginning in 1983, the Faculties of Economics and Law will also receive funding. Italy also has provided

2,120 million Lire (So.Sh. 21.35 million; US $1.41 million) over the last three years for training in Italy. Other donor support for the University has come primarily from the EEC for construction of a new campus in Mogadishu, to be ready for occupancy in late 1983 or 1984.

NUS currently has twelve faculties, most of which conduct four-year undergraduate programs. There have been 5,769 graduates of the University, 10 percent of these women, since the first degrees were offered in 1971. More than one-half (3,425 or 59%) of the graduates have been from the Lafole Faculty of Education which prepares secondary teachers. The next largest faculty in terms of total number of graduates is Political Science (394), followed by Veterinary Science (390) and Medicine (340). Students are admitted to the NUS on the basis of the University Entrance Examination taken after completing the year of National Service. In 1983, 3,600 candidates took the exam and 1,540 were invited to one of the faculties of the University. At the time of the exam, students indicate their first two preferences for faculty of study. Those with the highest scores are given the first choices of assignment. Medical students have the highest average exam scores. Students with low scores may be offered remaining places in a faculty not of their choice, usually Education. In the eleven faculties for which data are available, 74 percent (297) of the 402 full-time instructors are Somali. Italian staff are concentrated in the Faculties of Medicine, Industrial Chemistry, Veterinary Science, Engineering, and Agriculture. Other expatriate staff are concentrated in the Faculty of Education. No Somali yet holds the rank of professor, and only seven hold the rank of assistant professor. Women constitute ten percent of the full-time instructional staff and four percent of the part-time personnel.

Italian is the language of instruction in seven of the faculties. Education uses English, Political Science uses some Somali, and Language offers coursework in English, Italian, French, and Arabic. Somali is used as a supplementary language of instruction in the Faculties of Economics and Law. Because Italian is not taught in secondary schools, few students have competency in Italian when entering one of the Italian-language faculties and therefore must take a prelimary semester of language study. A second pre-academic semester has been proposed for students to enable further language instruction and the development of basic skills. A critical issue for the University is to decide on a coherent long-term language policy. While the use of Somali will increase as materials are developed in that language, it is important that competency in one or more of the external languages be maintained since Somali language materials will not be able to replace totally the use of foreign language materials, especially in the scientific and technical faculties.

No statistical basis exists for evaluating the University's external efficiency in meeting national development and manpower requirements. There is a need for tracer studies to determine the types of work that graduates find and to assess the relationship between their acquired skills and the demands of their occupations.

Data concerning the University's internal efficiency are not conclusive and, given the short history of the institution, only point to areas of potential concern. For those faculties for which comparable cost and enrollment data were available, the government's annual instructional cost per student varied from So.Sh. 1,743 (US $115) for Veterinary Science to So.Sh. 7,383 (US $489) for Industrial Chemistry. When Italian

donor subsidies are included in the instructional costs, the average annual student cost varied from So. Sh. 2,475 (US $164) for Journalism to So. Sh. 36,730 (US $2,431) for Industrial Chemistry. Government's cost per graduate ranged from So.Sh. 7,276 (US $482) in Veterinary Science to So.Sh. 61,745 (US $4,087) in Industrial Chemistry. Total costs per graduate (government plus donor funds) ranged from So.Sh. 16,537 (US $1,095) in Law to So.Sh. 307,200 (US $20,334) in Industrial Chemistry.

A striking characteristic of staffing at NUS is the very low ratio of students to instructional staff. Excluding Political Science, the student/staff ratios in 1983 ranged from 2.3:1 in Industrial Chemistry to 10.7:1 in Journalism. The average for the eleven faculties was 5.7:1. The class/teacher ratio tends to be much larger, however, as lectures are delivered by more senior faculty with probationary and junior staff assisting. Student attrition is another indicator of potential internal efficiency with the Faculties of Geology, Engineering, Economics, Agriculture, and Education graduating fewer than 60 percent of their original intake. A contributing factor may be that the NUS normally does not allow students to change their faculty after entering the University.

Because of the increases in the size of the Grade Twelve graduating class, the proportion of secondary school graduates who can find a place in the University has declined. There were 1,280 places for new entrants in July, 1983. Of these, 300 of the 600 in Education are reserved for experienced teachers, and all 70 in Political Science are for government personnel. This leaves 910 student places for the estimated 3,840 secondary graduates from July, 1982 (who have completed one

year of National Service), enough for 24 percent of the graduates. This compares with a proportion of 34 percent for the July 1981 secondary graduates. Assuming the 1983 intake levels are maintained, the intake proportions for the next two cohorts will drop to 17 percent in 1984 and to 6.5 percent in 1985. (The 1984 secondary school graduating class is the highest for the decade in current estimates.) Present projections point to an average NUS access rate for secondary graduates of about 13 percent for the 1986-1991 period. These access rates pose two critical issues. First, what number of students can be absorbed by the University without serious loss of quality and, once educated, can be absorbed by the economy without resort to guaranteed government employment? Second, what other education, training, and employment alternatives can be generated to absorb the large number of secondary school graduates who will not be able to continue their schooling at the National University?

Access problems exist with respect to gender and urban versus rural location. Female students constitute 30 percent of the Grade Twelve class from which the July, 1983 entrants were drawn, but only 18 percent of the University admissions. The fact that female students are most highly represented in the Faculties of Language, Journalism, Medicine, and Economics indicates that the meritocratic admissions process allows capable women to gain access to the preferred programs. Concerning urban/rural disparity, 59 percent of all University students were from Banaadir (Mogadishu and environs) secondary schools. Only improvement in the quality of primary and secondary education nationwide is apt to alter this imbalance.

The principal challenge for higher education is to formulate long-term policies to address the issues of efficiency, equity, finance, and

staff development. Government's plans for the subsector currently focus on two goals: to expand the NUS by increasing enrollment in several faculties and eventually opening a new facility in the North, and to expand intake to 25 percent of secondary school graduates. These goals will not be achieved in the FYP, 1982-86, because of limited resources and competing activities which merit higher priority.

Five conclusions emerge. First, plans for expansion of the University should be based upon evidence of demand for the knowledge and skills being developed. Second, a closer examination of student/staff ratios and student attrition rates should be undertaken in order to devise ways to strengthen internal efficiencies of the University. Third, attention must be given to training schemes and employment opportunities to absorb the large numbers of secondary graduates who will not enter the University. At the same time, efforts should be undertaken to increase the proportion of rural and female students in the University. Fourth, long-term management plans for NUS should include strategies for further strengthening Somali faculty and for developing planning and managerial capacity.

The recommendations advanced for higher education are for seven specific areas of research in order to form policy and programming decisions: (1) tracer studies of graduates, (2) a study of staff time allocations, (3) a survey of management needs, (4) an analysis of alternative sources of financing, (5) ongoing cost analyses, (6) a study of causes of student attrition, and (7) projections of student intake and graduates. The University has the necessary competence in research methodology to design and implement this research agenda which should

also include a plan for incorporating the findings into the review of higher education policy and practice.

1.10.7 Health Education

Health education is offered principally through Ministry of Health (MOH) programs of primary health care (PHC), based upon community paraprofessional health workers. Most Somalis depend on traditional medicine for health care and are without access to government facilities. Life expectancy at birth is 43 years, and only 30 percent of the population has access to safe water. In 1980 a population of five million was served by only 294 medical doctors (one per 17,000). Primary Health Care is offered by two branches of the MOH: the Refugee Health Unit, founded in 1980 and currently operating PHC programs in 34 refugee camps; and the Primary Health Care Program (PHCP), also founded in 1980 and now developing programs in several regions. A small Health Education Unit (HEU) produces and distributes some health education materials. The Refugee Health Unit, with major donor/U.N. support, has trained approximately 2,200 community health workers (CHWs) and 800 traditional birth attendants (TBAs) to provide basic health care and health education to an estimated 450,000 to 700,000 refugees. The Primary Health Care Program, also assisted by various donor agencies, is developing programs for the non-refugee population in seven of the country's sixteen regions. As of December 1982, approximately 18 CHWs and 50 TBAs had been trained; by the end of 1987-88, 1,312 community workers are targeted to be serving 3.7 million of the non-refugee public.

Government's principal challenges are to effectively carry out its plans to extend the health care system to the rural majority,

successfully maintain the extended programs especially when donor assistance projects terminate, and enhance program impact so that public demand becomes better linked with the available services. One key issue to be addressed is the design of mechanisms for ongoing assessment of impact and for modifying the form and content of health education activities in accord with assessment results. Another is the relative priority which should be given to preparing community workers as suppliers of curative and preventive health care and as health promoters. A third is the differential access of subpopulations to current and planned health services. Finally, there is the need to strengthen managerial capacity to supervise, assess, and modify existing training and health promotion practices.

Four major conclusions are drawn from the review of health education. First, assessing the impact of health education activities on the public, and subsequently modifying the content and form of those activities in light of assessment findings, is of paramount importance. Second, the training of community health promoters can be strengthened by increasing emphasis on process and apprenticeship-based methods and de-emphasizing lecture-demonstration modes of presentation. Third, radio programming should be further developed as a powerful auxiliary health education tool, with increased emphasis on its function as a channel of communication to rural communities. Fourth, administration of health education activities can be strengthened by greater coordination and information sharing among the agencies involved, by stressing health education as a distinct concern at the highest level, and by attempting to maximize staff time spent in field implementation work.

The recommendations for health education follow, in order of priority. First, to strengthen the administrative and supervisory capacity of the health education system, (1) increase coordination and information sharing among the Primary Health Care Program, the Refugee Health Unit, and the Health Education Unit by establishing a national coordinating and advisory group; (2) hold combined biannual workshops for field staff in both PHC systems and for HEU staff in order to share experiences and insights; (3) establish a National Health Education Coordinator position in PHCP to be responsible for planning and coordinating the health education component of the work of the CHWs and TBAs and, in coordination with the PHCP training officer, for upgrading the health education components of community worker training; and (4) maximize staff time in field implementation work, especially during project development. Second, to strengthen external efficiency, (1) assess and modify programs, relying upon both informal sampling of public opinion by PHC staff in the field and more thorough surveys and measurements, and (2) study the attitudes, values, and desires of the intended health care beneficiaries. Third, to improve internal program efficiency, (1) clarify and operationalize training goals for community workers, distinguishing between knowledge and skills acquisition; (2) put greater emphasis in training on the acquisition of skills for promoting health care; and (3) compare the results of various training programs and find the most effective methods. Fourth, to improve access and equity, develop health education radio programs appropriate to rural audiences.

1.10.8 Agriculture and Livestock Education

Two ministries are responsible for providing extension services to farmers and herders. The Ministry of Agriculture (MOA) operates the National Extension Service (NES) which receives considerable donor assistance and is expanding rapidly with the goal of serving all farm families in the country. In the Ministry of Livestock, Forestry and Range (MLFR), the National Range Agency (NRA) also receives donor sponsorship for its two major outreach projects--the Central Rangelands Development Project and the Northern Rangelands Development Project.

Some 55 to 60 percent of the population subsist, and many prosper, on semi- or fully nomadic pastoral herding. An estimated additional 20 percent of the population combine livestock production, many of these also in a semi-pastoral way, with small farming. The vigor of the livestock sector is such that per capita consumption of milk and meat is large by international standards. This sector supplies the Arabian Peninsula with more than a third of its live-slaughtered meat, generating about 80 percent of Somalia's export revenues. Agriculture presently represents a more modest enterprise, occupying slightly over one percent of the total land area and providing about eight percent of the export earnings. Somalia is not self-sufficient in any important subsistance crop, importing sorghum, maize, rice, edible oil, and sugar. While there are concerns about potential overgrazing, agriculture is believed capable of both intensification and expansion in area. For this reason agriculture is allotted twice the development investment available

for livestock development during the FYP, 1982-86 (29.1% and 14.9%, respectively, of total investment).

The rapidly expanding NES employs a cadre of village-based Field Extension Assistants (FEAs) who are supervised by a Regional Extension Officer who is, in turn, assisted by a crop specialist and a plant specialist. In 1983, there are 155 FEAs working with some 85,000 farm families in ten of the country's sixteen regions. As the system is planned to function, each FEA will be responsible for promulgating a package of "improved practices" and providing agricultural inputs to a "circle" of about 500 farm families. This is to be done through demonstration plots and regular visits to an average of 48 contact farmers who would then disseminate information to other nearby farmers. The NES has a biweekly radio program and uses instructional films. Assistance to the NES comes through the Agriculture Extension and Farm Mangement Project (US $32.4 million), contributed to by the World Bank, the African Development Bank, USAID, and the EEC. By the end of the project period (1986), plans are to have 368 field agents based in villages and working with 195,000 farm families--essentially the entire estimated small farming population in the ten target regions.

The NRA's Northern Rangelands Project, initiated in 1977 with donor support from Kuwait, has been extended through 1987 and operates in four northern regions. Its goals are to protect grazing land from further deterioration and to increase production through the introduction of modern range management practices. It has a nonformal education unit but no extension service per se. The Central Rangelands Project began work

along similar lines in 1981 with assistance from World Bank, USAID, German Technical Assistance, and World Food Programme. Operating in three regions, the project has a more developed extension arm with regional and district extension offices and links to some thirty "range elders" and various grazing associations. A nonformal education unit concentrates on materials production and dissemination. The NRA also has a radio program.

The chief source of outreach workers entering the NES and the NRA are the agricultural technical schools and the two-year Range Management Institute. Instruction is in English and requires an initial semester of language study plus more study thereafter. Since most students have had no prior exposure to English, instructional effectiveness is less than optimal. Women are not actively encouraged to enter agricultural secondary school nor the field component of NES, although Somali women are engaged in farming in varying degrees. Despite government's stress on the linking of extension with research, the research component lags behind the growth of the field extension component. A national research strategy remains to be formulated. There is little coordination between the Ministry of Agriculture and the Ministry of Livestock, Forestry, and Range. Since small farmers also have livestock or coordinate production with relatives who do, the many tie-ins between the two practices would benefit from coordination between the two ministries.

Government's particular challenges are to link dissemination activities to research and information gathering on the needs of farmers and herders, to effect coordination between the MOA and the MLFR, and to

expand services to underserved populations, including women. Overall government goals are to increase production and to protect the environment, thereby reversing the deterioration of cropland and rangelands. The FYP emphasizes the development of large state farms and places priority on increasing the yields and marketable surpluses of small private farmers. It also encourages the introduction of modern techniques of animal production and the creation of pastoral organizations for modern management of rangeland. The projects described are the principal vehicles of addressing these goals.

Four basic conclusions emerge concerning agricultural and livestock education. First, extension programs are being implemented so rapidly that projects may need a more adequate base of knowledge, materials, and preparation of the intended beneficiaries. Second, external efficiency can be enhanced by having outreach workers do more information gathering or basic research instead of only disseminating information. Research should focus on both the content of the proposed interventions and the effectiveness of different communication modes. Third, administration and supervision of agriculture and livestock education can be strengthened by greater coordination between the two concerned ministries, and by experimenting with the "pilot district" approach to project work. Fourth, internal efficiency could be increased by establishing a language policy in the technical schools coherent with the prior preparation and subsequent work of the students.

There are five recommendations for agriculture and livestock outreach education. First, to improve external efficiency, (1) develop and

apply the national agricultural research strategy as quickly as possible, and (2) reshape the role of extension agents to include more information gathering. Second, to strengthen administration and supervision, (1) establish an inter-ministerial body to encourage and coordinate exchange of research findings, and (2) experiment with pilot approaches to compare the effects of different practices. Third, increase internal efficiency by reducing the dependence on English for students in agricultural technical schools (or introduce its study in the later primary grades).

1.10.9 Adult Basic Education

Since 1969, government has placed a particular priority on adult education. This resulted in the urban literacy campaign of 1973-74, and in the rural development campaign of 1974-75. The second campaign included thousands of student teachers and civil servants together with health and veterinary teams dispersed to remote parts of the country. Of the 1.25 million who were initially enrolled in the campaign, including nomads as well as subsistence farmers, 753,802 passed the literacy test in the new Somali script. In 1977, however, a MOE team found that about half of those who became literate during the 1974-75 campaign had not been able to maintain their literacy because of inadequate follow-up supports. So, despite the two literacy campaigns and the large increases in absolute numbers of students enrolled in schools, well over half the population remains without either functional literacy or access to formal education. In addition, many students leave primary school

before completing the four to six grades necessary to acquire and maintain literacy. For these reasons, nonformal education remains an important potential means through which to reach adults who have not shared in the benefits of formal schooling or who wish to upgrade certain skills.

The Ministry of Education has an active Non-Formal Education Department divided into four services, three of which focus on adult training and education: Women's Education Service, National Adult Education and Training Center, and the Adult Education Service. The number of women participating in the Women's Education Service programs totaled 3,534 in 1980-81. The programs were conducted that year in a total of 62 Family Life Centers. In addition, 16,675 rural adults and nomads engaged in other adult education courses, including 7,855 women. The nonformal education and training by non-governmental agencies is directed, almost exclusively, toward refugees and administered through the UN High Commissioner for Refugees. Some 33 private voluntary organizations are involved in assistance to the nation's refugees.

The Women's Education Service (WES), begun in 1974 and with funding from UNICEF and FAO, operates two types of programs: one to prepare teachers for field assignment, and the other for the 66 Family Life Centers. The teacher training course lasts one academic year and is open to women who have completed primary school and have been selected by their communities. By 1983, 600 teachers had completed the training which encompasses foods and nutrition, health care, child development,

home management, community development, and teaching methods. About 400 of these are now teaching in the Family Life Centers.

The National Adult Education and Training Center (NAETC) is charged with conducting nonformal education for nomads and rural adults. Four of six planned Nomadic Education Centers have been opened since December 1980, and each provides dormitories, enabling designees from nomadic families to attend short residential courses on nutrition, human and animal health, animal husbandry, etc. Seven courses have been offered by the centers enrolling a total of 840 nomads. The NAETC, in collaboration with the Ministry of Local Government and Rural Development and through assistance from the World Bank, is also establishing seven regional Adult Education and Training Centers to offer basic adult education courses. The Federal Republic of Germany has been the principal donor for the NAETC.

The relationship of the programs of the WES and the Adult Education Service to economic and social opportunities and benefits is not fully known because no quantitative or qualitative evaluation has been made of the programs. An evaluation of nomadic education is to be conducted as part of the World Bank-assisted Fourth Education Project. Validation of program achievements, costs, and relative benefits is critical if a case is to be made to increase government's allocation to nonformal education from its present So.Sh. 1.0 million of a total education budget of So.Sh. 281 million.

Government has an enormous challenge in attempting to provide basic, functional education for the majority of the population, much of

it mobile, not presently served by formal education. The major constraints are the present levels of human, logistical, and financial resources directed to the subsector. What is particularly important to ensure program appropriateness for nomads is an understanding of what nomads already learn through informal means, what more they need to know for income enhancement and improvement in their quality of life, and the strategies most conducive to that further education and training.

There are five central conclusions regarding adult basic education. First, ensuring program fit with the needs and wishes of the distinct target groups and with national goals, especially for income enhancement, deserves the greatest priority. This must include validation of program impact and effectiveness. Second, improving the internal efficiency of programs is the second priority. This should entail the revision of curricula to reflect priority program goals and their transformation into sequential learning objectives and validation criteria. Third, coordination among adult basic education programs and better monitoring and supervision of field staff should receive next priority. Fourth, expanding access to adult basic education, especially for women, nomads, and other target groups bypassed by the formal schooling system, is the following priority. Fifth, increasing the allocation of the education budget for adult basic education programs should follow validation of program impact in achieving priority goals and objectives.

The corresponding recommendations are described as follows. First, to improve external efficiency, (1) conduct an applied needs

assessment, and (2) establish key learning objectives for the relevant target groups. Second, to improve internal efficiency, (1) develop curricula, guides, and validation criteria, and (2) train adult education instructors. Third, to strengthen coordination, administration, and supervision, (1) establish a national consultative group, and (2) improve supervision and support for field staff. Fourth, to expand access, plan and pilot new approaches to test alternative program designs and strategies. Fifth, judiciously and gradually increase the budget allocation for adult basic education, dependent upon assessment of relative program costs and measured program impacts.

2.0 ECONOMIC AND FINANCIAL ANALYSIS OF SOMALI HUMAN RESOURCE DEVELOPMENT

2.1 INTRODUCTION

The economic and financial analysis of human resource development is divided into four main sections: analysis of macroeconomic conditions and trends, analysis of governmental fiscal capacity, analysis of manpower supply and demand, and analysis of unit costs and returns to the major levels and forms of education. The purpose of the economic and financial analysis is to set the context for the subsequent discussion of the individual education and human resource (EHR) subsectors.

The review of national macroeconomic data is required because the ultimate ability of the nation to support ongoing governmental expenditures, in general, and those on EHR investments, in particular, is determined by the economic vigor and stability of the general economy. In addition, the macroeconomic data provide the basis for the specific consideration of government's fiscal capacity to absorb increased expenditures which would result from any new EHR initiatives.

The fiscal capacity analysis looks at expected growth in the resources available for EHR expenditures and then compares these amounts to the level of expected expenditure under various assumptions. Development expenditures are considered in the fiscal

capacity analysis in two ways: (1) the effect of government development expenditures on reducing fiscal resources available to finance recurrent costs in the short run, and (2) the effect of the development projects themselves on increasing recurrent cost obligations in the long run.

The analysis of manpower demand and supply provides an indication of how well the graduates of the Somali EHR system match the emerging demands of the Somali economy. Although the statistical focus of such analysis tends to be upon the modern sector (public, private, and foreign), the analysis is also capable of considering the manpower absorption potential of the traditional agrarian and pastoral sectors of the Somali economy. These traditional sectors act as a source of new supply of labor for the modern sector and, often, as the residual employer of otherwise unemployed human resources.

The final analytical exercise in this part of the report is the review of unit costs (and, where feasible, returns) to EHR investments at the major levels of education and training and, within levels, of major forms or types. Indicative rates of returns for the major levels of formal education are estimated. While these estimates do not capture wholly the basis of public and private decisions on schooling, they aid in the study of the differential incentives between government and private individuals for additional educational expansion.

The focus of the economic and financial analysis is on the future opportunities, constraints, and planning requirements for EHR

development. Although the analysis is based largely on data from the present and recent past, the analysis and recommendations concentrate on what might be done rather than on the questioning of past decisions which affected policy and practice in the EHR sector. In addition, the policy focus touches both on significant marginal changes that can be achieved in the short run in the EHR subsectors, and on longer-term policy changes which will affect the EHR sector generally. The goal is to provide a set of planning strategies which will allow the government to adapt EHR practice and policy to the emerging pattern of constraints and opportunities.

Because the Somali economy is subject to dramatic shifts in domestic and international determinants of its economic prosperity, it is unrealistic to design a rigid planning scenario for any governmental sector. Government's past and present flexibility in adapting the Five Year Plan, 1982-1986 to the existing levels of resource availability is indicative of the type of planning strategy appropriate for the remainder of the 1980s.

Finally, the analysis of past and current trends takes into account the atypical nature of certain events which structured the Somali economy in the 1970s. The shift to a more open economy, strengthened private sector participation, greater fiscal and monetary restraint, and the changing patterns of donor assistance are all factors which make it dangerous to project even recent experiences too far into the future. A similar approach toward the future will be reflected in each of the EHR subsector sections which follow in this

report. The same potential discontinuities exist among what has been, what is, and what might be. Although such uncertainty creates a greater analytical and prescriptive burden, it cannot be ignored if responsible and realistic recommendations are to be made. The past and present must be understood in order to anticipate the future, but adequate understanding of Somalia's recent past and present should convince anyone that the future will not be simply a mirror of the past.

Several restrictions should be noted regarding the nature and amount of data currently available. First, analysis of macroeconomic activity is hampered by the lack of an official set of national income accounts. Although estimates of Gross Domestic Product (GDP) and related statistics for 1970-1981 were made available by the Ministry of National Planning (MNP) in 1982, these are subject to margins of error. The main sources of erroneous estimation emerge from the paucity of the underlying data on economic subsector activity and on the changes in subsector categorization and treatment which have occurred.

Second, the fiscal data available cover only part of central government disbursements and do not detail the size and distribution of many EHR programs. The financial budget includes only the domestic component of development expenditures and often does not distinguish between current and capital accounts. (Many "projects" involving capital expenditures are included in the annual, ordinary expenditure budget.)

Third, the MNP estimates of GDP are analytically restrictive because of their failure to represent the effects of the informal economy. However, this is a common problem in all national account systems. The statistics of the formal economy suggest that Somali citizens are among the poorest in Africa. However, the effects of the non-monetarized trading sector, the monetarized but unmeasured commercial sector, and the earnings remissions by Somalis working outside the country have led to a much higher real standard of living than the nominal statistics would suggest. Since GDP measures only the monetarized and easily measured economic activity that takes place within the geographic limits of Somalia, it is an inherently flawed approximation of the underlying economic condition of the country. This is not to suggest that Somalia does not have real problems or will not continue to be challenged in the future. The society and the economy are both still in the process of recovery from the problems of drought and the border conflicts which beset Somalia in the 1970s. However, it is important to recognize the degree of recovery which has been attained and especially the marked improvements since 1981.

Similar constraints to those mentioned for GDP exist in the interpretation of such other macroeconomic data as the balances of trade and payments, sources and levels of government receipts, sources and levels of government expenditure, and specific budget data for individual ministries, programs, and institutions. For example, the Ministry of Finance has recently restructured and recategorized government revenue accounts so that 1983 projections are not directly

comparable, in certain cases, to the data for previous years.

In addition, the inconsistent inclusion of development expenditures with recurrent expenditures, and foreign-supported activities with locally financed activities, often makes it hazardous to compare data which otherwise would be expected to reflect the same or similar economic performance. Some of these constraints are pointed out later in the data analysis section.

A special data problem exists in terms of the EHR system in regard to the unit costs of education and training programs. In formal education, the pattern has been for ministries to maintain functional rather than planning budgets. Thus, while detail is available on aggregate salary, equipment, and other expenditures, often it is not available by level of education or for particular institutions or programs. Because the budgetary process is so highly centralized, even the administrators of an institution or program normally are unable to estimate the unit cost amounts. The long term solution is to modify the accounting procedures within the ministries so that both functional and planning budgets are produced. For the purpose of this report, certain of the estimates must be based upon typical school or program expenses rather than upon calculations of the actual average expenditures.

Before proceeding to the analysis, a final limitation of the economic and financial approach should be noted. It is a common weakness of such studies that the greatest detail on program content, participants, and costs exists for the public formal education sector.

Because of this, the assessment of human resource development too often becomes an assessment only of public schooling. In this assessment an attempt is made to extend the analysis of subsectors to include private programs, both formal (including Koranic schools) and nonformal, as well as publicly supported nonformal activities. The data limitations force a more qualitative than quantitative approach to these education and training programs and limit the degree and quality of analysis. These limitations, however, should not be interpreted as indicating an underestimation of the importance of private and nonformal programs. As will be shown later, such activities have a key role to play in adapting the demand for education and training to the supply of workers required for the Somali formal and informal economy.

Given the extended discussion of data limitations, it would be unfair not to recognize the efforts of the planning and statistics departments in the Ministry of National Planning, Ministry of Education, Ministry of Culture and Higher Education, Ministry of Labor, Ministry of Finance, and of the Central Bank of Somalia in producing an impressive array of descriptive and analytical data. Operating under severe constraints of manpower and physical resources, the staffs of these units have produced material that is often superior to that found in other countries where fewer restraints on such work exist. Of special note is the level of openness with which limitations and gaps in data are recognized and dealt with in qualitative terms. Rarely is there a problem of simple

acceptance of data without informed reservations.

2.2 THE SOMALI ECONOMY

This section of the analysis identifies key issues affecting the Somali economy, assesses economic performance, and reviews budget revenue and expenditures in order to provide a framework for examining macro-level EHR expenditures.

2.2.1 Major Issues

There are seven salient issues concerning the Somali economy:

1) external dependence;
2) internal incentives;
3) potential overutilization of rangeland;
4) under-exploitation of farming, forestry, and fishing;
5) environmental fragility;
6) the role of the private sector; and
7) the planning of human resource development.

Within the Somali economy, these issues are linked into a system which presently constrains economic development (in aggregate and in distributive terms) but which, assuming the continued adaptive leadership of government, could be modified to promote higher levels of personal welfare for the Somali population and greater stability for the society.

The external dependence of Somalia exists in several contexts.

The Somali economy, like that of any large international trader, is dependent upon external demand for its exports. In addition, the absence of food self-sufficiency and of a fully developed small manufacturing sector has left Somalia dependent upon imports for a wide range of consumer and producer goods. The environmental and international traumas of the 1970s increased Somalia's external dependence. As more domestic funds had to be allocated for drought assistance, refugee relief, and national defense, fewer funds were available to finance the national development program. Government has turned to outside donors for assistance in a variety of forms and is still not independent of these requirements for aid from abroad.

Within Somalia, the decade of the 1970s saw a muting of incentives for individual advancement and for private sector development. Since 1978, these trends have been reversed, but the entrepreneurial tradition of the Somali culture has not yet been exploited adequately as a means of promoting aggregate development. Government continues to face the challenge of promoting its desire for a wider partnership in economic development while maintaining a revolutionary socialist program focusing on greater societal equity, self-reliance, and centralized responsibility for macroeconomic planning.

The problem of disincentives exists at all levels of the economy, from the problem of available capital for private ventures, to the bureaucratic restraints on permits and licenses, to the largely undifferentiated pay system for public employment. The result of

these disincentives is to discourage private sector development, to constrain individual investments in training, and to cause a "brain drain" of many of the best qualified workers out of government service and even out of Somalia. The quality of government staff is surprisingly high given these disincentives, but the low quantity of qualified manpower is the most evident symptom of the system's underlying problems.

As it has for hundreds of years, the strength of the Somali economy rests upon pastoral and agricultural productivity. With an estimated 60 percent of the population comprising nomadic or semi-nomadic pastorialists and another 20 to 25 percent working in subsistance, cash crop, or contract agriculture, there can be little doubt about Somalia's true economic base. The pastoralists and agriculturalists provide not just for themselves but are the ultimate source of resources to finance government and the emerging private sector.

Population growth and the change in rangeland utilization brought on by the border tensions have resulted in a potential threat to the Somali rangeland areas. While debate exists about the extent and proximity of this hazard (based upon earlier underestimations of the maximum carrying capacity of the Somali rangeland), there is an obvious need to consider redirection of a portion of the younger pastoralist cohort toward non-pastoralist economic activities. The pastoralists themselves have evidenced strong adaptive abilities in that herd size, and slaughter (take-out) figures have been shown to

vary with rainfall levels. The major areas for further development in the Somali environment are farming, fisheries, and forestry. Research and planning activities should be undertaken to foster forms of agriculture, fishery, and forestry development suited to the risk-avoidance bias of the participants. It is important to plan also for the potential periods of dramatic environmental change (e.g., drought) and for the lifestyle disruptions that will affect pastoralists shifting to new areas of employment.

The issue of environmental fragility is a factor which must enter into any planning for Somalia. The country is highly exposed to precipitous changes in availability of water for livestock, agricultural crops, and human consumption. Because of this, the selection of crops and livestock has been in favor of a limited range of hardy crop and animal types rather than toward greater variety. While the environmental changes are beyond government control, proper planning, including an emphasis on improved and stable irrigation sources, can help minimize the effects of any dramatic shift in environmental conditions.

The issue of the private sector's role in Somalia's program of scientific socialism was raised earlier in the discussion of the incentive structure of the economy. It has a special dimension of its own, however, now. The growing dissatisfaction with governmental marketing systems for livestock and argiculture has coincided with donors' encouragement of the private sector as a means of incorporating the informal or parallel economy within the formal system.

Recent attempts to reduce constraints on private traders (especially restrictions on the livestock and agriculture control agencies and the ending of the former government monopoly on imports) are encouraging. A next step should be a planning exercise to formulate a systematic government policy toward development of the private sector. This can lead to the creation of an integrated plan for a more mixed public/private system within the ongoing adherence to the precepts of scientific socialism.

The final major economic issue, and the central focus of this assessment, is the planing of human resource development. The issue is divisible into components of management, quality, and quantity. At present there is a diffusion of governmental control over human resource development. The Ministries of Education, Culture and Higher Education, and Labor all play major roles in education and training activities while the Ministry of National Planning is ultimately responsible for implementation of a coordinated national agenda for manpower. Other ministries, most notably Agriculture, Livestock, and Health, also play important training roles. As will be discussed in the later analysis of manpower supply and demand, research is needed to better define the current and projected manpower demand by type and quality. Satisfaction of this research requirement will not be sufficient to promote improved human resource development and utilization, however. There also must be reduced fragmentation in control of the supply of manpower. This can best be achieved through a coordinating panel of the ministries involved in manpower education

and training. The government intends to institutionalize such a group within the Ministry of National Planning in the near future.

This review of major issues of the Somali national economy is not exhaustive. Issues of regional balance, population growth, and minerals exploitation could be added. The review should, however, provide a contextual basis for better understanding the analytical sections which follow.

The overarching conclusion to which the summary of issues points is the potential for economic variability. This is the single most important characteristic of the Somali economy. The combined effect of external dependence and domestic environmental fragility are such that the government can never control adequately some of the major determinants of economic performance. The government's challenge is to structure a supportive administrative base, with a clear and positive incentive system, and to incorporate flexible and adaptive planning strategies at both the macroeconomic and subsector levels. Such flexibility will be especially appropriate in the EHR sectors given their present scales of operation and the increasingly large demands which will be made on them.

2.2.2 Measures of Somali Economic Performance

This section of the report reviews the statistics available on the formal monetarized economy of Somalia. As noted above, the lack of official national accounts statistics and the exclusion of informal or parallel economic activity means that these data are incomplete

and provide a biased view of the actual performance of the economy. However, because of government's dependence on easily identifiable modern or formal sector economic activity for much of its revenue base, these data are important for the fiscal capacity analysis which follows.

Table 2.1 presents MNP estimates of Gross Domestic Product, by source, for the national economy from 1977 to 1982. It should be remembered that the 1977-78 period was one of mobilization for the border conflict and that, at the time, the economy was still recovering from the effects of the dramatic drought of 1974-75. The importance of the agriculture sector is indicated by the 56 percent of Gross Domestic Product (at factor costs) produced in this sector. Within the agriculture category, livestock production is the largest single activity (74% in 1977 and 1981) with crop production second. Forestery and fishing, which in 1977 represented only 7.9 percent and 0.6 percent of agriculture GDP respectively, increased to 9.7 percent and 1.0 percent, respectively, of agriculture GDP in 1981.

The next largest sources of GDP in the 1977-1981 period have been the trade and restaurants category (including hotels) and government services. Because the national accounts classify most government-financed parastatal activities under their functional headings, the "government services" category significantly underestimates the actual influence of government activities upon GDP.

The data on GDP in Table 2.1 are presented in current prices and, therefore, represent a significant overstatement of the change in

TABLE 2.1

GROSS DOMESTIC PRODUCT BY SOURCE

(So.Sh. Millions at Current Prices)

ITEM	1977	1978	1979	1980	1981
Agriculture	3,192.6	3,742.2	3,256.1	4,067.3	6,899.0
Mining and Quarrying	40.0	28.0	36.0	43.2	68.0
Manufacturing	439.0	433.2	457.9	574.3	850.0
Electricity and Water	45.8	43.7	50.2	58.0	126.8
Construction	302.0	206.0	283.1	389.0	500.0
Transportation and Communications	324.8	302.3	364.6	772.4	1,122.1
Trade and Restaurants	477.3	686.6	702.2	1,027.6	1,508.9
Finance and Insurance	311.5	450.2	553.8	670.0	1,022.4
Other Services	148.6	169.6	216.1	361.0	660.0
Government Services	407.0	692.7	727.7	874.0	1,151.0
Total (Factor Cost)	5,688.6	6,754.5	6,647.7	8,836.8	13,914.2
Total (Market Prices)*	6,388.2	7,909.0	7,934.5	9,984.2	16,060.6

* Includes Indirect Taxes

Source: Ministry of National Planning

real (constant price) GDP. Because of the high levels of inflation which followed the 1977-78 border conflict, much of the increase from So.Sh. 3,192.6 million in 1977 to So.Sh. 6,899.0 million in 1981 represents only a nominal increase.

Table 2.2 presents the same GDP data as Table 2.1 but is adjusted for inflation (all figures are in 1977 purchasing power). With price levels having more than doubled between 1977 and 1981, the real change in GDP was relatively small: from So.Sh.3,192.6 million in 1977 to So.Sh. 3,530.6 million in 1981. This is an increase of only 10.5 percent over four years, or approximately 2.0 percent per year compounded. The net market price deflator for each year in the period was:

1978 - 1.61
1979 - 1.33
1980 - 1.71
1981 - 2.30

The program of governmental austerity initiated in 1981 has begun to have positive effects on the monetarized economy. Devaluation has aided in discouraging imports but has made more expensive those consumer and producer goods which Somalia must buy from abroad. However, because most Somalia agricultural and livestock export contracts are negotiated in terms of foreign currency, the effect of devaluation has been to increase the Somali shilling equivalent of the exports in these categories. This has been

TABLE 2.2
GROSS DOMESTIC PRODUCT BY SOURCE
(So.Sh. Millions at Constant 1977 Prices)

ITEM	1977	1978	1979	1980	1981
Agriculture	3,192.6	3,225.7	2,361.7	2,511.7	3,530.6
Mining and Quarrying	40.0	25.4	26.5	20.0	22.0
Manufacturing	439.0	393.8	420.0	428.6	425.0
Electricity and Water	45.8	43.7	50.2	58.0	54.3
Construction	302.0	187.0	208.2	212.4	221.0
Transportation and Communications	324.8	273.3	267.7	355.9	358.3
Trade and Restaurants	477.3	624.2	515.5	473.5	482.1
Finance and Insurance	311.5	409.3	407.2	415.3	436.1
Other Services	148.6	154.2	158.9	166.3	211.0
Government Services	407.0	629.7	596.5	652.2	575.5
Total (Factor Cost)	5,688.6	5,966.3	5,012.4	5,293.9	6,315.9
Total (Market Price)	6,388.2	6,800.3	5,957.2	5,822.7	6,991.8

Source: Ministry of National Planning

beneficial to producers, traders, and government revenue. Although until 1982 government continued to expand its staff beyond levels required for efficient administration, the effect of the policy of guaranteeing jobs to all secondary and higher education graduates has been partially muted by the low pay structure which exists in government employment.

Both Tables 2.1 and 2.2 indicate the relatively minor contribution to GDP from the sectors of manufacturing and construction. With greater activity anticipated in the economic base sectors of livestock and agriculture, these second-level sectors should continue to improve.

To summarize recent GDP changes (keeping in mind the possibility of a wide margin of error in these accounts): GDP at factor costs stagnated from 1978 to 1979 due primarily to the recurrence (but at less severe levels) of drought conditions in the rangeland areas. There was a reduction in net herd size in 1979, and agricultural output was virtually unchanged. In 1980 the economy began an expansion in terms of real GDP, but a major proportion of the 2.1 percent estimated growth was due to increases in government employment. Government's wage bill (excluding the Ministry of Defense for which estimates are not provided) increased in 1981 to So.Sh. 397.1 million from the 1980 level of So. Sh. 311.6 million. The most significant increases were So.Sh. 10.3 million in general public services and So.Sh. 26.4 million in educational services. The total government wage bill increased again in 1981 to So.Sh. 466.6 million

with general public services (led by the Interior and Police category) rising by So.Sh. 43.2 million and education by So.Sh. 18.6 million. The result of these increases was largely offset by inflation, but the real GNP did manage an estimated 4.9 percent increase. (The figures are derived from International Monetary Fund estimates in addition to the data in Tables 2.1 and 2.2.) The 1981 GDP figures released by the MNP suggested a more dramatic GDP increase. These figures are under study, however, for possible revision due to an exchange rate change in June, 1981.

In any case, the source of GDP growth in 1981 is traceable to the revived livestock and agricultural activity which was sufficient to offset a measured decline in manufacturing activity due to problems in the petroleum and sugar refineries. The livestock and agricultural increases were most likely due to the improved weather in 1981 and also to changes in the incentive structure faced by producers.

The year 1982 represented a dramatic year for measured GDP growth with an estimated increase of 9.6 percent. While part of this may be due to improved data collection and to greater incentives for producers to deal in the formal economy, the continued pattern of favorable weather and benign governmental influence was undoubtedly influential.

The indications for 1983 are that the continued pattern of favorable weather, improved producer incentives, and reduced inflation should lead to another year of real GDP growth. The stabilization of government's wage bill will reduce nominal GDP growth but is a

positive factor in the economy overall.

Table 2.3 turns to the other side of the GDP equation and looks at how GDP was expended. Private consumption dominates, followed by expenditures on government. The negative trade balance between 1977 and 1981 meant that the monetarized economy was consuming more than it was producing. The crisis in foreign reserve holdings which has faced government in recent years has been traceable precisely to this situation. With the assistance of International Monetary Fund (IMF) special drawing rights (SDRs) and donor assistance for general economic support and commodity import programs, government has been able to bridge the short-term foreign currency requirements. In the long term, however, there will be a need for an improved balance of both trade and payments. This must be based on increased exports relative to imports but will also be aided by an increased amount and utilization of the remissions of Somali workers employed abroad.

As Table 2.4 indicates, the current balance of payments continues negative, although the most recent year (1981) shows a significant decline in the negative balance. The deficits have been financed by the net capital movement (unrequited transfers and loans) of over So.Sh. 400 million per year. The loan component of this will create future obligations of government for debt servicing, and this could aggravate future attempts to promote development and reduce external dependence.

2.2.3 Current National Budget Receipts and Expenditures

Government revenue in Somalia is heavily linked to international

TABLE 2.3
EXPENDITURES ON GROSS DOMESTIC PRODUCT
(So. Sh. Millions at 1977 Constant Prices)

	1977	1978	1979	1980	1981
Government	1,128	1,516	1,422	1,388	1,046
a) Central	(800)	(1,170)	(1,112)	(715)	(858)
b) Extra-budgetary expenditure	(278)	(286)	(250)	(632)	(145)
c) Local Government	(50)	(60)	(60)	(41)	(43)
Private Consumption	3,924	4,848	4,402	4,365	4,633
Capital Formation	1,240	982	964	842	816
Increases In Stock	747	766	-300	-315	846
Exports	635	673	637	754	686
Imports	-1,336	-1,985	-1,168	-1,206	-1,035
Total	6,338	6,800	5,957	5,828	6,992

Source: Ministry of National Planning

TABLE 2.4

SOMALI BALANCE OF PAYMENTS

(So. Sh. Millions)

	1978	1979	1980	1981
Net Goods and Services	-1073.2	-1886.6	-2115.5	-1662.0
Exports	689.1	667.4	839.3	1283.9
Imports	-1732.3	-2480.8	-2905.4	-2861.0
Trade Balance	-1043.2	-1813.4	-2066.1	-1577.1
Net Services	-30.0	-73.2	-49.4	-84.9
Net Transfers	666.4	591.6	1258.2	1137.3
Current Balance	-406.0	-1295.0	-857.3	-524.7
Net Capital Movement	496.0	551.5	547.3	434.2
Errors and Omissions	44.8	123.4	138.8	3.2
Overall Balance	134.0	-620.4	-171.3	-87.3

trade. As noted above, export of agricultural goods and livestock provide most of the economic base for direct taxes on income and profits while import duties are the single largest source of government receipts. In Table 2.5, central government revenue is presented for the period 1977 to 1982. From 1977 to 1979, the economic recession and the increased demands on government caused the total revenue as a percentage of GDP to increase from 13.9 percent to 19.2 percent. The beginnings of economic recovery from 1980 to 1983 have brought this percentage back to the 14-15 percent range.

These figures must be understood in terms of data quality, the resulting margins of error, and in the context of Somalia's socialist-oriented economy. In terms of the latter, the figures in Table 2.5 represent only the direct activities of the central government agencies. A variety of publicly-owned and parastatal organizations exist which operate, in part at least, on the basis of their own revenues. Thus, the impact of government on the economy is significantly higher than these revenue percentages of GDP would indicate.

For 1982, the projected percentage distribution of revenue sources is as follows:

Total tax revenue	86.9%
Taxes on income	(3.3%)
Taxes on property	(3.3%)
Taxes on goods and services	(21.6%)
Taxes on international trade	(51.3%)
Stamp taxes	(7.3%)

TABLE 2.5

CENTRAL GOVERNMENT REVENUE
(1977-1983)

(So. Sh. Millions)

Item	1977	1978	1979	1980	1981	1982	% of 1982 Total
TOTAL REVENUE	890.0	1419.6	1525.8	1421.4	2389.6	2558.3	100.0
TAX REVENUE	647.2	1154.2	1314.8	1192.6	2068.8	2222.3	86.9
Taxes on Net Income	59.1	74.4	90.8	94.3	145.8	85.5	3.3
Taxes on Earned Income	55.8	68.0	83.0	86.2	113.2	55.6	2.2
Ordinary Tax on Income	(25.3)	(32.1)	(38.7)	(40.9)	(59.3)	(44.4)	(1.7)
Extraordinary Tax	(30.5)	(35.9)	(44.3)	(45.3)	(53.9)	(11.2)	(0.4)
Other Income Taxes	3.3	6.4	7.8	8.4	32.6	29.9	1.2
Taxes on Property (Registration Tax)	16.0	45.0	60.5	67.2	142.4	84.4	3.3
Taxes on Goods and Services	179.6	227.1	71.0	139.0	373.2	553.0	21.6
Excise Tax, Sugar and Spirits	78.2	98.5	19.6	51.0	196.7	423.8	16.6
Fiscal Monopolies	96.3	118.6	18.1	55.0	55.8	83.7	3.3
Motor Vehicles Taxes	1.3	2.8	4.8	6.1	6.8	7.0	0.3
Other	3.8	7.2	28.5	26.9	119.9	38.5	1.5
Taxes on International Trade	341.5	704.4	944.0	765.2	1206.4	1312.6	51.3
Import Duties	329.5	687.4	927.9	746.8	1156.1	1189.4	46.5
Customs Duties	(255.0)	(572.8)	(774.6)	(565.9)	(922.4)	(1039.1)	(40.6)
Admin. & Stat. Tax.	(74.4)	(114.3)	(153.3)	(180.9)	(233.7)	(150.3)	(5.9)
Export Duties	12.1	17.3	16.1	18.4	50.3	123.2	4.8
Stamp Taxes	51.0	103.3	148.5	126.6	195.0	186.8	7.3

TABLE 2.5 (continuation)

Item	1977	1978	1979	1980	1981	1982	% of 1982 Total
NON-TAX REVENUES	242.8	265.4	211.0	228.8	320.8	336.0	13.1
Operat. Surplus of Enterprises	-	21.1	19.3	24.3	42.1	10.7	0.4
Property Income from	153.0	148.4	169.3	181.0	132.7	256.0	10.0
a) Public Enterprise	(141.8)	(145.7)	(159.5)	(172.6)	(127.4)	(253.7)	(9.9)
Turnover Tax	((61.4))	((74.0))	((62.3))	((49.5))	((65.4))	((227.5))	((8.9))
Share of Profits	((72.7))	((66.2))	((90.7))	((118.2))	((53.0))	((26.0))	((1.0))
Share of Depreciation	((7.7))	((5.5))	((6.5))	((4.9))	((9.0))	((0.2))	((.0))
b) Other	(11.2)	(2.7)	(9.8)	(8.4)	(5.3)	(2.3)	(0.1)
Adm. Fees and Charges	39.5	24.1	10.5	10.0	59.2	11.7	0.5
Fines and Forfeits	2.9	3.5	5.4	7.2	26.5	49.5	1.9
Other	47.4	68.3	6.5	6.3	60.3	8.1	0.3

Source: Ministry of Finance

Non-tax revenue	(13.1%)
Operating surplus of enterprises	(0.4%)
Property income	(10.0%)
Administrative fees and charges	(0.5%)
Fines and forfeits	(1.9%)
Other revenue	(0.3%)

The one-half of revenues directly related to international transactions reaffirms the earlier discussion of the external nature of the Somali economic base. The largest revenue increases in recent years have come in taxes on goods and services, the non-tax revenue categories of fees and service charges, and in income from government property. There are no current plans for a major change in government revenue structure; however, some taxes on imports will be replaced by additional taxes on domestic production and consumption. Government plans a stricter application of current tax laws and of the Fiscal Code, and the expectation is that revenues from properties and incomes will be improved. The existence of a large informal economy obviously restricts governmental revenue from income and profits taxation.

Table 2.6 presents the estimate of central government revenue in the new format used by the Ministry of Finance for 1983. The "Total Revenue" figure of So.Sh.2,551 million for 1983 is generally comparable to the So.Sh.2,558.3 million figure for 1982. However, the estimate in Table 2.6 is a preliminary one, and mid-year 1983 informal estimates are that the total revenue for 1983 will exceed that for 1982 by a larger margin.

TABLE 2.6

ESTIMATE OF CENTRAL GOVERNMENT REVENUES

(in Somali Shillings)
1983

Item	(in Millions)
Taxes on Expenditures	1,920
Import Duty	1,200
Export Duty	100
Administration/Statistical Tax	335
Registration Tax	75
Stamp Tax	174
Circulation Tax	8
Other Indirect Tax	28
Taxes on Production	367
Manufacturing Excise Taxes on Sugar & Spirits	252
Tobacco and Matches Tax	92
Tax on Soft Drinks	18
Other Tax on Production	5
Taxes on Income	90
Ordinary Tax on Income from Employment	50
Interest	40
Other Domestic Transfers	8
Fines, Penalty and Other Compulsory Transfers	8
Voluntary Transfers	-
Other Current Transfers	-
Income From Government Property	69
Income from Land Concessions	2
Income from Other Concessions	5
Turnover Tax on Public Agencies	60
Share of Net Profit at Public Agencies	-
Debt on Public Agencies	-
Interest	2
Charges for Goods and Services	98
Harbor Charges	-
Aerodrome Fees	5
Postal Receipts	8
Telephone Receipts	35
Telegram Receipts	7
Telex Receipts	20
School Fees	1
Publication of Advertisement Receipts	1
Notary Receipts	10
Registration Fees and Taxes of Ships	-
Sales of Materials	5
Receipts for Other Goods and Services	4
Cost Receipts	2
SUMMARY:	
Total of Tax Revenues	2,377
Budgetary Contribution	174
Total Revenue	2,552
Current Transfers from Abroad	2,624
Total Government Receipts	5,176

In Table 2.7 the central government expenditure by functional sector is presented for the 1977-1982 period with projections for 1983. Expenditures as a percent of GDP showed a pattern similar to that seen for the revenue expenditures with the only significant difference being that expenditure levels have remained high in recent years. From 1977 to 1979, revenue as a percent of GDP increased from 12.6 percent to 19.8 percent (largely due to Defense and Finance/ Central Services). Since 1979, the revenue percentage has declined from 19.8 percent to a range of 16-18 percent. As one would suspect, the differential pattern of revenue and expenditure change has meant that government has been forced to accept an increasingly large current deficit. The deficit figures (in So.Sh. millions) are:

1977	+ 88
1978	+ 58
1979	- 47
1980	-197
1981	-448
1982	+ 81 (est.)

Such deficits obviously place a great burden on government. In the short run, the current deficit forces postponement of development activities and of qualitative improvements (including salary enchancement) in ongoing projects. In addition, such deficits force borrowing which may increase deficit pressure in future budgets because of the need to service the resultant debts. Government is foregoing commercial borrowing wherever possible (no such debt was reported as incurred in 1982) and has attempted to emphasize grants and soft loans as a means of meeting its obligations. Whether

TABLE 2.7

FUNCTIONAL CLASSIFICATION OF CENTRAL
GOVERNMENT ORDINARY EXPENDITURE
1977-1983

(Millions of Somali Shillings)

ITEM	1977	1978	1979	1980	1981	(Estimate) 1982	(Projection) 1983	% of 1983 TOTAL
TOTAL	801.8	1,361.5	1,572.9	1,670.0	2,795.2	3,539.7	4,609.1	100.0
GENERAL PUBLIC SERVICES	263.7	465.5	588.5	582.5	1,382.2	1,911.9	2,343.0	50.8
Presidency	21.6	32.0	34.3	31.1	34.7	41.7	26.9	0.6
Justice & Religious Affairs	30.6	43.9	45.3	52.5	91.6	16.4	100.2	2.2
Interior & Police	69.3	127.8	110.7	124.4	177.4	147.5	204.5	4.4
Foreign Affairs	40.3	45.3	51.9	50.0	59.6	177.7	178.0	3.9
Finance	101.9	213.6	342.6	320.7	1,015.2	1,518.6	1,827.8	39.7
Planning	-	2.9	3.7	3.8	3.7	10.0	5.6	0.1
OTHER PUBLIC SERVICES	199.7	512.5	552.3	601.2	850.4	910.5	1,334.7	29.0
Defense	199.7	501.9	533.0	588.4	843.4	872.6	1,299.9	28.2
Popular Assembly	-	-	-	-	7.0	8.5	10.0	0.2
National Militia	-	10.6	19.3	12.8	-	29.4	24.8	0.5
SOCIAL SERVICES	198.6	233.8	261.3	283.9	360.8	447.1	547.4	11.9
Education	97.0	115.0	131.5	143.2	174.9	234.9	281.2	6.1
Higher Education	23.8	31.7	35.7	37.9	50.0	45.8	62.8	1.4
Health	57.8	63.8	62.2	74.5	98.4	102.1	129.7	2.8
Information	16.1	17.3	20.2	19.9	25.8	43.3	48.2	1.1
Labor	2.6	2.5	7.7	5.3	7.7	12.5	16.4	0.4
Sports	1.3	3.5	4.0	5.1	4.0	8.5	9.1	0.2

TABLE 2.7 (page 2)

ITEM	1977	1978	1979	1980	1981	(Estimate) 1982	(Projection) 1983	% of 1983 TOTAL
ECONOMIC SERVICES	139.8	149.7	170.8	202.4	201.8	270.2	384.0	8.3
Agriculture	24.4	26.9	27.2	27.9	31.1	50.8	93.3	2.0
Commerce	3.3	3.2	4.8	2.5	3.6	4.5	3.5	0.1
Livestock	19.8	19.8	22.2	24.6	32.3	41.7	55.0	1.2
Fisheries	3.4	3.0	6.4	12.0	3.9	4.8	30.0	0.7
Mineral & Water Resources	6.6	7.9	16.8	39.2	17.2	22.5	49.6	1.1
Industry	0.8	1.2	1.7	1.3	2.0	3.9	5.2	0.1
Public Works	24.2	22.8	21.0	23.0	26.1	33.0	26.2	0.6
Transportation	34.4	39.8	44.8	40.0	53.0	62.1	62.6	1.4
Post & Telecommunication	19.5	21.3	23.6	25.1	28.7	39.7	50.0	1.1
Tourism	-	-	-	4.2	-	3.0	4.0	0.1
Marine Transport	3.4	3.8	2.3	2.6	3.9	4.2	4.6	0.1

Source: Ministry of Finance

or not the goal of a budget surplus in 1982 is attained, the primary objective of public finance policy is to end the cycle of current deficits and increase government's ability to finance a greater share of qualitative and developmental expenditures from its own resources.

The functional classification of ordinary expenditure, depicted in Table 2.7, can also be analyzed in terms of government's distribution of resources. From 1977 to 1983, the General Public Services item (including most of the central administrative functions of government) has increased in percent of the total from 32.9 to 50.8. It should be noted, however, that the large figures for the Ministry of Finance (39.7% of the total 1983 budget projection) represents funds of which part become discretionary expenditures on a variety of activities, including programs in the social and economic services areas. The Planning and the Presidency items are the only ones in the General Services area that do not show marked increases over the 1977-1983 period.

Within the Social Services area, the expenditures on Education and Higher Education have dominated. However, these allocations as a percentage of the national budget have shown great variability.

Table 2.8 summarizes the changes since 1977 in formal educational system expenditures (including nonformal activities organized by the Ministry of Education) as a percent of GDP and as a percent of total government expenditures. The amount of government expenditure as a percent of GDP has fluctuated dramatically since 1977, reaching a high of 23.7 percent in 1979 and averaging

TABLE 2.8

EDUCATIONAL EXPENDITURES AS PERCENT OF GDP
AND OF GOVERNMENT EXPENDITURE

Fiscal Year	GDP[1]	GOVERNMENT EXPENDITURES	2/1	GOVERNMENT[2] EDUCATIONAL EXPENDITURES	4/2	4/1
	(1)	(2)	(3)	(4)	(5)	(6)
	(So.Sh. Million)	(So.Sh. Million)		(So.Sh. Million)		
1977	5,689	802	14.1%	121	15.1%	2.1%
1978	6,755	1361	20.1%	147	10.8%	2.2%
1979	6,648	1573	23.7%	167	10.6%	2.5%
1980	8,837	1618	18.3%	181	10.7%	2.0%
1981	13,914	2795	20.1%	225	8.1%	1.6%
1982		3540		281	12.6%	
1983		4609 [3]		344 [3]	7.5%	

[1] At current factor prices

[2] For Ministry of Education and Ministry of Higher Education only

[3] Projections

Source: Ministry of National Planning and Ministry of Finance

approximately 20 percent in more recent years. Educational expenditures as a percent of all government expenditures have undergone a significant decline from 15.1 percent in 1977 to 8.1 percent in 1981. The educational expenditure as a percent of GDP has been a less volatile index but has undergone a recent decline from the high of 2.5 percent in 1979.

Similar data for other developing nations can be gathered from the World Bank Comparative Education Indicators. For 1980, the indicators of educational expenditures as a percent of all government expenditures and of GDP were, respectively, 19.0 percent and 5.4 percent for Botswana, 12.5 percent and 2.4 percent for Ethiopia, 26.0 percent and 5.9 percent for Kenya, and 19.9 percent and 4.5 percent for Sudan. Each of these countries appears to be making a more significant contribution of its public and total national resources to education than is Somalia.

There are two major factors which explain this difference. The first is the economic upheaval of the drought and border troubles (and resulting refugee movements) of the 1970s from which the economy and government only now are recovering. The second factor is the existence of a large nomadic population for which the provision of educational opportunities is an extremely difficult task. Thus, the expenditure for education, restricted as its client population is to the urban and more settled rural population (approximately 40% of the total), does not reflect a lack of governmental concern but rather the combined influence of other, more immediate priorities and the still

nascent structure of the Somali educational system.

The present challenge to government is to achieve a stable and positive rate of national economic growth and to begin to develop the educational and training system into a more stable part of the social infrastructure. Appropriate amounts and forms of education and training need to be designed for the three major potential users of the system: the nomadic or semi-nomadic pastoralists, the more stable rural agrarian population, and the increasingly large population in the cities and towns.

Three other forms of expenditure take place under government auspices: extraordinary (one-time or short-term emergency activities), development (largely capital investments), and other capital (e.g., replacement of infrastructure, equipment, facilities). For the 1977-1982 period, these expenditures followed the pattern indicated below (in So.Sh. millions):

Expenditure	1977	1978	1979	1980	1981
Extraordinary	278	315	340	1,384	942
Development	211	187	224	201	286
Other Capital	398	634	1,207	317	392
	887	1,136	1,771	1,902	1,620

The burdens of the periods of drought and border conflict and the continuing responsibility of government for the refugee population has meant that the development expenditure objectives have often been reduced. It is government's plan to maintain approximately a 20

percent share of financing with domestic funds of all projects in the Five Year Plan, 1982-1986. This goal will be realized only if the current deficit problems of the past are ended. More detailed explanation and analysis of government development activities are set forth in the following pages.

2.2.4 Development Expenditures

Because of the demands of meeting the recurrent budget expenses discussed above, government has not been able to fund development activities at a level commensurate with its development objectives. As Table 2.9 depicts, the domestically financed development expenditures have totaled only So.Sh. 1,965 million (US $130 million at current exchange rates) over the period 1977-1983, or an average of So.Sh. 280 million per year. From 1977 to 1981, the changes in development expenditures did not increase in real (constant price) terms. The figures for 1982 and 1983, if realized, will represent the first real increases in locally financed development activities since the early 1970s.

The share of development expenditures going to the Ministry of Education and the Ministry of Culture and Higher Education has increased 250 percent over the 1977-1983 period but has remained in the range of 8.7 to 13.8 percent of the total (except for 1980 when the proportion for these two major EHR ministeries fell to less than 5.0 percent). The greatest proportion of domestically financed development activity has been, appropriately, in the Economic Services

TABLE 2.9

FUNCTIONAL CLASSIFICATION OF CENTRAL GOVERNMENT
BUDGETARY DEVELOPMENT EXPENDITURE
(1977-1983)
(Millions of Somali Shillings)

Item	1977	1978	1979	1980	1981	(Estimate) 1982	Projections 1983	% of 1983 Total
Total	211.4	186.9	224.2	200.6	285.8	345.6	510.1	100%
GENERAL PUBLIC SERVICES	1.1	1.5	1.5	4.1	8.4	-	10.7	2.1
Presidency	1.1	1.5	1.5	4.1	5.4	-	8.1	1.6
Planning	-	-	-	-	3.0	-	2.6	0.5
SOCIAL SERVICES	24.3	26.8	24.5	11.0	36.4	50.4	54.9	10.8
Education	17.1	17.4	17.8	7.9	33.3	47.6	46.2	9.1
Higher Education	1.7	2.5	1.8	1.5	0.6	0.3	1.7	0.3
Health	2.6	2.2	1.0	-	-	-	-	-
Information	0.7	1.3	-	-	-	-	2.5	0.5
Labor	1.5	3.0	3.9	1.6	2.5	2.5	4.5	0.9
Sports	0.7	0.1	-	-	-	-	-	-
ECONOMIC SERVICES	186.0	158.6	198.2	185.5	241.0	295.2	444.5	87.1
Agriculture	49.7	31.7	45.5	50.0	76.0	95.6	202.2	39.6
Livestock	23.1	24.6	37.7	30.1	55.5	58.9	68.6	13.5
Fisheries	1.2	9.3	28.4	9.2	7.0	13.1	16.7	3.3
Marine Transport	10.5	2.2	0.8	0.9	0.6	1.9	3.9	0.8
Mineral & Water Resources	24.4	19.9	19.4	33.0	41.3	65.1	70.9	13.9
Industry	50.1	36.8	41.2	50.9	27.4	21.0	23.5	4.6
Public Works	27.0	34.1	21.5	11.4	20.7	27.5	19.9	3.9

TABLE 2.9 (CONTINUED)

FUNCTIONAL CLASSIFICATION OF CENTRAL GOVERNMENT
BUDGETARY DEVELOPMENT EXPENDITURE
(1977-1983)
(Millions of Somali Shillings)

Item	1977	1978	1979	1980	1981	(Estimate) 1982	Projections 1983	% of 1983 Total
Transportation	-	-	-	-	-	-	-	-
Post & Telecommunications	-	-	-	-	12.5	12.1	35.8	7.0
Tourism	-	-	3.7	-	-	-	-	-
Jubba Valley	-	-	-	-	-	-	3.0	0.6

SOURCE: Ministry of Finance

area. Within this category, Agriculture, Livestock, and Mineral and Water Resources have received the largest shares of government support.

The latter part of the data in Table 2.9 is from two different national planning periods. The Three Year Development Program ran from 1979 to 1981 inclusive, and the new Five Year Development Plan (FYP) covers the years from 1982 to 1986. The new plan has set goals of a 4.4 percent growth rate in constant-price, factor-cost GDP and of 4.8 percent in market-price GDP.

The education and human resources development objectives of the FYP may be summarized as follows:

1) increased democratization and expansion of educational opportunities;

2) improved program content;

3) increased educational process effectiveness;

4) diversified post-primary education;

5) expanded adult education programs;

6) popularization of the Arabic language;

7) expanded facilities for higher education and research; and

8) improved training and research facilities for Somali planners.

The strategy for achievement of these goals is encapsulated in the two-tiered development project plan for education within the FYP. Table 2.10 presents the projects and their proposed capital and recurrent cost components from 1982 to 1986.

In the Category A projects (those for which financing already

TABLE 2.10

FIVE YEAR PLAN EDUCATION SECTOR DEVELOPMENT EXPENDITURE

(So.Sh. Thousand)

C=Capital R=Recurrent

Category Project		1982	1983	1984	1985	1986	1982-1986 Total	1982 - 1986 % of Capital Cost	1982 - 1986 % of Recurrent Cost
CATEGORY A PROJECTS									
Primary Education	C	34,007	35,833	38,724	42,833	51,125	202,522	18.6	
	R	3,795	12,007	22,031	31,530	38,919	108,282		38.1
General Secondary Ed.	C	41,844	16,672	20,449	40,330	9,892	129,187	11.9	
(Construction of High Schools)	R	1,172	4,891	8,968	10,508	11,500	37,039		13.0
Technical Secondary Ed.	C	10,955	14,607	15,338	18,989	25,563	85,452	7.8	
	R	481	3,236	5,280	6,935	8,599	24,531		8.6
Vocational Education	C	11,686	35,057	45,648	48,813	45,648	186,852	17.1	
	R	300	14,121	15,081	15,082	15,662	60,246		21.2
Primary Teachers	C	3,043	1,522	1,522	720		6 807	0.6	
In-Service Training	R	2,395	2,395	2,395	2,395	2,395	11,975		4.2
Secondary School	C	1,522	1,522	618	-	-	3,662	0.3	
Teachers Training	R	891	891	891	891	891	4,455		1.6
Curriculum Development	C	-	-	-	-	-	-	-	
	R	-	-	2,725	-	-	2,725		1.0

TABLE 2.10 (Page 2)

Category Project		1982	1983	1984	1985	1986	1982-1986 Total	1982 - 1986 % of Capital Cost	1982 - 1986 % of Recurrent Cost
Agriculture Livestock and Range School	C	4,565	4,565	4,565	2,483		16,178	1.4	
	R	1,460	1,460	1,460	1,460	1,460	7,300		2.6
Regional Adult Education Centers	C	4,565	4,565	1,931	1,521	-	12,582	1.2	
	R	5,600	5,600	5,600	5,600	5,600	28,000		9.8
Development Planning Institute	C	1,505	2,457	2,144	2,258	3,807	12,171	1.1	
National University Expansion	C	61,003	63,932	95,349	98,034	116,260	434,578	39.9	
Category A Total	C	174,695	180,732	225,288	255,981	252,295	1,089,991		
	R	16,094	44,601	64,431	74,401	85,026	284,553		
CATEGORY B PROJECTS									
Curriculum Materials	C	-	1,522	1,217	-	-	2,739	0.3	
	R		500	1,000	700	700	2,900		0.3
Decentralization of Pre-service Primary Teacher Training	C	27,389	16,935	16,935	16,935	16,935	95,129	11.4	
	R	10,417	2,308	4,739	4,722	6,788	536		3.4
Literacy Follow-up Centers and National Adult Ed. Centers	C	536	-	-	-	-	536	0.1	
	R	956	432	432	432	432	2,684		0.3
									0.3
Strengthening of Arabic Languages	C	244,232	143,866	95,956	95,956	95,956	675,966	81.1	
	R	140,785	158,057	171,593	177,630	161,810	809,875		95.1
Youth and Sports	C	7,851	7,851	7,851	7,851	7,851	39,255	4.7	
	R	530	550	580	600	630	2,890		0.3
National Museum	C	1,522	1,522	1,522	1,522	1,522	7,610	0.9	
Expansion of Sports Institute	C	23	30	16	-	-	69	-	

TABLE 2.10 (Page 3)

Category Project		1982	1983	1984	1985	1986	1982 - 1986 Total	1982 - 1986 % of Capital Cost	1982 - 1986 % of Capital Cost
Women's Education	C	1,572	1,572	1,572	1,572	1,572	7,860	0.9	
	R	930	930	930	930	930	4,650		0.5
National Academy of Arts and Sciences	C	135	441	289	167	245	1,277	0.2	
National Library	C	1,217	913	456	456	456	3,498	0.4	
Category B Total	C	284,477	174,652	125,814	124,459	124,537	833,939		
	R	153,618	162,777	179,274	185,014	171,290	851,973		

SOURCE: Ministry of National Planning

exists), the largest capital investments will be for the expansion of the National University (39.9%), primary education (18.6%), and vocational education (17.1%). The largest development projects in terms of the recurrent cost component are primary education (38.1%) and vocational education (21.2%). The Category B projects (those for which funding has not yet been secured) are dominated by the Arabization project which, if funded, will represent 81.1 percent of capital expenditures and 95.1 percent of recurrent expenditures for all of Category B. The only other project of significant relative size is the decentralization of pre-service primary teacher training which represents 11.4 percent of capital and 3.4 percent of recurrent costs in Category B.

The figures in Table 2.10 may be interpreted as representing the combined influence of government priorities and the availability of donor funds. The A and B categorization is not a division solely by government priority, although the use of government funds for the majority of primary and vocational and technical education project costs is an indication of government's direct emphasis on these areas of expansion.

Table 2.11 presents the FYP's projected sources of financing for all projects. Again, the external dependence of the government is indicated by the large proportion of financing which will be sought from foreign sources. Of the 58.3 percent to come from foreign sources, 19.7 percent will be in grants and the remainder in concessional and commercial loans. Government's intention to shift as

TABLE 2.11
SOURCES OF PLANNED FINANCING OF THE
FIVE YEAR DEVELOPMENT PLAN, 1982-86

(In Millions of U.S. Dollars and in Percent)

	1982-1986	
	Total Amount	Shares in Total (percent)
Foreign	1,334.7	58.3%
Donor grants	451.6	19.7
Concessional Loans	691.0	30.2
Commercial Loans	192.1	8.4
Domestic	389.9	17.0%
Government Budget	272.8	11.9
Local Government	52.3	2.3
Parastatal Savings	36.4	1.6
Local Self-help	18.4	0.8
Commercial Loans	10.0	0.4
Financing Gap	566.0	24.7%
Total	2,290.6	100.0%

Source: Ministry of National Planning

much of the loan activity for the FYP as possible from commercial loans to concessional loans and grants has been reinforced in recent months by the concern for the debt service burden which government will face over the remainder of the 1980s.

The domestic share of financing will come primarily from central government (70% of the domestic share). The substantial size of the financing gap (So.Sh. 8,500 million or US $566 million) raises serious questions concerning the implementation possibilities for the total FYP. This proportion of financing will be met only if both foreign and domestic sources of development funds exceed present anticipated levels.

The Government Public Investment Program, as revised in June 1983, presents a more detailed as well as a more up-to-date plan for government's project expenditures. Table 2.12 presents the total public investment activity by project sector, while Table 2.13 presents the detail on education and human resource development project expenditures. The share of government investment going to the Education and Culture sector will represent 11.3 percent of the total expended during the 1982-1986 period. It is important to note, however, that the human resource development activities of government agencies other than the Ministry of Education (MOE) and the Ministry of Culture and Higher Education (MCHE) are excluded from this total.

Table 2.13 presents the expenditure levels for all identifiable EHR projects in the Public Investment Program. This table provides detail as to source of financing as well as to annual expenditure

TABLE 2.12

SOMALI PUBLIC INVESTMENT PROGRAM
June 4, 1983

(Millions of Somali Shillings at Current Prices)

Project Sector	Before 1982	1982	1983	1984	1985	1986	1982-1986	% of Total 1982-1986
Livestock	49.5	11.7	34.4	50.5	58.6	70.7	225.9	11.5
Agriculture	272.6	61.6	71.6	50.6	59.9	187.6	439.3	22.4
Forestry and Wildlife	7.7	2.1	6.9	21.0	14.9	11.3	56.2	2.9
Fisheries	12.2	6.8	12.1	14.2	10.4	8.5	52.0	2.6
Minerals	4.3	3.2	4.2	5.3	16.3	17.1	46.1	2.3
Manufacturing	34.7	2.0	49.7	57.9	25.2	8.3	143.1	7.3
Energy	25.0	1.5	27.7	27.8	16.4	15.9	89.3	4.5
Water Resources	48.3	19.4	29.3	38.1	59.4	55.1	201.3	10.3
Transportation and Communications	33.9	3.9	35.5	81.2	71.3	66.2	258.1	13.1
Roads	(29.3)	(2.4)	(16.8)	(23.8)	(23.7)	(25.3)	(92.0)	(4.7)
Ports	(3.6)	(1.5)	(11.4)	(34.7)	(27.1)	(24.0)	(98.7)	(5.0)
Telecommunications	(-)	(-)	(5.9)	(16.9)	(14.3)	(11.5)	(48.6)	(2.5)
Posts	(-)	(-)	(0.2)	(0.7)	(0.4)	(-)	(1.3)	(0.1)
Civil Aviation	(1.0)	(-)	(1.2)	(5.1)	(5.8)	(5.4)	(17.5)	(0.9)
Trade and Commerce	2.3	0.9	1.0	3.8	4.3	5.0	15.0	0.8
Education and Culture	61.4	6.2	13.4	59.3	70.2	72.1	221.2	11.3
Health	2.9	1.9	10.0	18.1	22.1	25.8	78.0	4.0
Manpower and Employment	0.9	-	3.8	4.0	4.2	4.4	16.4	0.8
Information	-	0.1	1.0	1.6	-	-	2.7	0.1
Regional and Rural Devel.	11.0	3.3	8.7	30.6	35.1	40.6	118.3	6.0
TOTAL	566.7	124.6	309.3	472.0	468.3	588.6	1,962.9	

TABLE 2.13

SOMALI PUBLIC INVESTMENT PROGRAM 1982 - 1986
EDUCATION AND HUMAN RESOURCE DEVELOPMENT PROJECTS
(Millions of Somali Shillings at Current Prices)

Ministry Project Source of Funds	Before 1982	1982	1983	1984	1985	1986	1982-1986 Total	% of Total 1982-1986	Source As % of Project Cost
Education and Higher Education									
Primary Education	40.0	-	1.0	25.7	29.3	34.0	90.0	40.7%	
GOS	(12.0)	-	(0.3)	(7.7)	(8.8)	(10.2)	(27.0)		30.0%
Local / Self-help	(28.0)	-	(0.7)	(18.0)	(20.5)	(23.8)	(63.0)		70.0%
General Secondary Ed.	6.0	2.1	3.4	3.6	4.1	4.8	18.0	8.1%	
IDA	(2.3)	(-)	(0.5)	(0.4)	(0.5)	(0.5)	(1.9)		10.6%
GOS	(3.1)	(2.1)	(2.9)	(2.0)	(2.3)	(2.8)	(12.1)		67.2%
Self-help	(0.6)	(-)	(-)	(-)	(-)	(-)	(-)		-
TBF*	(-)	(-)	(-)	(1.2)	(1.3)	(1.5)	(4.0)		22.2%
National University	6.0	-	2.1	5.0	5.7	6.6	19.4	8.8%	
EEC	(6.0)	(-)	(1.0)	(2.3)	(2.6)	(3.1)	(9.0)		46.4%
Saudi Fund	(-)	(-)	(1.0)	(2.6)	(3.0)	(3.4)	(10.0)		51.5%
Italy (not available)	(-)	(-)	(-)	(-)	(-)	(-)	(-)		
GOS	(-)	(-)	(0.1)	(0.1)	(0.1)	(0.1)	(0.4)		2.1%

Table 2.13 (page 2)

Ministry Project Source of Funds	Before 1982	1982	1983	1984	1985	1986	1982-1986 Total	% of Total 1982-1986	Source As % of Project Cost
Inst. of Tropical Med.									
(Italy)	-	-	-	2.2	2.5	-	4.7	2.1%	100%
Technical Secondary Ed.	7.0	4.1	4.7	6.2	9.0	7.3	31.3	14.2%	
IDA	(0.9)	(2.5)	(3.7)	(2.0)	(2.3)	(2.6)	(13.1)		41.9%
GOS	(6.1)	(1.6)	(1.0)	(2.7)	(3.1)	(3.5)	(11.9)		38.0%
TBF *	(-)	(-)	(-)	(1.5)	(3.6)	(1.2)	(6.3)		20.1%
Vocational Education	2.0	-	1.3	15.6	19.6	19.4	55.9	25.3%	
Arab Fund	(0.3)	(-)	(-)	(-)	(-)	(-)	(-)		-
Germany	(0.7)	(-)	(1.3)	(1.5)	(1.8)	(2.0)	(6.6)		11.8%
GOS	(1.0)	(-)	(-)	(1.4)	(1.6)	(1.7)	(4.7)		8.4%
TBF *	(-)	(-)	(-)	(12.7)	(16.2)	(15.7)	(44.6)		79.8%
Dev. Planning Institute (EEC)	-	-	0.5	0.5	-	-	1.0	0.5%	100%
Academy of Arts and Sciences (IDA)	0.4	-	-	0.2	-	-	0.2	0.1%	100%
National Library (GOS)	-	-	0.4	0.3	-	-	0.7	0.3%	100%
Total	61.4	6.2	13.4	59.3	70.2	72.1	221.2	100.1%	

Table 2.13 (page 3)

Ministry Project Source of Funds	Before 1982	1982	1983	1984	1985	1986	1982-1986 Total	% of Total 1982-1986	Source As % of Project Cost
Labor and Social Affairs									
Vocational Rehabilitation	0.5	-	0.4	0.3	0.2	0.3	1.2	1.4%	
UNDP/ILO	(0.5)	(-)	(0.4)	(-)	(-)	(-)	(0.4)		33.3%
TBF *	(-)	(-)	(-)	(0.3)	(0.2)	(0.3)	(0.8)		66.7%
SIDAM	0.4	-	3.4	3.7	4.0	4.1	15.2	17.8%	
IDA	(-)	(-)	(0.5)	(3.7)	(4.0)	(4.1)	(12.3)		80.9%
GOS	(0.4)	(-)	(2.9)	(-)	(-)	(-)	(2.9)		19.1%
Agriculture									
Agricultural Ext. and Farm Mgt. Training	2.4	6.1	11.3	4.8	5.5	6.4	34.1	40.0%	
IDA	(0.9)	(0.8)	(2.8)	(1.7)	(2.0)	(2.3)	(9.6)		28.2%
ADF	(-)	(3.8)	(6.0)	(0.8)	(0.9)	(1.1)	(12.6)		37.0%
EEC	(-)	(-)	(0.5)	(0.3)	(0.3)	(0.4)	(1.5)		4.4%
USAID	(1.2)	(1.4)	(1.9)	(0.9)	(1.0)	(1.2)	(6.4)		18.8%
GOS	(0.3)	(0.1)	(0.1)	(1.1)	(1.3)	(1.4)	(4.0)		11.7%
Health									
Teaching Hospital (Italy)	-	-	-	3.1	3.5	4.1	10.7	12.6%	100%

Table 2.13 (page 4)

Ministry Project Source of Funds	Before 1982	1982	1983	1984	1985	1986	1982-1986 Total	% of Total 1982-1986	Source As % of Project Cost
Fisheries									
Fisheries Development/ Training	-	0.7	-	5.1	6.1	7.1	19.0	22.3%	
IDA	(-)	(0.7)	(-)	(4.7)	(5.4)	(6.3)	(17.1)		90.0%
GOS	(-)	(-)	(-)	(0.4)	(0.7)	(0.8)	(1.9)		10.0%
Regional and Rural Development									
Training/Research Inst. (TBF)*	-	-	-	1.4	1.7	1.9	5.0	5.9%	100%
Total (Other Ministeries)	3.3	6.8	15.1	18.4	21.0	23.9	85.2	100%	
Grand EHR Total	64.7	13.0	28.5	77.7	91.2	96.0	306.4		

*TBF = To Be Funded

levels. Of those projects located in the MOE and the MCHE, primary education is the largest at 40.7 percent of the total. The project activities in primary education are solely Somali financed with the Central Government providing 80.0 percent of the funds with the remainder coming from local government and local self-help activities. The other major public investment priorities in the formal education system are for vocational education (25.3% of the total) and technical education (14.2% of the total). It is significant to note that 79.8 percent of the vocational education and 20.1 percent of the technical education expenditures have not yet been assured in terms of source of funds. The current incongruence between government and donor enthusiasm for these activities (especially for in-school vocational education) is a problem the government plans to resolve through the identification of specific areas of emerging manpower demand which the vocational program's output would satisfy.

Outside the Ministry of Education and the Ministry of Culture and Higher Education, some additional significant human resource development projects can be identified in the Public Investment Program. In fact, for 1982 and 1983 the projects in the other ministries have a greater expenditure total than that for projects found in Education and Higher Education. This is primarily due to the large program in the Ministry of Agriculture for agricultural extension and farm management training. However, after 1983 the projected expenditures in primary education and vocational education lead the traditional education ministries to reassume a position of

prominence. For the full 1982-1986 FYP period, the total of So.Sh. 306.4 million consists of So.Sh. 221.2 million (72.2%) from the Ministries of Education and Culture and Higher Education and So.Sh. 85.2 million from the other five project ministries.

These data represent a useful base from which to shift the emphasis from the presentation of general macroeconomic, fiscal, and EHR data to the more specific subsector presentations which follow. In the fiscal capacity analysis, the information presented here and in preceding sections will be combined so as to present a reasoned estimate of Somalia's fiscal capacity to absorb the recurrent costs of additional EHR development projects. The discussion will distinguish between the capacity to finance short-term project activities (capital and current expenses) and the capacity to absorb the recurrent cost effects which will exist once projects are complete.

2.3 THE ANALYSIS OF SOMALI FISCAL CAPACITY

2.3.1 Projections of Economic Growth

As mentioned above, the Somali Five Year Plan anticipates an annual growth rate of 4.4 percent in GDP (at constant-price factor cost). This is considerably higher than the estimated 2.8 percent rate which was generated in the mid- to late 1970s. The recent resurgence of the economy in 1981 and 1982, however, suggests that the nation's economic base activities are prospering. It also appears that government's development programs and new fiscal and administrative policies have begun to tap the capacity of the economy which

exists in terms of domestic production and consumption activities. Government's growth strategy is dependent upon greater utilization of existing productive capacity, more reliance on indigenous resources, greater use of import substitution, and increased private-sector activity.

A more conservative view of growth opportunities would stress two short-term constraints on Somalia's GDP prospects in the FYP period and beyond. First, the demand for Somalia's agricultural products (expected to remain as high as 48.9% of GDP in 1986) is relatively inelastic. These demand levels are tied to consumption levels within Somalia and within the economies of Somalia's major trading partners. Given the already high levels of economic activity in the Gulf States (even with the current oil price declines) and the likelihood of less rapid growth in food consumption levels in these countries, the 4.2 percent growth rate in agriculture may not be realized unless the anticipated increases in fisheries production are actually exceeded by 1986. The second constraint is that the major benefits of the FYP development strategy will not be realized immediately. Increased capacity utilization, import substitution, and increased private-sector participation are all strategies which will take several years to implement significantly. Even if government avoids a recurrence of emergency demands on its development resources during the FYP period, it is still uncertain that the overall 4.4 percent growth rate in real GDP will be maintained during the 1982-1986 period.

Recent preliminary estimates from the International Monetary Fund indicate that the Somali economy may have grown by as much as 9.6 percent in real terms in 1982. Again, the lack of detailed GDP accounts makes any GDP estimations difficult. However, the reality is that 1982 certainly was one of the most successful years for the Somali economy since the early 1970s. This success provides a basis for optimism, but it must be restrained by the knowledge of the fragile environmental and international trade base upon which this recent success depends. The interest in this fiscal capacity analysis extends beyond the FYP period to 1990. Thus, the effect of the encouraging 1982 GDP estimates, even if confirmed, will not be to alter the long-run pattern of conservative growth expected for the economy.

In the projections that follow, two alternative growth rates for GDP will be used. A "conservative" rate of 3.1 percent (approximately the estimated population growth rate) will be used to represent a constant GDP per capita situation. A more optimistic growth rate of 4.4 percent will be used to reflect government's original FYP expectations for the Somali economy.

For the FYP period, government expects its own level of consumption to increase at a rate of 4.8 percent per year in constant price terms. By 1986, GDP would be So.Sh.21,545 million (1980 prices) of which 21.1 percent, or So.Sh.4,561 million, would be for government expenditures. Other projected expenditure growth rates are 4.0 percent for private consumption, 7.8 percent for government

investment, 13.3 percent for private investment, 8.8 percent for exports, and 5.8 percent for imports. The differential in exports and imports (even though a reduction of present levels) will leave Somalia with a current balance of payments deficit of over So.Sh. 3,933 million in 1986 (at 1980 prices, US $260 million).

Table 2.14 presents two projections of GDP and one of government expenditure. The GDP(A) projection is based on the assumption of a 3.1 percent real growth rate from 1981 to 1986 and then of 4.4 percent real growth for the remainder of the decade. The GDP(B) estimate accepts the FYP rate of 4.4 percent real growth for factor-cost GDP for the whole 1981 to 1990 period. Government expenditure projections assume that the FYP real growth rate of 4.8 percent annually will be maintained through 1990.

Columns(4) and (5) in Table 2.14 present that proportion of total GDP represented by government expenditure. For both GDP projections, the ratios indicate an increasing government share of GDP. Since the government expenditure growth is more inelastic than that of GDP growth, it is possible that a higher rate of aggregate economic growth, combined with government fiscal restraint, could lead to a decline in the government share of GDP. The separate GDP estimates are sufficiently comparable to indicate no great sensitivity of the ratios to changes of GDP growth rates in the range of 3.1 percent to 4.4 percent through 1986.

TABLE 2.14

PROJECTIONS OF GDP AND GOVERNMENT EXPENDITURE

1983 - 1990
(So.Sh. Million)
1981 Prices

Year	Gross Domestic Product (A) (1)	Gross Domestic Product (B) (2)	Govern-Ment Expenditure (3)	3/1 (4)	3/2 (5)
1983	14,790	15,165	2,929	19.8%	19.3%
1984	15,249	15,633	3,070	20.1%	19.4%
1985	15,721	16,529	3,217	20.5%	19.5%
1986	16,209	17,257	3,372	20.8%	19.5%
1987	16,922	18,016	3,533	20.9%	19.6%
1988	17,666	18,809	3,703	21.0%	19.7%
1989	18,444	19,636	3,881	21.0%	19.8%
1990	19,255	20,500	4,067	21.1%	19.8%

GDP (A) assumes 3.1% annual real growth to 1986, 4.4% thereafter

GDP (B) assumes 4.4% annual real growth to 1990

Government expenditure assumes 4.8% annual real growth

GDP amounts are in terms of factor prices.

2.3.2 Projections of Education and Human Resource Expenditures

The projection of aggregate economic activity has been done in a relatively simple manner since the national account components are not available in sufficiently reliable detail to allow for a more sectoral development of GDP estimates beyond that provided in the FYP for the educational system. However, it is possible to develop micro-level projections, and this will be done for the elementary, intermediate, general secondary, and two-, three-, and four-year vocational/technical programs. More summary estimates of projected EHR expenditures will be used for teacher training, the National University of Somalia, and other Ministry of Education and Ministry of Culture and Higher Education activities.

The projection of educational costs in constant price terms consists of two separate activities. The first is the generation of unit costs for each major level and type of EHR development. The second activity is to project enrollments of students and clients. By combining the unit costs with the student/client projections, one has an estimate of the expected increases in real costs for each of the EHR programs.

Unit costs have been developed for each of the following EHR activities:

- Elementary-level Schools
- Intermediate-level Schools

- General Secondary Education
- Two-Year Vocational Education
- Three-Year Technical Education
- Four-Year Technical Education
- Primary Teacher Training
- Adult Education Programs
- National University of Somalia.

Details of these estimates and discussion of their implications for internal efficiency appear later in the economic and financial analysis. By combining the unit costs and the enrollment projections for those programs for which both are available, one can present a detailed as well as aggregate cost projection for EHR expenditures. The time period to be covered will be for the academic years 1982-83 to 1990-91.

Table 2.15 presents the projection of primary education enrollments as well as the recent statistics for 1980-81 and 1981-82. Detail is provided by grade and totals for the elementary (Grades 1-4), intermediate (Grades 5-8), and full primary (Grades 1-8) cycles. Before proceeding to the discussion of the projections, some comment should be made on the special hazard of making enrollment projections for Somalia.

If one scans across the grade levels for 1980-81 in Table 2.15, one problem becomes apparent. Rather than the normal pattern of successively smaller sizes of enrollment at higher grades, the data reveal Grade Three enrollment as higher than Grade Two, Grade Six enrollment higher than Grade Five, and Grade Eight enrollment higher than Grade Seven. It is also worth noting the dramatic difference in

TABLE 2.15

PROJECTIONS OF PRIMARY EDUCATION ENROLLMENTS
1982/1983 - 1990/1991
BY GRADE LEVEL

Year	One	Two	Three	Four	Total Elementary Enrollment	Five	Six	Seven	Eight	Total Intermediate Enrollment	Total Primary Education Enrollment
(A) RECENT STATISTICS											
1980-81	59,809	40,212	40,838	31,135	171,994	18,290	22,111	24,857	34,452	99,710	271,704
1981-82	47,507	37,922	33,118	33,882	152,429	26,314	15,438	19,649	26,086	87,487	239,916
(B) PROJECTIONS	ASSUMPTIONS: a) Grade One cohort of 54,740 (Average of 1976/77 to 1981/82) for 1982-83 b) Increase in Grade One of 3.2% per year. c) 1980/81-1981/82 progression rates for all Grades except Grade One to Two where average of 1976/77 to 1980/81 was used (.765)										
PROPORTION OF PREVIOUS CATEGORY	(1.032)	(.765)	(.824)	(.830)		(.845)	(.844)	(.889)	(1.078)		
1982-83	54,740	36,343	31,248	27,488	149,819	28,630	22,209	13,724	21,182	85,745	235,564
1983-84	56,492	41,876	29,947	25,936	154,251	23,227	24,164	19,744	14,795	81,930	236,181
1984-85	58,299	43,216	34,506	24,856	160,877	21,916	19,604	21,482	21,284	84,286	245,163
1985-86	60,165	44,599	35,610	28,640	169,014	21,002	18,497	17,428	23,157	80,084	249.098
1986-87	62,090	46,026	36,749	29,556	174,421	24,201	17,727	16,444	18,787	77,159	251,580
1987-88	64,077	47,499	37,925	30,502	180,003	24,975	20,425	15,759	17,726	78,885	258,888
1988-89	66,128	49,019	39,139	31,478	185,764	25,774	21,079	18,158	16,988	81,999	267,763
1989-90	68,244	50,588	40,392	32,485	191,709	26,599	21,753	18,739	19,575	86,666	278,375
1990-91	70,428	52,191	41,684	33,525	197,828	27,450	22,450	19,339	20,201	89,440	287,268

Grade One size relative to Grade Two. Since 1975-76, the Grade One size has varied as follows:

1975-76	-	133,605
1976-77	-	68,256
1977-78	-	41,631
1978-79	-	62,963
1979-80	-	48,272
1980-81	-	59,809
1981-82	-	47,507

This variation and its causes are discussed in detail in the subsector discussion on primary education. It is sufficient to note here that a variety of political, educational policy, and socio-economic and cultural determinants have acted to create a highly unusual pattern of successive age cohorts in Somali primary (and secondary) education. The hazard of enrollment forecasting is indicated by the 1981 projections of enrollments prepared jointly by the World Bank and the Ministry of Education. Based on 1978-79 data, they projected Grade One enrollment for the subsequent three academic years at 72,000, 75,000, and 77,000. These estimates exceeded the realized levels by 49.2 percent, 25.4 percent, and 62.1 percent, respectively. The errors of estimation were compounded by the excessively high continuation rates used to project grade-level progression from one year to the next.

The case of the 1981 estimates suggests that great care should go into the creation of enrollment projections and that some modesty should be applied in their interpretation. The primary education projections in Table 2.15 are based on four major assumptions. First,

a Grade One cohort of 54,740 is established for 1982-83 based on the average Grade One cohort from 1976-77 to 1981-82. Second, the Grade One cohort for future years is increased at a rate of 3.2 percent per year (slightly more than the general population increase estimate). Next, the inter-grade progression rates between 1980-81 and 1981-82 are used for all grade levels except for Grade Two. And, finally, because the progression rate for Grade One to Grade Two was unusually low between 1980-81 and 1981-82, an average of the rates from 1976-77 to 1977-78 through 1979-80 to 1980-81 is used.

The most dramatic result from these projections is that the estimated size of intermediate education enrollments may be expected to decline from their 1981-82 level of 87,487 to a low of 77,159 in 1986-87. Thereafter, there will be a steady increase through the end of the decade. Even so, intermediate-level enrollments in 1990-91 will be only 89,440, approximately 200 more students than in 1981-82. At no time in the projection do the estimates approach the 99,710 level found in 1980-81.

The reliability of these estimates, as suprising as they are, is supported by the fact that all intermediate-level students for the years 1982-83 to 1985-86 are already in the elementary school statistics for 1981-82. The only discrepancy that could occur would be in the progression rates. Given the relatively high levels, however, of .824 to .889, the margin for increase is slight, and only the cumulative effect of much higher progression rates would alter the basic scale of the projections.

The elementary level estimates are dependent on the assumption of the size of the Grade One cohorts. An estimate was made of enrollment effects using a six percent annual growth in Grade One student numbers. The effect is to increase total elementary education enrollments by approximately 40,000 more students by 1990-91. The change in the Grade One growth rate has little effect on intermediate enrollments because most of the substantially larger cohorts do not reach the intermediate level before the end of the decade.

Table 2.16 presents a modified projection of primary school enrollments. In this projection, government's current goal of .90 retention between Grades One and Two is assumed. All other retention rates are the same as in Table 2.15. The effect of this one change is to increase total primary enrollments by approximately 45,000 in 1990-91 and to increase Grade Eight graduates by approximately 3,500 in the same year.

If substantial errors do exist in either of the projections presented here, they would be in the size of the Grade One cohort and in variation in grade-to-grade progression rates. For example, the increased availability of schooling for the refugee population could result in individual or successive cohorts considerably above the sizes shown here. The present rate of school construction for these populations is such, however, that the major effect of this expansion would not be felt outside the elementary level until the end of the decade. All estimates such as these should have only a transitory relevance to educational and economic planning. New estimates

TABLE 2.16

MODIFIED PROJECTION OF PRIMARY EDUCATION ENROLLMENTS
1982/1983 - 1990/1991
BY GRADE LEVEL

Year	Grade Level										
	One	Two	Three	Four	Total Elementary Enrollment	Five	Six	Seven	Eight	Total Intermediate Enrollment	Total Primary Education Enrollment
1982 - 1983	54,740	42,756	32,234	27,488	157,218	28,630	22,209	13,724	21,182	85,745	242,963
1983 - 1984	56,492	49,266	36,343	26,754	168,855	23,227	24,164	19,744	14,795	81,930	250,785
1984 - 1985	58,299	50,843	41,876	30,165	181,183	22,607	19,604	21,482	21,284	84,977	266,160
1985 - 1986	60,165	52,406	43,216	34,757	190,544	25,489	19,080	17,428	23,157	85,154	275,698
1986 - 1987	62,090	54,149	44,545	35,870	196,654	29,370	21,513	16,962	18,787	86,632	283,286
1987 - 1988	64,077	55,881	46,026	36,973	202,957	30,310	24,788	19,125	18,286	92,509	295,466
1988 - 1989	66,128	57,669	47,499	38,202	209,498	31,242	25,581	22,037	20,617	99,477	308,975
1989 - 1990	68,244	59,515	49,019	39,424	216,202	32,280	26,368	22,742	23,755	105,145	321,347
1990 - 1991	70,428	61,420	50,588	40,686	223,122	33,313	27,245	23,441	24,971	108,970	332,092

should be generated annually as the new educational statistics become available. In that way adequate lead time is created to adjust teachers and facilities to the levels appropriate for future enrollments.

Because of the several unusually large cohorts that entered the education system in 1975, 1976, and 1978, government schools already have expanded to levels larger than will be required for most of this decade. This situation provides great opportunities for improving quality and for extending schooling to remote areas and populations that are not participating in formal education at the present time. This point will be returned to below, but it is important to consider the advantage that Somalia possesses of not being under great social demand pressure for simple quantitative expansion of the educational system.

Table 2.17 presents the projection of the post-intermediate school leavers into the general secondary education system. Those who complete intermediate school may enter general secondary, two-year vocational, three- or four-year technical, or primary teacher training programs. For 1981-82, the proportions of the previous year's Grade Eight graduates (25,036) that went to each alternative were as follows:

General Secondary Education	17,310	69.1%
Two-Year Vocational Education	1,068	4.3%
Three-Year Technical Education	2,014	8.0%
Four-Year Technical Education	1,042	4.2%
Primary Teacher Training	3,285	13.1%

TABLE 2.17

PROJECTIONS OF GENERAL SECONDARY EDUCATION ENROLLMENTS
1982/83-1990/91
by Grade Level

	Eighth Grade Class	Number Passing Exam	Grade Level Nine	Ten	Eleven	Twelve	Graduates	Total General Secondary Enrollment
(A) RECENT STATISTICS								
1980-81	34,452	25,036	19,893	6,557	4,386	2,376	2,126	33,212
1981-82	26,086	18,881	17,310	17,165	6,095	4,290	3,840	44,860
PROPORTION OF PREVIOUS CATEGORY		(.725)	(*)	(.863)	(.930)	(.978)	(.895)	
(B) PROJECTIONS								
1982-83	21,182	15,357	13,028	14,939	15,963	5,961	5,335	49,891
1983-84	14,795	10,726	10,721	11,243	13,893	15,612	13,973	51,469
1984-85	21,284	15,431	7,401	9,252	10,456	13,587	12,161	40,696
1985-86	23,157	16,789	10,493	6,387	8,604	10,226	9,152	35,710
1986-87	18,787	13,621	11,249	9,056	5,940	8,415	7,531	34,660
1987-88	17,726	12,851	8,854	9,708	8,422	5,809	5,199	32,793
1988-89	16,988	12,316	8,225	7,641	9,028	8,236	7,372	33,130
1989-90	19,575	14,192	7,635	7,098	7,106	8,829	7,902	30,668
1990-91	20,201	14,646	8,515	6,590	6,601	6,950	6,220	28,656

*82-83 - .69
83-84 - .69
84-85 - .69
85-86 - .68
86-87 - .67
87-88 - .65
88-89 - .64
89-90 - .62
90-91 - .60

The remaining 317 (1.3%) eighth grade graduates did not go on to further schooling in Somalia in 1981-82.

The FYP strategy calls for an increased diversification of secondary education with the goal of placing 52.5 percent of all students in vocational schools (including primary teacher training), 17.5 percent in technical schools, and only 30 percent in general secondary schools. This strategy would require a tremendous increase in expenditures for equipment and staff and does not appear realizable given Somalia's financial and human resource constraints. A more modest goal of a decline in general secondary enrollments to 60 percent of all Grade Eight graduates is assumed in Table 2.17. It is worth noting, however, that the slow and irregular decrease in total secondary school students over the decade may allow for a more dramatic increase in the proportion, if not the absolute number, of students who go into vocational and technical education.

The projections in Table 2.17 are even more reliable than those for primary education because the students who will be in secondary education over the next eight years are already in Grades One to Eight in the 1981-82 data. Again, progression rates may vary, but there is less room for increase in the rates for general secondary education. The rate of graduation (.895) is based on the product of the current probability of taking the examination in Grade Twelve (.958) and the success rate on the examination (.934).

Because of the variation in cohort sizes already in primary and secondary education, both the number of graduates and the total

enrollment in general secondary education vary dramatically. Enrollments reach a peak of 51,469 in 1983-84 but then decline irregularly to 28,656 in 1990-91. This decline is a function of the smaller cohorts already in the primary education system and of the decline assumed in the proportions of students going on to general secondary education. The decline in general secondary enrollments will provide an additional opportunity for quality enhancement at that level. Even if the progression rates in primary education and from primary to secondary education increase, the present scale of general secondary education could absorb the higher enrollments without requiring changes in student/teacher ratios or in the quantity of facilities.

Table 2.18 presents the enrollment and graduation projections for vocational and technical education. This EHR subsector is a crucial one both because of its place in government's diversification strategy and because of its effect upon public and private sector development in the economy. The projections given here are based on specific scenarios for each of the three vocational technical levels.

Two-year vocational education programs are assumed to undergo two changes in enrollment. An increase from 1,100 to 1,300 in first-year enrollment in 1986-87 and a further increase to 1,500 in 1989-90. These increases are less than are envisioned in the FYP but are constrained to allow for two needed changes in vocational education. The first change is to reallocate enrollment within the vocational subsector so that it is more related to demand by employers

TABLE 2.18

PROJECTIONS OF VOCATIONAL/TECHNICAL ENROLLMENTS
1982/1983 - 1990/91
BY GRADE LEVEL

	GRADE LEVEL					
	Nine	Ten	Eleven	Twelve	Graduates	Total Enrollment
(A) TWO-YEAR VOCATIONAL EDUCATION						
(1) RECENT STATISTICS						
1980-81	919	992	-	-	962	1,911
1981-82	1,068	865	-	-	839	1,933
PROPORTION OF PREVIOUS CATEGORY		(.941)		-	(.970)	
(2) PROJECTIONS						
1982-83	1,100	1,005	-	-	975	2,105
1983-84	1,100	1,035	-	-	1,004	2,135
1984-85	1,100	1,035	-	-	1,004	2,135
1985-86	1,100	1,035	-	-	1,004	2,135
1986-87	1,300	1,035	-	-	1,004	2,335
1987-88	1,300	1,223	-	-	1,186	2,523
1988-89	1,300	1,223	-	-	1,186	2,523
1989-90	1,500	1,223	-	-	1,186	2,723
1990-91	1,500	1,412	-	-	1,370	2,912
(B) THREE-YEAR TECHNICAL EDUCATION						
(1) RECENT STATISTICS						
1980-81	2,488	423	158	-	153	3,069
1981-82	2,014	2,263	360	-	349	4,637

TABLE 2.18 (Page 2)

PROJECTIONS OF VOCATIONAL/TECHNICAL ENROLLMENTS
1982/1983 - 1990/91
BY GRADE LEVEL

	GRADE LEVEL					
	Nine	Ten	Eleven	Twelve	Graduates	Total Enrollment
PROPORTION OF PREVIOUS CATEGORY		(.910)	(.851)		(.970)	
(2) PROJECTIONS						
1982-83	2,100	1,833	1,926	-	1,868	5,859
1983-84	2,100	1,913	1,560	-	1,513	5,573
1984-85	2,100	1,911	1,626	-	1,577	5,637
1985-86	2,400	1,911	1,626	-	1,577	5,937
1986-87	2,400	2,184	1,626	-	1,577	6,210
1987-88	2,400	2,184	1,859	-	1,803	6,443
1988-89	2,400	2,184	1,859	-	1,803	6,443
1989-90	2,400	2,184	1,859	-	1,803	6,443
1990-91	2,400	2,184	1,859	-	1,803	6,443
(C) FOUR-YEAR TECHNICAL EDUCATION						
(1) RECENT STATISTICS						
1980-81	1,020	596	601	360	349	2,577
1981-82	1,042	982	527	568	551	3,119
PROPORTION OF PREVIOUS CATEGORY		(.963)	(.884)	(.945)	(.970)	

TABLE 2.18 (page 2)

PROJECTIONS OF VOCATIONAL/TECHNICAL ENROLLMENTS
1982/1983 - 1990/91
BY GRADE LEVEL

	GRADE LEVEL					
	Nine	Ten	Eleven	Twelve	Graduates	Total Enrollment
(2) PROJECTIONS						
1982-83	1,050	1,003	868	498	483	3,419
1983-84	1,050	1,011	887	820	796	3,768
1984-85	1,050	1,011	894	838	813	3,793
1985-86	1,300	1,011	894	845	819	4,050
1986-87	1,300	1,252	894	845	819	4,291
1987-88	1,300	1,252	1,107	845	819	4,504
1988-89	1,300	1,252	1,107	1,046	1,015	4,705
1989-90	1,300	1,252	1,107	1,046	1,015	4,705
1990-91	1,300	1,252	1,107	1,046	1,015	4,705

and less to the intake capacity of existing schools. The second change is to allow for quality enhancement in terms of instruction, equipment, and materials so that more graduates will have craft-oriented vocational skills instead of being "vocational" graduates in name only.

The three-year technical education programs are assumed to undergo a one-time increase in first-year enrollments from 2,100 to 2,400 in 1985-86 and maintain the latter level thereafter. Similarly, there is a projected increase in the first-year enrollments of the four-year technical schools from 1,050 to 1,300 in 1985-86. It is assumed that beginning in 1990-91 further increases would be almost exclusively in the two-year programs and that aggregate enrollments in technical education will change only in response to clear indications of changes in the long-term demand for graduates. The next eight years should see a reevaluation of technical education in terms of demand by specializations. This reevaluation will facilitate the internal reallocation of training programs which should be concomitant with quality enhancement activities at all levels of technical education.

Under the three scenarios, the projected enrollments will increase in all three forms of post-intermediate, vocational/technical education. However, Table 2.19 indicates a constraint on these estimates of enrollments in general secondary education and in vocational/technical secondary education. Assuming that the primary education teacher training program reduces its intake from 1,645 to

TABLE 2.19

DESTINATION OF GRADE EIGHT GRADUATES

1981/82-1990/91

Year	Previous Years 8th Grade Graduates	General Secondary Education	Four-Year Technical Education	Three-Year Technical Education	Two-Year Vocational Education	Primary Teacher Training	Other
1981-82	25,036	17,310	1042	2014	1068	1645	1,957
1982-83	18,881	13,028	1050	2100	1100	1645	-42
1983-84	15,327	10,721	1050	2100	1100	1550	-1194
1984-85	10,726	7,401	1050	2100	1100	1500	-2425
1985-86	15,431	10,493	1300	2400	1100	1500	-1362
1986-87	16,789	11,249	1300	2400	1300	1500	-960
1987-88	13,621	8,854	1300	2400	1300	1500	-1733
1988-89	12,851	3,225	1300	2400	1300	1500	-1874
1989-90	12,316	7,635	1300	2400	1500	1500	-2199
1990-91	14,192	8,515	1300	2400	1500	1500	-1023

1,500 as indicated, there still will not be enough Grade Eight leavers to occupy all of the existing places in post-primary education. The negative figures in the "Other" column of Table 2.19 suggest the scale of the excess capacity in the present sytem. There are three specific policy alternatives that could be initiated in response to these projects.

First, an attempt could be made to increase the progression rates within primary education and from primary to secondary education. As noted above, these rates are already relatively high. Even if they were subject to increase, one would have to question the wisdom of encouraging a simple quantitative increase in students at the secondary level. The other two policy alternatives emphasize issues of manpower demand and quality enhancement. The second alternative is to treat general secondary education as a residual category and to assign students first to the vocational and technical programs at the rates indicated earlier. The minus figures for "Other" placements would then be subtracted from general secondary education. If this is done the enrollments in general secondary school will be further reduced to 12,986 in 1982-83 (68.7% of the total Grade Eight graduates), to 9,527 in 1983-84 (62.2%), and, at the end of the decade, to 5,436 (44.1%) in 1989-90. Thus, government will be able to achieve its diversification of secondary education through small increases in vocational and technical education and by allowing a natural decline in general secondary enrollments.

The third alternative is to consider a restructuring of primary

teacher training from a post-intermediate to a post-Grade Ten or a post-secondary program. While the cost implications of this are complex, the affordability of the proposal is supported by the fact that the expenditures on education between teacher training and general secondary schooling are comparable. The shift of the teacher trainees to general secondary education will involve transitional savings in food and boarding expenses, and the slightly higher salaries of the teachers can be financed in part from the postponement of immediate salary obligations. A key factor is that the general secondary education system should be able to absorb the additional 1,500-plus students per year without any higher level of resource expenditure than already exists in 1982-83.

Whichever alternative or combination of alternatives is chosen, the period from 1983 to 1990 represents a great opportunity for major changes to be made in Somali education with a minimal increase in the absolute level of cost burden imposed on government. The dual focus on a manpower demand-oriented structure for education and training and on a quality enhancement initiative throughout the system will allow Somalia to prepare for the more traditional educational problems to be faced in the 1990s. By 1990 (sooner in elementary and intermediate education if another surge in Grade One enrollments should occur), the educational system will be facing quantitative pressures once again. Recurrent projections of enrollments will allow adequate lead time for the quality achievements of the 1980s to be maintained. The only uncertainty will be the general performance of the economy in the late

1980s, and even there, quality improvements in manpower development should reduce one of the major existing constraints to general economic development and to private-sector activities specifically.

In Table 2.20, the levels of formal education within the Ministry of Education are projected for 1983 to 1990 on a cost basis. This has been done by combining the data on unit costs (detailed in a subsequent section of the economic and financial analysis) with the enrollment projections in Tables 2.15 through 2.19. The unit-cost levels used are fiscal year 1981 approximations of the estimates generated for 1982-83. The per-student annual cost levels used in Table 2.20 are as follows:

	So.Sh.
Primary Education	416
General Secondary Education	1,068
Two-Year Vocational Education	1,301
Three-Year Technical Education	1,562
Four-Year Technical Education	1,562
Primary Teacher Training	934

Board and food costs have been held constant at the 1983 figure of So.Sh. 18.4 million. The total MOE budget identifiable by these categories was So. Sh. 197.2 million. The total operating expenditure budget for 1983 has been set initially at So.Sh. 327.5 million. The ratio of identifiable costs to the total costs of the MOE (.578) is maintained throughout the projections as a means of estimating total MOE expenditures from the enrollment projections. The costs of the MOE, not directly related to the listed educational levels, indicate the expenditures on central administration, the regional administration system, and other programs (e.g., adult education) not projected individually.

TABLE 2.20

PROJECTIONS OF GOVERNMENT EXPENDITURES FOR EHR ACTIVITIES
1983-1990 in 1981 PRICES

Ministry and Program	FISCAL YEAR							
	1983	1984	1985	1986	1987	1988	1989	1990
	(Somali Shillings Millions)							
(A) MINISTRY OF EDUCATION								
Primary Education	98.1	100.1	102.8	104.1	106.2	109.5	113.6	117.7
General Secondary Education	54.1	49.2	40.8	37.6	36.0	35.2	34.1	31.7
Two-Year Vocational Education	2.8	2.8	2.8	2.9	3.2	3.3	3.4	3.7
Three-Year Technical Education	8.9	8.8	9.0	9.5	9.9	10.1	10.1	10.1
Four-Year Technical Education	5.6	5.9	6.1	6.5	6.9	7.2	7.3	7.3
Primary Teacher Training	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Board and Food Costs	18.4	18.4	18.4	18.4	18.4	18.4	18.4	18.4
MOE Subtotal	189.4	186.6	181.3	180.4	182.0	185.1	188.3	190.3
Other MOE	138.1	136.2	132.4	131.7	132.9	135.1	137.5	138.9
TOTAL MOE	327.5	322.8	313.7	312.1	314.9	320.2	325.8	329.2
(B) MINISTRY OF HIGHER EDUCATION AND CULTURE								
National University of Somalia	45.0	47.2	49.6	52.1	54.7	54.7	54.7	54.7
Other MHEC	19.5	20.5	21.6	22.6	23.8	23.8	23.8	23.8
TOTAL MHEC	64.5	67.7	71.2	74.7	78.5	78.5	78.5	78.5
TOTAL MOE AND MHEC	392.0	390.5	384.9	386.8	393.4	398.7	404.3	407.7

The enrollment future of the National University of Somalia (NUS) is more difficult to forecast and should be related to the expected demand for new graduates. The Table 2.20 expenditure figures assume that government expenditure on NUS will expand at 5 percent per year through 1987 (to allow for quality improvements and the special costs related to the shift to the new campus), but beyond 1987 assume stable expenditures in terms of 1981 prices. The other MCHE category refers to the non-NUS activities of the MCHE and are allowed to increase in proportion to the NUS expenditures.

The school-year expenditures have been converted into fiscal-year expenditures by using a consecutive-year average for all enrollments. For example, primary education had 235,564 students projected for 1982-83 and 236,181 for 1983-84. The fiscal year 1983 enrollment was the average of these, 235,872.5. This number was multiplied by the estimated (1981 purchasing power) unit cost of primary education of So.Sh. 416 to derive the expenditure estimate of So.Sh. 98.1 million for primary education in 1983. There is no need to use consecutive year averages for the University because its current academic year coincides with government's fiscal year.

A major caveat must be stated in terms of the use of unit cost for these expenditure projections. Normally this approach introduces a conservative bias into the estimates since the marginal cost (the cost of educating an additional group of students) is often less than the average cost per year. This is because of excess capacity in the

student/teacher ratio and materials and equipment use. However, in Table 2.20, the underlying decline in enrollments requires an assumption that expenditures actually will be reduced when enrollments fall. The nature of public employment is such that it is unrealistic to assume that any real net savings will occur over the next seven years. What the data do indicate is that current price increases of education should be kept to a minimum and that by the end of the decade the formal educational system, and certainly the levels of secondary education and above, should be able to handle the projected enrollments with no new real costs in inputs except those required for quality enhancement.

A special conflict will arise at the post-secondary level where, even with fewer graduates, there still will be increasing pressure for University admissions. It will be necessary to resist these pressures both for fiscal reasons and to provide an opportunity for improvements in instructional quality and staff incentives. The emerging employment opportunities for University graduates must become the primary basis upon which any enrollment increases are founded.

The data from Table 2.20 reinforce the encouragement derived from the enrollment projections. The decade of the 1980s is a period of special opportunity for the government and the education and training system. The time must be used to enhance educational quality, to improve incentives, and to redirect the provision of EHR development from an educational-supply orientation to a manpower-demand orientation. It is the nature of governmental systems

that not all of the savings from the enrollment pattern will be realized, but there should be enough savings to allow government to begin the transformation of education and training in Somalia into a system suited to the continued growth of its traditional economic base and to the development of new economic opportunities.

2.3.3 Fiscal Capacity and EHR Expenditures

The final step in fiscal capacity analysis is to combine the expenditure estimates with the earlier estimates of Gross Domestic Product growth. Table 2.21 presents the two projections of GDP growth as well as the projection of government expenditures. The education/ human resources expenditures are then presented as a proportion of GDP (under estimates A and B) and of total government expenditure.

The pattern is one with important implications for education and training in Somalia in the remainder of the 1980s. The declining proportions which the estimated EHR expenditures represent of GDP and government expenditures imply several important conditions. First, the other EHR opportunities not included in the Ministries of Education and Culture and Higher Education will not have to compete directly with formal education for declining resources. Second, there is a margin of error which will allow for inflation of educational expenditures (because of earlier underestimates of enrollments or of unit costs) without increasing the proportional fiscal burden on either government or the economy. Third, there is a sufficient margin to allow for financing of some quality improvement projects by the government itself.

TABLE 2.21

PROJECTIONS OF GOVERNMENT FISCAL CAPACITY FOR EHR EXPENDITURES

1983 - 1990

	Fiscal Year							
	1983	1984	1985	1986	1987	1988	1989	1990
	(So.Sh. Millions) 1981 Prices							
Total EHR Expenditure	392.0	390.5	384.9	386.8	393.4	398.7	404.3	407.7
Total Government Expenditure	1/ 2,929.0	3,070.0	3,217.0	3,372.0	3,533.0	3,703.0	3,881.0	4,067.0
EHR/Government Expenditure	13.4%	12.7%	12.0%	11.5%	11.1%	10.8%	10.4%	10.0%
Gross Domestic Product (A)	2/14,790.0	15,249.0	15,721.0	16,209.0	16,922.0	17,666.0	18,444.0	19,255.0
EHR/Gross Domestic Product (A)	2.7%	2.6%	2.4%	2.4%	2.3%	2.3%	2.2%	2.1%
Gross Domestic Product (B)	3/15,165.0	15,833.0	16,529.0	17,257.0	18,016.0	18,809.0	19,636.0	20,500.0
EHR/Gross Domestic Product (B)	2.6%	2.5%	2.3%	2.2%	2.2%	2.1%	2.1%	2.0%

1/ 4.8% annual growth rate

2/ 3.1% annual growth rate to 1986, 4.4% thereafter

3/ 4.4% annual growth rate

SOURCE: Calculated from Manpower Survey

This last point is vitally important. The economic condition of Somalia and the year-to-year uncertainty it faces makes it unwise for government to initiate large-scale social investment activities. These activities, especially in education, will require the assistance of donors for all or almost all of the capital and recurrent cost financing during the project life. However, government can show that, within the stated assumptions of economic growth, there will be a capacity to absorb a reasonable level of new recurrent costs. This natural division of responsibility between government and the donor community should be the basis for project planning in the education and human resource area.

This view is supported by the projected debt service-payment requirements for Somalia. By 1987, it is estimated that the annual level of amortization and interest payments on foreign debt will be So.Sh. 2,381 million (US $157.6 million). Assuming an annual growth rate of twelve percent in exports, the debt service ratio (total debt payments divided by value of exports) will be 39.4 percent. This compares to a ratio of 8.9 percent in 1982. The government will have little freedom to incur new debts over this decade except for general economic development projects which promise an explicit monetary return. EHR capital development will have to be financed via external grants or concessionary loans.

To summarize the findings of the fiscal capacity analysis, Somalia faces a great opportunity between 1983 and 1990 because of the

temporary decline in social-demand pressures on formal education. This period will allow for programs to extend access to underserved segments of the population, to improve quality, and to institute a more demand-oriented planning of educational programs. The major constraints that government faces will be for capital costs, technical expertise, and management design and implementation. While the fiscal-capacity analysis and especially the recent encouraging growth in the economy permit optimism about government's ability to absorb some new recurrent costs, there is an immediate and specific need for donor support of project development and implementation activities. With a coordinated program of donor assistance and government restructuring, the Somali educational and training systems can be developed to meet the new needs--in type, quantity, and quality--that will be faced in the 1990s.

The two succeeding sections provide manpower demand and unit-cost estimates. These analyses deal, respectively, with the issues of the external efficiency and the internal efficiency of the education and human resource development sector. The findings from these analyses are then combined with the fiscal capacity conclusions to form the basis for specific recommendations on the structure and financing of the EHR system.

2.4 MANPOWER DEMAND AND SUPPLY

Although education and training have important social and psychological outcomes, a priority function of the EHR system is to

meet the emerging manpower needs of the economy. Failure of the EHR system to do this can restrict economic development in two ways. First, the lack of an adequate quantity of skilled manpower acts as a constraint on both public and private sector development initiatives. Second, the overproduction of graduates in areas for which there is low employment demand represents both a waste of scarce EHR resources and a burden on government in the form of unemployment or underemployment.

This section of the economic and financial analysis reviews the existing manpower situation and the data basis for future manpower estimation for Somalia. The nature of the GDP and employment data, and their limitations, should be kept clearly in mind in the interpretation of any estimates of manpower demand. Present estimation procedures are especially uncertain given the dramatic changes the economy has undergone since the last manpower utilization survey in 1978. These structural changes in the economy may be expected to be equally dramatic in the modern sector for the 1983-1990 period covered in this assessment.

A major issue in the assessment of the EHR system in Somalia is the lack of an employment-demand focus on planning. However, this focus cannot be established until better demand data exist. The concluding section of this manpower demand and supply discussion presents alternative suggestions for how this demand data may be generated and used. Manpower estimates, like the enrollment projections presented earlier, have a very short useful life, so the generation of demand data must be both timely and efficient.

2.4.1 Manpower Demand and Employment in Somalia

Government's policy of growth with equity is dependent upon an adequate supply of skilled labor. The two major policy initiatives of government in the employment area in recent years have been the crash development program in agriculture and the guarantee of employment in the public sector to all secondary school and university graduates. Both of these initiatives represent short-run activities designed to allow for the development of longer term manpower strategies. The agricultural program is designed to encourage marginally employed workers to stay or to return to the rural areas. The employment guarantee reduces the social dislocation that might be caused by extensive unemployment among the educated.

The employment guarantee program has succeeded in reducing visible unemployment but has greatly increased underemployment. The ability of government to continue the employment guarantee is limited both by available resources and by the physical absorptive capacity of public employment. Some agencies of government already suffer from the inefficiency inherent in overstaffing. The guarantee program in recent years (since 1981) has been less attractive to new graduates because of the decline in the real wages of government workers. In addition, government has encouraged private sector development and directed some graduates to seek employment in other sectors before applying for public employment. The result of these policies is that

new public hiring (excluding defense and police) dropped from 9,978 school-leavers in 1978 to 4,914 in 1980. Comparable figures are not yet available for 1981-1983, but indications are that new hiring has remained below the 1980 rate.

There are four major manpower issues for the remainder of the 1980s. First, the population growth rate of an estimated 3.2 percent per annum will place large pressures on the programs for agricultural settlement of the nomadic pastoralists. Second, modern sector growth, both private and public, will have to accelerate to absorb and use efficiently the anticipated numbers of graduates from the educational system. Third, government incentives for middle and upper level management will have to be improved to assure an adequate cadre of managers for the implementation of the nation's development programs. And fourth, the possibility of less rapid growth in employment opportunities abroad (especially in the Gulf States) may increase the necessity for the domestic employment system to absorb a larger proportion of new graduates.

The issue of foreign employment of Somalis suffers greatly from lack of information on the dimension and effects of the "brain-drain" phenomenon. Figures are often quoted of 70,000-140,000 Somali workers overseas, but the source for these estimates appears anecdotal rather than statistical. Similarly, the assertion that remission of funds compensates for the loss of the best trained graduates is undocumented. It should be noted that the present system is a cumbersome and potentially wasteful way to generate foreign reserves, however badly such funds are needed. The chapter on vocational and

technical education discusses this manpower export phenomenon in more detail and suggests research and policy steps that are required to deal with it. The following discussion will stress domestically generated manpower demand.

2.4.2 Manpower Demand and Macroeconomic Growth

The first step in projecting manpower demand is to forecast the change in macroeconomic activity. Labor demand is always a derived demand based on the marketability of produced goods and services and the productivity of labor. The earlier caveats and limitations stated concerning GDP calculations for Somalia should be kept in mind in the use and interpretation of the subsequent manpower estimates.

The growth rate projections used here will rely primarily on the macroeconomic forecasts included in the Five Year Plan, 1982-1986 (FYP). All estimates of Gross Domestic Product (GDP), unless otherwise defined, will be done in factor-cost GDP stated in terms of 1981 prices. The plan of this work is as follows. GDP sector activity will be projected (from the existing 1981 data) forward for the 1983 to 1990 period. The sector growth rates will be those used in the FYP but extended beyond 1986 and 1990. At present this would appear to introduce a conservative bias into the estimates. Recent estimates indicate that the real GDP growth for 1982 and the first half of 1983 is at a greater rate than the overall 4.4 percent growth assumed in the FYP. As a counter to this bias, the reality of possible intermittent downturns in the national economy and the ever-present danger of

environmental threats to the agriculture and livestock sectors argues for maintaining the current estimates even if they do appear conservative at the present time. Given the present policy of fiscal restraint and credit limitation, the ability of the public sector to promote nominal or real GDP growth will be more restricted than was the case in recent years. Table 2.22 presents the GDP projections for 1983-1990. [1]

The sectors with largest projected growth rates are Electricity/Water (13.0%) and Manufacturing (7.2%). The smallest sector growth rate expectations are for Transportation/Communications (3.5%) and Mining and Quarrying (3.8%). One form of manpower projection methodology is to base increased demand for workers on the derived demand for sectoral growth. For example, the types of workers who are used in electricity/water production and distribution activities would be expected to undergo a substantial increase in demand relative to those worker types employed in transportation/communication activities.

To perform this type of manpower projection requires two types of data (in addition to the assumption of the accuracy of the GDP

1/ The use of sector growth rates rather than the aggregate GDP growth rate causes the total GDP figures in Table 2.22 to vary slightly from those contained in the fiscal capacity section.

TABLE 2.22

GDP PROJECTIONS, BY SECTOR
1983 - 1990

Sector	1981 (Actual)	Sector Growth Rate	GDP (in 1981 Prices) 1983	1984	1985	1986	1987	1988	1989	1990
			(ESTIMATES)							
Agriculture	6,899.0	4.2%	7,490.7	7,805.3	8,133.1	8,474.7	8,830.6	9,201.5	9,588.0	9,990.7
Mining and Quarrying	68.0	3.8%	73.3	76.1	78.9	81.9	85.1	88.3	91.6	95.1
Manufacturing	850.0	7.2%	976.8	1,047.1	1,122.5	1,203.4	1,290.0	1,382.8	1,482.4	1,589.2
Electricity and Water	126.8	13.0%	161.9	183.0	206.7	233.6	264.0	298.3	337.1	380.9
Contruction	506.0	4.0%	547.3	569.2	591.9	615.6	640.3	665.9	692.5	720.2
Transportation and Communication	1,122.1	3.5%	1,201.0	1,243.0	1,286.5	1,331.5	1,378.1	1,426.1	1,476.3	1,527.9
Trade , Hotels and Restaurants	1,508.9	4.0%	1,632.0	1,697.3	1,765.2	1,835.8	1,909.2	1,985.6	2,065.0	2,147.6
Finance and Insurance	1,022.4	5.0%	1,127.2	1,183.6	1,242.7	1,304.9	1,370.1	1,438.6	1,510.6	1,586.1
Other Services	660.0	3.9%	712.5	740.3	769.1	799.1	830.3	862.7	896.3	931.3
Government Services	1,151.0	4.0%	1,244.9	1,294.7	1,346.5	1,400.4	1,456.4	1,514.6	1,575.2	1,638.3
Total (Factor Cost)	13,914.2		15,167.6	15,839.6	16,543.1	17,280.9	18,054.1	18,864.4	19,715.0	20,607.3

projections). First, one must know the distribution of workers by education and skill type in each sector. Second, one must know how the skill/education distribution of workers will change over time in response to changes in real sector GDP. The second of these data types is always based on assumptions and estimation, but the first must be based on recent and accurate data. Data of neither characteristic exist for Somalia.

The 1978 manpower survey estimated that 149,249 persons were in paid employment and were distributed by sector as in Table 2.23. This total excludes an estimated population of at least 1,600,000 engaged in traditional sector agricultural and livestock activities.

The data in Table 2.23 are divided by those workers actually covered in the manpower survey and the adjusted total of workers who are estimated to be employed in a sector. Because the survey could not cover every firm, some areas in the private sector have been increased to approximate the actual employment level. The equality between the public and private sectors is striking as is the almost equal balance of public-sector activity between the government category and all other economic categories.

The most recent estimate of employment detail is presented in Table 2.24. The categorization of economic activity is not the same as that used in 1978, so some comparability of sectors has been lost. The figures, however, do present some interesting insight into the recent employment structure and, potentially, into trends of manpower demand. The continued dominance of the traditional sector as a source

TABLE 2.23

EMPLOYMENT ESTIMATES, BY SECTOR-1978

Item	Employment			
	In Survey		Adjusted Total	
	Public	Private	Public	Private
Argiculture	10,780	81	10,780	81
Mining and Quarrying	173	424	173	424
Manufacturing	7,135	8,558	7,135	8,758
Electricity and Water	2,429	-	2,429	-
Construction	3,683	646	3,683	4,646
Transportation and Communications	7,202	4,867	7,202	18,867
Trade, Hotels and Restaurants	5,873	35,011	5,873	36,711
Finance and Insurance	1,200	1,136	1,200	1,136
Government/Other Services	35,228	4,823	35,228	4,923
Total	73,703	55,546	73,703	75,546

TABLE 2.24

ESTIMATE OF EMPLOYMENT BY ACTIVITY, END OF 1981
By Activity, Public/Private Employment, and
Traditional/Modern Sector

Branch	Employment Estimate (000)				
	Traditional	Modern			
	Total	Total	Private	Cooperative	Public
Range Agriculture	1,343.0	10.0	10.0	-	-
Sedentary Agriculture	450.0	60.0	17.6	42.4	-
Fisheries	-	7.0	3.7	2.8	.5
Government	-	59.0	-	-	59.0
Commerce	-	45.0	28.0	10.5	6.5
Banking, Insurance	-	1.0	-	-	1.0
Transportation	-	14.5	2.0	4.5	8.0
Private and Business Services	-	2.5	2.5	-	-
Household Services	-	7.0	7.0	-	-
Hotels and Restaurants	-	2.0	.8	-	1.2
Construction	-	8.0	6.6	.5	.9
Industry	-	16.5	5.9	-	10.6
Repair Shops/Vehicle Services	-	9.0	9.0	-	-
Handicrafts	-	19.0	18.5	-	5
TOTAL	1,793.0	260.5	111.6	60.7	88.2
Percent of all Employment	87.3%	12.7%	5.4%	3.0%	4.3%
Percent of "Modern" Employment	-	100.0%	42.8%	23.3%	33.9%

SOURCE: The Socioeconomic Development of Somalia, 1981/1982, European Economic Community.

of mass employment is indicated by the 87.3 percent of all employment found in this category. Within the modern sector, a tripartite division has evolved among government (including public authorities and agencies), the private sector, and the cooperatives. While direct government employment is still the single largest activity with an estimated 59,000 employees at the end of 1981, total government employment was only 33.9 percent of all modern-sector employment.

The manpower implications of Table 2.24 lie in the continued minority of employment positions available in the modern sector. The large majority of Somalis will remain in the traditional sector well beyond the 1990 date, which is the end point of this assessment's analysis. This means that the new skill demands will be highly focused upon a smaller segment of the population than is the case for other nations that have a more advanced modern sector. This situation may change in the next seven years and may even change rapidly. The implications for employment, however, will change in degree not in type. By 1990, a large majority of Somalis still will not need extensive formal training to perform their primary economic tasks. The focus of manpower projections must be on the modern sector and on the younger workers emerging from the education and training programs. The projections used here will be restricted to the non-agricultural modern sector.

Returning to the issue of the demand-forecasting methodology, the normal approach would be to compare the changes in sectoral GDP between 1978 and 1981 with the changes in sectoral employment. The

ratio of these changes, stated either as relative percentage changes or in terms of the relative arc elasticities, can be used to forecast changes in employment based upon the expected pattern of change in sectoral GDP.

The problem encountered here is that the 1981 employment data are not comparable in categorization with the available 1978 employment data. Table 2.25 takes another approach to this problem. It assumes sectoral employment has remained stable relative to sectoral GDP. Thus, the 1981 total employment figure is allocated across sectors according to the 1981 GDP distribution by sectors. Both 1978 and 1981 GDP are in constant prices (1977 base). Table 2.25 presents the data and derivation of the coefficient between employment change and GDP change.

Agriculture has been excluded from Table 2.25 because of its peculiar employment structure. More than in any other sector, agriculture, including that in the modern sector, involves the use of large numbers of family and non-wage-earning employees. Employment in the agricultural sector of a nation such as Somalia is often the residual activity for those who have not found employment elsewhere, as well as for many who are either only partially employed or persistently underemployed.

Three sectors of the economy reveal especially unusual patterns of employment change relative to real GDP change. The Mining/ Quarrying and Trade/Hotels/Restaurants sectors suffered declines in GDP between 1978 and 1981 but still evidenced substantial increases in

TABLE 2.25

GDP/EMPLOYMENT COEFFICIENTS
1978 - 1981
BY GDP SECTOR

SECTOR	1978 GDP (Millions)	1978 EMPLOYMENT	1981 GDP	1981 EMPLOYMENT	% Change Emp ÷ % Change GDP
Mining and Quarrying	25.4	597	22.0	792	*
Manufacturing	393.8	15,893	425.0	24,074	4.11
Electricity and Water	43.7	2,429	54.3	3,221	1.34
Construction	187.0	8,329	221.0	11,044	1.79
Transportation and Communications	273.3	26,069	358.3	34,567	1.05
Trade, Hotels, and Restaurants	624.2	42,584	482.1	56.465	*
Finance and Insurance	409.3	2,336	436.1	3,097	4.98
Other Services	154.2)		211.0)		
	)	40,151	)	53,240	98.28
Government Services	629.7)		575.6)		

* Undefined because it would require division by a negative number.

SOURCE: As discussed in text.

employment. Similarly, a small change in real GDP in the Government Services and Other Services sectors was accompanied by a dramatic increase in employment. In the government sector this result came about because the GDP contribution of government is measured primarily in terms of the wage and salary payments for personnel. The large increase in government current-price GDP from 1978 to 1981 (an increase from So.Sh. 692.7 million to 1,151.0 million) was cancelled out by the dramatic inflation of 1980 and 1981. Thus, little real GDP growth occurred in this sector even though employment increased 32.6 percent.

The other figures in the final column of Table 2.25 are interpretable as the percentage change in employment which will result from a one-percentage-point change in sector GDP. For example, a one percent change in the Manufacturing sector's real GDP is related to a 4.11 percent change in employment. The higher the coefficient, the more "elastic" is the employment response. High elasticity of a sector can be an indication that it uses a labor-intensive technology or that underemployment of staff has increased. The rates close to unity, such as the 1.05 coefficient for the Transportation and Communications sector, indicate a proportionality between real GDP change and employment changes.

If one is willing to assume that these coefficients will be stable in the future, they could be applied to the rates of sectoral GDP growth assumed earlier in Table 2.22 to predict the level of aggregate employment growth expected in each sector. This would still leave two problems: how to predict the distribution of aggregate

employment by occupation and how to relate occupational status to educational qualifications. The most recent data on these two relationships again are contained in the 1978 manpower survey results. Table 2.26 presents the occupational distribution (combined public and private sector) for each non-agricultural GDP sector in 1978. In addition, Part B of the table presents the distribution of workers by educational qualification for each of the occupations. The occupational categories used in Table 2.26 are the following:

- Professional Workers
- Sub-Professional Technicians
- Administrative, Managerial, and Executive Workers
- Clerical and Related Workers
- Sales Workers
- Service Workers
- Animal Caretakers, Gardeners, and Agricultural Workers
- Production and Skilled Workers
- Laborers

The largest user of highly qualified workers is the Government and Other Service sector. Most of the other GDP sectors have relatively few workers in the top three occupational categories.

Of special interest is the relatively small number of occupations staffed by university and secondary school graduates. Only the occupational categories of Professional Workers, Sub-Professional Technicians, Administrative, Managerial and Executive Workers, and Clerical and Related Workers had any workers in 1978 who possessed a secondary or higher education. This points out a further limitation of the manpower-demand projection methodology. Even if the data quality and earlier assumptions in the analysis were such that no

TABLE 2.26

PERCENTAGE DISTRIBUTION OF OCCUPATIONS BY
GDP SECTOR AND OF EDUCATIONAL LEVELS
BY OCCUPATION
1978

1. PART A:	Total	Prof. Workers	Sub-Prof. Tech.	Adm., Mgr. & Exec. Workers	Clerical & Related Workers	Sales Workers	Service Workers	Anim. Crtkr. Gardener & Agric. Wrkr.	Production & Skilled Workers	Laborers
GDP SECTOR										
Mining and Quarrying	597	3.8%	5.2%	0.3%	0.5%	-%	0.5%	-%	88.1%	1.5%
Manufacturing	15,693	0.5	1.6	1.3	6.4	4.0	5.1	0.4	74.1	6.6
Electricity and Water	2,429	1.1	2.5	1.9	16.3	-	8.0	-	57.6	12.5
Construction	4,329	0.8	3.8	0.4	3.7	-	3.8	-	55.3	32.2
Transportation and Communications	12,069	1.3	0.9	1.8	16.6	0.8	5.4	-	37.1	36.1
Trades, Hotels, and Restaurants	40,884	0.1	0.7	1.2	5.6	61.6	22.8	0.1	6.3	1.6
Finance and Insurance	2,336	1.0	0.2	4.8	37.7	47.8	3.5	0.3	4.8	-
Government and Other Services	40,051	4.4	41.1	3.8	13.5	1.5	17.1	1.2	12.9	4.6
2. PART B:										
EDUCATIONAL LEVEL										
Primary or less		-	-	-	15.8	-	100.0	100.0	91.3	100.0
Intermediate		-	75.4	-	83.3	100.0	-	-	8.7	-
Secondary		-	24.6	85.6	1.0	-	-	-	-	-
University		100.0	-	14.4	-	-	-	-	-	-

Source: Calculated from Manpower Survey

serious bias were created, the use of 1978 educational/occupational coefficients would still create problems. These coefficients are a product of both supply and demand forces in the economy. In the post-1978 period it is certain that secondary and university graduates will have moved into a wider range of occupations.

There are three reasons for this. First, the technology of an occupation may change and thus require more education of new workers. Second, the increased relative supply of more highly educated workers may reduce the wage differential relative to other, less educated workers and make it cost effective for employers to hire additional numbers of the more highly educated group. Third, there may be a devaluation of the quality of higher levels of education such that more formal education is required to assure the potential employer that an applicant has a certain level of skills. The first two reasons are certainly factors in the Somali economy.

Table 2.27 applies the sectoral GDP growth rates from Table 2.22 to the 1981 sectoral employment figures. This is done in combination with the GDP/employment coefficients calculated in Table 2.25. The latter coefficients have been adjusted to the rates given below:

Mining and Quarrying	1.0
Manufacturing	2.0
Electricity and Water	1.0
Construction	1.5
Transportation and Communications	1.0
Trade, Hotels, Restaurants	1.0
Finance and Insurance	1.0
Government and Other Services	1.0

These lower rates are used because the purpose of any demand

TABLE 2.27

NET MANPOWER DEMAND PROJECTIONS, 1983 - 1990

NON-AGRICULTURAL MODERN SECTOR BY GDP SECTOR

Sector	1983	1984	1985	1986	1987	1988	1989	1990
Mining and Quarrying	-	-	-	43	44	47	49	50
Manufacturing	3,954	4,454	5,026	5,680	6,428	7,285	8,264	9,385
Electricity and Water	546	608	677	756	845	945	1,058	1,186
Construction	936	979	1,023	1,071	1,121	1,174	1,230	1,290
Transportation and Communication	1,968	2,012	2,057	2,104	2,153	2,203	2,255	2,309
Trade, Hotels, and Restaurants	-	-	-	-	-	2,042	2,123	2,208
Finance and Insurance	408	443	480	521	567	617	672	732
Government and Other Services	1,065	1,065	1,065	1,065	3,195	3,280	3,368	3,461

projections should be to forecast how many workers are needed rather than how many may actually be employed. The latter estimate would incorporate the employment which results both from manpower demand and from social demand policies (the latter being exemplified by government's current employment guarantee policies for secondary and university students).

Because the 1978 to 1981 period saw such a substantial increase in employment relative to GDP in the Mining/Quarrying and Trade/Hotels/Restaurants sectors, new employment demand is assumed to be zero until real GDP reattains its 1978 level. For Government and Other Services it is assumed that only replacement demand (to compensate for workers who resign, retire, or die) will operate until 1987 and thereafter normal proportionate growth will resume. The annual replacement demand for the projection period is set at two percent of the 1982 employment level. This is added to the new demand for each year to create the net manpower demand.

The high GDP growth rate for the sectors of Manufacturing (7.2%) and Electricity and Water (13.0 %) generate very dramatic employment increases for these two sectors. Given the 2.0 GDP/employment coefficient, the annual increase in new Manufacturing-sector demand is 14.4 percent. Obviously this is a very ambitious level to maintain over the projection period.

The effects of data weaknesses and of the many assumptions made to this point are magnified as one moves outward in time from 1983 to 1990. Although the methodology developed here will allow for

educational/manpower demand calculations for each of these years, 1986 has been selected as it represents the terminal year in the present Five Year Plan. Table 2.28 presents the occupational distribution of the total new employment growth for each GDP section in 1986. In addition, Part B of Table 2.28 presents the projected educational distribution of these occupational categories by worker numbers.

The 11,240 new and replacement workers required in 1986 will be concentrated in the Production and Skilled Workers category (6,216), followed by Laborers (1,625), and Clerical and Related Workers (1,215). Only 126 professional workers will be required in 1986 if the original 1978 occupational distribution is maintained. It should be understood that just as the educational requirement for an occupation may change over time so may the occupational distribution of a sector. If a sector shifts from a labor-intensive to a capital-intensive technology, for example, one normally would expect an occupational distribution shift from less skilled to higher skilled technical and professional categories.

The state of external manpower demand data (meaning the demand from the Gulf States, the East African Region, and other external markets) is such that it cannot be incorporated here. This external demand may be expected to reduce the effect of apparent educational and training oversupply at the highest skill levels. However, it would be excessively optimistic to assume that the external demand is sufficient to absorb the total oversupply of secondary and university graduates.

TABLE 2.28

NET MANPOWER DEMAND FOR 1986
DISTRIBUTED BY GDP SECTOR, OCCUPATIONAL
CLASSIFICATION, AND BY EDUCATIONAL LEVEL

1. PART A:	Total Demand	Prof. Workers	Sub-Prof. Tech.	Adm., Mgr. & Exec. Workers	Clerical & Related Workers	Sales Workers	Service Workers	Anim. Crtkr., Gardeners & Agric. Wrkr.	Production & Skilled Workers	Laborers	
GDP SECTOR											
Mining and Quarrying	43	2	2	-	-	-	-	-	38	1	
Manufacturing	5,680	28	91	74	363	227	290	23	4,209	375	
Electricity	756	8	19	14	123	-	61	-	436	95	
Construction	1,071	9	41	4	40	-	41	-	591	345	
Transportation and Communication	2,104	27	19	38	349	17	114	-	780	760	
Trade, Hotels, and Restaurants	-	-	-	-	-	-	-	-	-	-	
Finance & Insurance	521	5	1	25	196	249	18	2	25	-	
Government and Other Services	1,065	47	437	40	144	16	182	13	137	49	
TOTAL	11,240	126	610	195	1,215	509	706	38	6,216	1,625	
2. PART B:											
EDUCATIONAL LEVEL											TOTAL
Primary or less		-	-	-	192	-	706	38	5,675	1,625	8,236
Intermediate		-	460	-	1,012	509	-	-	541		2,522
Secondary		-	150	167	11	-	-	-	-		328
University		126	-	28	-	-	-	-	-		154
											11,240

2.4.3 Supply of Graduates and Manpower Imbalances

With the 1986 non-agricultural net manpower demand data now translated into educational equivalents, the remaining projection requirement is the total school leavers at each educational level for 1986. Through use of the earlier projections of educational supply and retention, the following estimates can be made of new school leavers and their gross educational levels (net of teacher-training programs) for 1986:

Estimated Supply of School Leavers in 1986	
Less than 4 years	28,043
4-8 years	16,135
9-12 years	2,427
Secondary graduate or more (excluding university graduate)	11,452
University graduate	800 (plus returnees from overseas programs)

Teacher requirements have been excluded from this analysis (in terms of both demand and supply) because teachers represent an easily controllable manpower category if proper research and planning activities are conducted. As the later discussions of unit costs will indicate, there is an issue of a possibly excessive quantity of instructional staff emerging at several levels of the educational system. Even so, this is a tractable problem in terms of policy. The

following discussion will concentrate, therefore, on other demand/supply equilibria.

If one compares the supply figures to the net manpower demand projected for 1986, it is obvious that there is an apparent oversupply of school leavers at every level of education. The implications of this can be assessed in several ways. First, however, a summary comment is required on the projection methodology.

The final demand and supply numbers are the product of all of the assumptions and adjustments introduced over these most recent pages. There is no question of their "accuracy" in a precise sense; the question is whether different assumptions would have a sufficiently dramatic effect on the calculations to reverse the main conclusion of oversupply. However, the quantity differences are so great (11,452 versus 328 for secondary graduates and 800 versus 154 for university graduates) that it seems unlikely that they are solely the result of methodological discretion. Rather, they reflect a potential imbalance between the output of the formal education system and the intake of the formal or modern economy.

This imbalance is only an approximate one for the following reasons. First, increases in GDP may be greater than expected in these projections. Changes in technology may shift the occupational demand (and, hence, the educational demand) in a different direction than was assumed here. The GDP/employment, the employment/occupation, and the occupation/education coefficients may each shift so that the net relationship between GDP and educational demand is altered. Even

if all these changes occur, however, some substantial residual imbalance will remain.

The residual imbalance will be corrected partially as a result of external demand. The out-migration of Somalis to work in the Gulf States or elsewhere is, in part, a result of the lack of employment opportunity in Somalia and, in part, a reaction to the higher wages found externally. As was noted earlier, the value of exporting labor in this way must be considered net of the effect of remissions. In solely a manpower-demand context, however, it must be deemed inefficient for Somalia to pay to educate workers for another country unless there is assurance that the workers will return home even more skilled and, when they return, will be able to find suitable employment.

The final problem of educated oversupply may be dealt with in one of three ways. First, the educated underemployed or unemployed may adapt to new forms of employment and transform an occupation. College graduates doing jobs formerly occupied by high school graduates are not necessarily wasting their education. They may improve the quality of performance in such a way that the job itself takes on new characteristics. Second, the more highly educated workers may be encouraged to seek self-employment, rather than wage employment, so that their skills can be used more effectively. Alternatively, the graduates may be absorbed permanently into a situation where they are underutilized. This last situation, a possible result of government's existing employment guarantee program,

is demoralizing for the individual and wasteful of the nation's resources. A hidden cost of guaranteed underemployment is that it reduces the worker's incentive to adapt to the new job and transform it or to seek new opportunities in the private sector.

There are two main conclusions to be drawn from this manpower situation. First, the expansion of education and training must be more demand oriented if future labor market imbalances are to be avoided or at least minimized. Second, there is a need to develop better labor demand information if a demand-oriented planning system for EHR is to be introduced. The development of a data base should avoid the expensive alternative of the aggregate manpower-demand study and concentrate instead on tracer studies of secondary school and university graduates. In addition, a skill-requirements survey should be conducted to identify the specific educational requirements of the most common modern-sector jobs. These two research activities, tracer studies and skill-requirements analysis, should be part of an ongoing research agenda of the newly proposed manpower coordinating unit in the MNP.

To conclude, it should be recognized that manpower demand is not the only form of external efficiency criteria for the EHR system. However, as was noted earlier, it must be one of the foremost considerations for any developing nation. Resources are simply too scarce, and the social and economic effects of educated unemployment and underemployment are too costly for manpower-demand considerations to be underestimated.

The following section of the economic and financial analysis concludes with the discussion of the internal efficiency criterion of unit costs. Following this, a set of recommendations are presented which incorporate the analysis of this chapter.

2.5 UNIT COST ANALYSIS

Within the methodological limitations of an EHR sector assessment, it is not possible to accomplish the detailed analysis of internal cost efficiency which one requires for EHR policy decisions for specific projects. The purpose of unit cost analysis within an assessment is to combine the available (even if minimal) quantitative detail with qualitative information and intuitive analysis so that areas of potential internal efficiency may be identified for analysis of problems and opportunities. A special limitation on this approach to EHR assessment in Somalia is the paucity of program-level detail on the components (staff, equipment, materials, and facilities) of expenditures per student or per graduate (or per client in the nonformal EHR programs). In fact, such basic data often are not available in Somalia even for major institutions or institutional groupings.

To deal with these data inadequacies, the approach used here is based on the generation of typical school costs presented on an aggregate annual and per-student annual basis. The "typical" characteristics of the school will be taken from the most recent available statistics. When the cost estimates are combined with the subsequent data on student attrition and repetition, it will be

possible to generate an estimate as well for costs per educational or training cycle.

2.5.1 Primary Education

The eight-year primary education system is divisible for statistical purposes into an initial four-year elementary cycle and a subsequent four-year intermediate cycle. In operation, however, the elementary and intermediate grades normally exist in a single institution for a particular geographic area. Thus, in the analysis that follows, one must keep in mind that a substantial proportion of the elementary-level classes are part of a larger primary school complex. While the actual number of full eight-grade schools is not available, one can estimate the approximate number by combining the proportion of schools with complete (four-grade) elementary levels (52.7% of 774) with the proportion of schools with complete intermediate grade levels (32.2% of 634). The result is an estimate of from 131 to a maximum of 204 complete eight-grade primary schools in 1980-81. Using the lower estimate, one finds that excluding the Banaadir region, which has a minimum of 46 complete schools, the rest of Somalia would have a maximum of 85 to 158 complete primary-cycle schools.

All Somali primary schools are publicly financed with parents contributing only for uniform costs (approximately So.Sh. 200-250 per uniform) and, at times, for exercise book and pencil expenses (approximately So.Sh. 64 per year). In many instances, the school is constructed through the efforts of local government and/or voluntary

self-help projects. Maintenance expenses, outside of a small allocation from central government, are the responsibility of the local community. The problem of unusable classrooms is related (but only in part) to the inability of the community to fulfill this responsibility or to fulfill it adequately.

Costs will be estimated initially for a two-stream (morning and afternoon; one stream equals four classes) primary school (mixed elementary and intermediate) of 320 students and ten teachers. All cost estimates are based upon consultations with the Ministry of Education Planning Department. The average primary school teacher's total salary (including allowances) is set at So.Sh. 594 per month or So.Sh. 7,128 per year. The school is assumed to have subordinate staff of four individuals paid an average salary of So.Sh. 405 per month or So.Sh. 4,860 per year. Student supplies are assumed to be available in the following quantities and prices:

	So.Sh.
Textbooks (one per student)	90
Class supplies (register, chalk, stationery, and miscellaneous per class)	132
Maintenance and repairs (per school)	800

The final figures for the student per year are as follows:

ITEM	ANNUAL COST PER STUDENT So.Sh.
Instructional salaries	223
Non-instructional salaries	61
Textbooks	90
Class supplies	3
Maintenance and repair	2
TOTAL	379

The problem with such an estimate is that it actually describes the optimal school more than the average or typical school. Evidence for this assertion may be found in the Statistics of Education report compiled annually by the Planning Department of the Ministry of Education. For example, in 1980-81, of 774 total schools with elementary classes, 72 percent (529) averaged fewer than 150 pupils. In 79 percent (609) of the schools, enrollments did not exceed 300. This means that the school used in the previously cited estimate would be representative of only a small proportion of schools with elementary classes.

The case is much the same for intermediate primary education. In 1980-81, of a total of 634 schools having intermediate classes, 74 percent (468) had fewer than 150 students; 84 percent (534) enrolled fewer than 300 students. If one restricts the analysis to consider only those schools outside the capital region of Banaadir, 73 percent (524 schools) have fewer than 150 pupils for the elementary level of primary education while 81 percent (465 schools) do not exceed this enrollment at the intermediate level. The corresponding figures for schools with enrollments of less than 300 are 83 percent (599) for elementary and 91 percent (523) for intermediate.

Not only are a large majority of primary schools quite small, many are incomplete; i.e., with less than a full four-year cycle at either the elementary or intermediate level. As noted earlier, 47.3 percent of the elementary class cycles are incomplete, and 67.8 percent of the intermediate class cycles are incomplete. In fact, 25.6 percent

of the elementary cycles have only one or two grades, and 58.0 percent of the intermediate cycles are similarly incomplete. Again, the vast majority of schools with incomplete cycles (90.4% of elementary and 98.6% of intermediate) are outside the Banaadir region.

The number of incomplete schools is not a reflection of lack of government effort and concern but rather is a result of the effect of two major factors. First, government's pattern of opening new primary schools is to proceed one year at a time so that four years are required just to complete the creation of a full elementary-cycle school. Second, in many rural areas where population density is low, the effect of attrition is often such that the number of students left at the upper grades of a school is insufficient to support an additional grade level class.

Because of the variance between the school depicted in the original cost estimate and the typical Somali primary school, aggregate budget data of the MOE is used to construct a new cost-of-instruction estimate for Somali primary education. Assuming that it is common for the typical school to have one subordinate staff member per eighty students, as in the original example, and that the other expenses listed in the first example actually were received by each school at the stated per-pupil rates, the 1981-82 student/teacher ratio of 35:1 for elementary grades and 22:1 for intermediate grades would lead to different unit-cost estimates than those given above.

For example, a class of 35 elementary students would, under the stated assumptions, have access to the following resources per student,

per year:

ITEM	ANNUAL COST PER STUDENT (So.Sh.)
Instructional salaries and allowances	204
Non-instructional salaries and allowances	61
Textbooks	90
Class supplies	4
Maintenance and repairs	3
TOTAL	362

The difference between enrollment per class (36.6) and enrollment per teacher (34.7) is sufficiently minor so that class supplies are allocated on the basis of one set to every 35 pupils. The total annual budget of So.Sh. 362 per pupil (US $23.96) would lead to an average annual elementary class budget for the average primary school (based on 1981-82 enrollment of 209 students per elementary school) of So.Sh. 75,658 (US $5,002). The total budget for elementary education in Somalia for 1981-82 would amount to an estimated So.Sh. 55.18 million (US $3.65 million).

Similar calculations for intermediate education classes based on an average student/class ratio of 32.27 would be as follows:

ITEM	ANNUAL COST PER STUDENT (So.Sh.)
Share of teacher salary resource	324
Share of non-instructional salary resource	88
Textbooks	90
Class supplies	3
Maintenance and repairs	3
TOTAL	508

The average teacher's salary of So.Sh. 594 per month was divided by the student/teacher ratio of 22:1. This per-student annual budget for intermediate education (equivalent to US $33.62) can be extrapolated to an average school budget for the intermediate grades of So.Sh. 70,612 (US $4,673) and to a total national expenditure on intermediate education of So.Sh. 44.44 million (US $2.94 million). The per-student annual cost difference between elementary and intermediate classes is So.Sh. 146; this represents a 40 percent cost increase for intermediate versus elementary classes.

While it is even more difficult to talk of an "average" primary class than of an average elementary or intermediate class, for the purpose of unit-cost calculations, the following values have been derived to serve as a basis for future cost comparisons and calculations:

ITEM	ANNUAL COST PER STUDENT (So.Sh.)
Share of teacher salary resource	248
Share of non-instructional salary resource	71
Textbooks	90
Class supplies	4
Maintenance and repairs	3
TOTAL	416

Thus, the total annual cost for primary education may be estimated at So. Sh. 99,805 million (US $6,606 million). This is slightly more than the sum of the separate elementary and intermediate totals because of the effect of adjustments made in rounding at the per-student level.

The use of unrounded figures in these estimates should not be interpreted as an indication of the precision of the underlying data or

assumptions. Unrounded figures are maintained in the calculations for this cost analysis section as a means of eliminating the cumulative errors which repeated rounding can introduce into the further calculations based on such figures.

2.5.2 Secondary General Education

Secondary general education costs are discussed in two separate categories--instructional costs and boarding costs.

2.5.2.1 Instructional Costs

Once again, the estimate of unit costs begins with the estimate of a "typical" full-cycle secondary school with complete facilities. The assumptions are that the school is a three-stream (twelve class) institution with a total of 480 students and 27 teachers. The annual costs per student are given as follows:

ITEM	ANNUAL COST PER STUDENT (So.Sh.)
Instructional salaries and allowances	938
Non-instructional salaries and allowances	125
Textbooks	146
Class supplies	9
Science and workshop supplies	18
Maintenance and repairs	8
TOTAL	1,244

The following assumptions are made about resource availability:

1) Average teacher salary of So.Sh. 1,390 per month;

2) Four office, laboratory, and workshop staff at So.Sh. 540 per month and seven other staff at So.Sh. 405 per month;

3) Textbooks at So.Sh. 146 per student;

4) Class supplies include a register at So.Sh. 25, chalk at So.Sh. 60, and stationery and miscellaneous supplies at So.Sh. 270; and

5) Science and workshop supplies at So.Sh. 720 per class.

The amount of So.Sh. 1,244 cost is equivalent to US $82.34 annual per-secondary-student cost.

The concentration of general secondary schools in more urban locations and more permanent town and village centers means that there is less deviation of the actual school costs from the "model" school depicted above than was the case in primary education. Even so, a significant difference in school size does exist between the capital region of Banaadir and the remainder of the nation. For Banaadir and non-Banaadir schools, respectiv ly, in 1981-82, the average school sizes were 1,320 and 398 students; the average class sizes were 56 and 47; and the student/teacher ratios were 24.7:1 and 24.5:1. These figures indicate that while Banaadir might gain some advantages from certain economies of scale in instruction because of its larger average school size, there do not appear to be significant resource differences at the classroom level between Banaadir and the rest of the country. The available statistics cannot be used to confirm or refute suggestions that more able or more experienced teachers gravitate toward the Mogadishu area, but in any case, the regional or rural/urban divergence in educational resources appears to be less of a problem in general secondary education than in primary education.

The only meaningful difference suggested by these figures is that the student/teacher ratio of 17.7:1 used in the model example

understates the actual number of students with whom a teacher will work. If one uses the national ratio for general secondary education (22.14:1) to predict the number of teachers in a school with 480 students, one would derive a figure of 22.7 teachers rather than the 27 teachers assumed in the original general secondary cost estimate. Using a school of slightly more than the average national size of 660 students (664 students, 30 teachers, 13 classes), the revised cost estimate for general secondary education would be as follows:

ITEM	ANNUAL COST PER STUDENT (So.Sh.)
Instructional salaries and allowances	754
Non-instructional salaries and allowances	135
Textbooks and exercise books	146
Class supplies	7
Science and workshops supplies	18
Maintenance and repairs	8
TOTAL	1,068

Using this per student estimate, the total government expenditure on secondary education would amount to So.Sh. 47.91 million (US $3.17 million) in 1981-82. This amount indicates that the relative unit-cost difference for general secondary education is 2.57 times primary school cost per student.

2.5.2.2 Boarding Costs

A special cost issue for general secondary education (and for vocational and technical education, as well) is the existence of

boarding facilities.[1] Because of the concentration of secondary schools in cities and larger towns and villages, the government has been obligated to create boarding facilities so that secondary students from other areas will not be denied access. Although a minor fee (So. Sh. 450) is charged by the government to boarding students, this is more than offset by the provision of free room and board during the academic year.

In 1981-82, there were eighteen general secondary boarding schools with a total enrollment of 3,946 students. The three major cost components for these schools were staff expenses, food, and boarding provisions. The Ministry of Education has estimated an average staff expense of So.Sh. 143 per student per year to pay for cooks (So.Sh. 550 per month) and other staff (So.Sh. 405 per month). Although prepared as an estimate for a boarding school of 480 students (as compared to the 1981-82 average of 220 students), this estimate is still the best available and, given the nature of the scale economies in staff costs, should be a reasonable figure to use in the analysis which follows. Government budgets So.Sh. 8 per day/per student for food. Based on a 270-day residence year in the boarding

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1/ Four boarding schools exist for intermediate school students, but the cost implications of this are less significant since only 700 out of 87,487 students in intermediate education attend such facilities. For general secondary education, the proportion and the cost effect are significantly larger, as is discussed above. Using the estimated per-student boarding costs developed here, one can derive an estimated total expenditure for the MOE of So.Sh. 1.785 million (US $118,149) for intermediate school boarding costs.

school, the total unit cost for food alone is So.Sh. 2.160 million per year (US $142.917).

Exercise books are provided for boarding students; eleven books at So.Sh. 10 each. The budget for boarding provisions includes a bedding set (So.Sh. 518 with a four-year life), plus So.Sh. 8,640 for miscellaneous student expenses. The annual per student cost for this category is So.Sh. 147. Assuming a school with the current average of 220 boarders, the school and student annual costs would be as follows:

ITEM	ANNUAL COST PER STUDENT (So.Sh.)
Staff salaries	143
Food	2,160
Exercise books	110
Boarding provisions	322
TOTAL	2,735

The provision of free food is obviously the major recurrent cost item in the boarding school budget. An amount of money equivalent to the boarding school food costs for one child per year could, in fact, support 2.0 students at the general secondary education level and 5.2 students at the primary education level.

These cost effects are partially offset by the student's boarding payment. The total revenue from the annual charge of So.Sh. 450 would be So.Sh. 1.776 million. This payment reduces government's cost obligation for the boarding schools to So.Sh. 2,285 per student, for a total expense of So.Sh. 9.016 million. The effect of the total boarding school costs (net of student fees) is to increase the total educational cost (schooling plus food and lodging) for general

secondary education to So.Sh. 3,353 per student (an increase in excess of 200 percent of the costs for schooling alone). The effect of the boarding program on aggregate cost estimates for general secondary is to increase the national expenditure from So.Sh. 47.9 million to 56.9 million, an increase of 18.8 percent. Thus, almost one shilling out of every six for general secondary education goes for boarding rather than instructional expenses.

Government's dilemma is to attempt to maintain its praiseworthy efforts to expand educational access while attempting to reduce the significant educational opportunity costs that these major boarding expenses create. Consideration should be given to the following types of policies which would help mitigate the costs of boarding programs:

a) higher student/family payment for food, including the possibility of contributions in kind;

b) restriction of boarding subsidies on a basis of family financial need; and

c) greater exploitation of school farms as a means of reducing food costs.

The present program is costly but should not be discontinued until an alternative procedure is found for guaranteeing continued educational access for students from areas outside the secondary school locations.

2.5.3 Secondary Vocational and Technical Education

The structure, content, and purpose of vocational and technical education in Somalia is complex and is dealt with in detail in a later section of this report. The important characteristics of this program for cost analysis are the varying lengths (two years for vocational,

three and four years for technical education), size (an average 161 students in vocational schools versus 397 in technical schools), and the origin of the faculty (Somali versus expatriate). While a degree of variation exists around each of the unit costs estimated for elementary, intermediate, and general secondary education, one may expect a much greater variation to exist in the vocational/technical secondary school sector. The Ministry of Education estimates an average salary for vocational/technical teachers of So.Sh. 1,500 per month (including allowances) for an annual salary equal to So.Sh. 18,000 (US $1,191). This figure is dramatically higher in those programs where expatriate technicians serve on the school staff (at salary rates up to So.Sh. 108,000 per instructor).

The secondary vocational and technical schools are assumed to have the same expenses for non-instructional staff, textbooks, exercise books, and class supplies as the general secondary schools. The cost differences appear primarily in science and workshop supplies (So.Sh. 3,600 per class versus So.Sh. 720 per class in general secondary) and maintenance and repairs (So.Sh. 18,000 per vocational and technical school versus So.Sh. 3,600 per general secondary school). The significant increase in maintenance and repairs in vocational/technical education is due to the quantity and expense of equipment used in the craft and technology training. Even the So.Sh. 18,000 figure (US $1,191) is inadequate for all but minor maintenance activities. The vocational and technical schools do not have adequate funds to maintain the equipment they already have in place (although the efforts of school instructors and students are serious and praiseworthy), and the

government does not have adequate funds at the present time to buy the quantity of new or replacement equipment required. Thus, a hidden cost of the vocational and technical educational programs is contained in the annual deterioration of equipment. While this cost does not appear explicitly, it does exist implicitly as a major cost issue and as a major factor in increasing the cost of the vocational/technical education alternative over that of general secondary education.

2.5.3.1 Vocational Education

For the vocational schools, the following cost estimates are based on a school size of 168 (slightly larger than the 1981-82 average size of 161) and on the existing pupil/teacher ratio (14:1)[1]:

ITEM	ANNUAL COST PER STUDENT (So. Sh.)
Instructional salaries and allowances	1,283
Non-instructional salaries and allowances	135
Textbooks	146
Class supplies	32
Science and workshops supplies	100
Maintenance and repairs	109
TOTAL	1,805

The size of vocational education unit costs relative to those for general secondary education (So.Sh. 1,805 versus 1,068) would be even

1/ The pupil/teacher ratio for vocational education is exclusive of the post-intermediate teacher-training program which is often included for statistical purposes under the Ministry of Education's vocational programs.

larger were it not for two major factors. First, the extremely low and undifferentiated government pay system means that the vocational instructors are not likely to receive their full market differential wages relative to general secondary school teachers. Given the shortage of vocational and technical manpower, a competitive wage system should pay significantly more for the vocational teacher than for the general academic teacher. While skilled vocational teachers do receive slightly more salary, the difference is much less than their external market value would justify. The result is that government often loses its best vocational teachers, and the best prospective teachers are encouraged to seek other careers.

The second major factor reducing the unit cost differential between vocational and general secondary education is the inability to include the interest and depreciation costs on buildings and equipment. A major expense of vocational (and technical) education is the initial cost outlay required for special buildings and equipment. The interest foregone on this investment and the annual depreciation of buildings and machinery is an often overlooked recurrent cost of the vocational school alternative. Although no data are available on these costs for Somalia, their effect would be to increase the vocational school alternative even more relative to the annual cost of general secondary school.

Because of the unusually low student enrollments in vocational education in 1981-82, the 14:1 student/teacher ratio is not representative of the long-term cost implications of vocational

education. Thus, while the above estimate is "correct" for 1981-82, it would not be an appropriate long term rate to use. The estimate for the same vocational school, but assuming a long-term student/teacher ratio of 22:1, would be as follows:

ITEM	ANNUAL COST PER STUDENT (So.Sh.)
Instructional salaries and allowances	816
Non-instructional salaries and allowances	135
Textbooks	146
Class supplies	32
Science and workshop supplies	127
Maintenance and repairs	45
TOTAL	1,301

In the fiscal analysis presented earlier in this chapter, this figure, rather than that of 1,562, has been used for projections of vocational costs.

Returning to the 1981-82 unit-cost figures for vocational education, the original estimate may be used to generate an annual expenditure by government for that year on vocational education of So.Sh. 3.489 million (US $231 thousand). Each vocational secondary school student represents an educational opportunity cost of 1.21 general secondary students and 3.12 primary school students. These figures underestimate the actual opportunity costs of vocational education for the reasons (equipment cost, etc.) cited earlier.

2.5.3.2 Technical Education

Shifting to the three- and four-year technical schools, one is forced to work with much the same cost data as given above. Because

the salary structure between vocational and technical schools is not sharply differentiated, some of the cost differences one would expect to find do not occur. The problem of underpayment of staff (in an absolute and relative sense) is especially acute at this level. The salary differentials which exist among Somali and expatriate staff in the same institution suggest the degree of this problem.

To derive estimates for the technical program, the assumption is that a school has a total enrollment of 396 with 22 teachers (based on the current 18:1 student/teacher ratio). The annual costs per school and per student are as follows:

ITEM	ANNUAL COST PER STUDENT (So.Sh.)
Instructional salaries and allowances	1,000
Non-instructional salaries and allowances	151
Textbooks and exercise books	146
Class supplies	20
Science and workshop supplies	200
Maintenance and repairs	45
TOTAL	1,562

This per-student amount underestimates the actual costs of technical education because of the assumption that only Somali instructors are used. However, it is an appropriate estimate of government cost in most technical schools. The reason that vocational schools are estimated to cost more than technical schools is because of the extremely low student/teacher ratio found in vocational schools in 1981-82. Because of an enrollment decline in the older vocational

schools, especially in several of the agricultural programs, the figures for 1981-82 of 11:1 are much lower than the 20:1 or 25:1 that one might expect. The revised vocational unit cost of So.Sh. 1,301 is a more accurate long term base for comparing vocational and technical costs.

Two other factors contributed to a bias in these calculations of unit costs. First, the use of the same instructor wage rate disguises the effects of the higher salaries paid to some technical instructional staff and to expatriate staff who are found more often in technical education programs. Second, the greater facilities and equipment requirements of technical education would lead to a greater unit cost relative to vocational education if appropriate interest and depreciation charges were included.

Using the rate of So.Sh. 1,562 per student, technical education would represent an annual cost to government of So.Sh. 12.115 million (US $802 thousand). As detailed in Section 8.0, only part of the vocational schools are financed by the Ministry of Education. The vocational school cost is shared with the Ministries of Agriculture, Livestock, Telecommunication and Post, and Labor. Because the Ministry of Education also provides academic teachers for the schools operated by other ministries, no acceptable estimate can be derived of the share of total vocational/technical costs borne by the Ministry of Education.

The boarding expenses of vocational and technical students may be assumed to be incurred at the same per-student rate as for general academic education. The budget allocations for food and other support

are identical. Using So.Sh. 2,285 per student as an estimate, the total boarding expense (solely for the MOE) would be So.Sh. 1.600 million (US $105.9 thousand).

2.5.4 Primary Teacher Training

The responsibility for management of the primary school teacher training facility at Halane is located within the teacher training department of the MOE. Information on the instructional costs at Halane has been difficult to obtain. If one assumes non-personnel costs similar to those found in general secondary education and adjusts the personnel costs to reflect Halane's 24.9:1 student/teacher ratio and 55:1 student/class ratio, the following costs may be derived:

ITEM	ANNUAL COST PER STUDENT (So.Sh.)
Instructional salaries and allowances	670
Non-instructional salaries and allowances	93
Textbooks and exercise books	146
Class supplies	6
Science and workshop supplies	13
Maintenance and repair	6
Boarding expenses	2,625
TOTAL	3,559

The most dramatic component of this estimated budget is the proportion of the total represented by boarding expenses. Out of every 100 shillings spent on primary teacher training, 73.76 shillings go for boarding expenses. The boarding expense is necessary to avoid regional

inequities in access to the program. Even the planned decentralization of primary teacher training to four regional sites will not reduce the boarding requirement since the facilities will still be required so as to avoid intra-regional inequities. The alternatives for funding suggested earlier for boarding programs in academic secondary education also deserve consideration here.

2.5.5 University Education

The National University of Somalia operates as a semi-autonomous unit under the direction of the Ministry of Culture and Higher Education. A major characteristic of the University is the significant proportion of its recurrent and development budgets which is supported by external donors. For the two budgets, the largest single supporters are Italy and the E.E.C., respectively.

Table 2.29 presents the University's ordinary expenditure budget for the years 1982 and 1983. Because the University, unlike the other levels of formal education, operates on an academic year of January to December, its academic budget year coincides exactly with the government's fiscal year. The ordinary expenditure budget includes monies only from government sources. No student fees or tuition are included nor are any funds originating from external donor sources. The University operates no income-generating activities of its own.

The "projects" listed in the budget are related primarily to infrastructure activities at the new University campus site. They are listed in the ordinary budget rather than as development items because

TABLE 2.29
NATIONAL UNIVERSITY OF SOMALIA
ORDINARY EXPENDITURE BUDGET (So.Sh.)

1982 and 1983

Item	1982	1983	Percent Change
Personnel Expense:			
Salaries for Permanent Staff	7,331,088	7,172,844	- 2.2%
Salaries for Non-Permanent Staff	9,122,901	9,701,817	+ 6.3
Allowances	2,856,804	3,653,400	+ 27.9
Pensions	189,936	215,186	+ 13.3
Subtotal	19,500,729	20,743,247	+ 6.4%
Non-Personnel Expense:			
Printing and Publication	15,516,682	15,716,682	+ 6.4%
Equipment	750,000	1,550,000	+ 1.3
Repairs	1,210,000	1,210,000	0.0
Books and Journals	1,237,144	1,237,144	0.0
Rent for Housing	150,000	150,000	0.0
Traveling	137,180	137,180	0.0
General Services	200,000	200,000	0.0
Other Services	2,001,192	2,001,192	0.0
Subtotal	21,202,198	22,202,198	+ 4.7%
Recurrent Cost Total	40,702,927	42,945,445	+ 5.5%
Projects	3,300,000	1,500,000	- 54.5%
Total Ordinary Expenditure	44,002,927	44,445,445	+ 1.0

they exist on a one-year, ad hoc basis and do not represent part of an ongoing development strategy. For the years 1982 and 1983, the University received no capital development budget from central government. Other than the project item noted above, all capital and support expenditures at the new campus site were financed through foreign assistance funds coordinated by the Ministry of National Planning.

Slightly less than one-half of the University's total non-project recurrent budget (financed by central government) is made up of instructional salaries (49.4% in 1982 and 48.3% in 1983). This is a much lower proportion for instruction than is found in most other universities in either the developed or the developing world. The low rate of expenditure on salaries and related allowances and expenses is due to the large instructional assistance provided by the Government of Italy (84 professors in 1983) and the low salary levels of the Somali staff.

Also, there are 21 non-Italian expatriate staff in the Faculty of Education in 1983. The local staff have the following total income schedule for 1983 (inclusive of salary, housing, and "responsibility allowances"):

	So.Sh. Per Month
Probationary Personnel	1,400
Assistant Lecturer	1,700
Lecturer	2,300
Assistant Professor	2,700
Professor	3,500

These income levels, while relatively high for the government personnel

system, are still relatively low given the normal divergence between university and non-university government staff found in most countries.

The distribution of full-time Somali instructional staff, by rank, in 1983 is as follows:

Probationary	39
Assistant Lecturer	147
Lecturer	104
Assistant Professor	7

There are no full-time Somali staff at the Professor rank. These numbers are exclusive of the Faculty of Political Science, for which no data have been made available.

The second major item in the ordinary expenditure budget, and the largest of all non-personnel items, is the almost So.Sh. 16 million allocated for the University's printing and publishing activities. The unit cost for government's share of University ordinary expenditures for 1983 will be So.Sh. 14,435 (U.S. $955) given the current total enrollment of 3,079 students in all faculties.

Universities, even more than the other levels and types of educational institutions, are characterized by great internal differences in the cost of instruction by program. In all universities, this results from a combination of any or all of the following possible differences among faculties:

a) distribution of instructors by rank,

b) differential salary levels,

c) varying student/teacher ratios,

d) varying support staff per student,

e) differing requirements for equipment and materials,

f) variable library resource requirements, and

g) a variable incidence of administrative burden.

For the National University of Somalia, the available data allow for the consideration of distribution of instructors by rank and student/teacher ratios, but little else. A more extended accounting/resource use study would be required to determine the differential incidence of the other costs by faculty. A special and substantial source of instructional cost differentials among the various faculties is the use of expatriate personnel. While Somali instructional personnel are paid the same amount by rank (with only a full-time/part-time difference), the expatriate faculty receive substantially higher financial rewards. In those faculties with large numbers of expatriate instructors (Education, Medicine, Engineering, Agriculture, Industrial Chemistry, and Veterinary Science), students are receiving a more expensive education even though the use of government resources actually may be less.

In the following analysis, unit costs are calculated by faculty to give both government's share of instructional costs and total instructional costs, including the donor-financed personnel. An estimate is then made, by faculty, of the total instructional, administrative, and support costs on a per-student basis. The residual non-instructional costs from the University budget will be allocated on

a per-capita basis. Because of the differentials in administrative burden, equipment maintenance, materials requirements, and related costs, this procedure should result in a slight overstatement of total costs for the education, social science, and humanities faculties and a concomitant understatement for the professional, technical, and scientific faculties.

Table 2.30 depicts the distribution of instructional staff by faculty rank, full-or part-time status, and nationality (Somali or expatriate) at the National University of Somalia in 1983. The greatest concentration of staff is at the Assistant Lecturer and Lecturer ranks, and as is common in European-based higher education, there are very few staff in the most senior ranks.

Table 2.31 summarizes the data in Table 2.30 and presents estimates of full-time equivalent (FTE) staff. The FTE figures are based on an average of one-half-time employment for all part-time instructional staff.

The largest faculty, by a substantial margin, is Education with 132 FTE instructors, including 90 Somali and 21 expatriate full-time teachers. The Medical and Agricultural faculties rank next in total FTE size, and both include a large contingent of Italian expatriate staff. In Medicine, 21 of the 61 full-time staff are Italian; while in Agriculture, the Italian personnel constitute 13 of the 39 full-time instructional staff members. Italian faculty are also found in the Industrial Chemistry, Veterinary Science, and Engineering faculties, while 21 non-Italian expatriates teach full time in the Education faculty.

TABLE 2.30

UNIVERSITY INSTRUCTIONAL STAFF
BY FACULTY, RANK, AND CITIZENSHIP

(A) FULL TIME STAFF

Faculty	Somali				Expatriate Italian	Expatriate Other
	Probation	Assistant Lecturer	Lecturer	Assistant Professor	Professor	Assistant Professor
Education	15	31	44	0	0	21
Languages	0	14	1	0	0	0
Geology	5	12	4	1	0	0
Medicine	10	22	5	3	21	0
Industrial Chemistry	3	16	10	0	10	0
Law	4	2	9	3	0	0
Economics	0	20	13	0	0	0
Veterinary Science	0	3	1	0	20	0
Journalism	0	5	1	0	0	0
Engineering		(14)	(detail not available)		13	0
Agriculture	2	8	16	0		
Political Science		(data not available)		0		
	39	147	104	7	84	2[illegible]

TABLE 2.30 (page 2)

UNIVERSITY INSTRUCTIONAL STAFF
BY FACULTY, RANK, AND CITIZENSHIP

(B) PART TIME STAFF

Faculty	Somali			Expatriate Other
	Assistant Lecturer	Lecturer	Assistant Professor	Lecturer
Education	19	21	2	0
Languages	6	0	0	3
Geology	0	2	0	0
Medicine	0	34	0	0
Industrial Chemistry	0	2	0	0
Law	0	17	0	0
Economics	0	16	0	0
Veterinary Science	0	28	0	0
Journalism	3	0	0	0
Engineering	(data not available)			0
Agriculture	3	2	1	0
Political Science	(data not available)			
	31	122	3	3

TABLE 2.31

INSTRUCTIONAL PERSONNEL
NATIONAL UNIVERSITY OF SOMALIA
(By Faculty, Full Time Status, and Nationality)
1983

	Full-Time			Part-Time		Total
Faulty	Somali	Italian	Other Expatriate	Somali	Expatriate	(FTE Estimate)
Education	90	-	21	42	-	132
Languages	15	-	-	6	3	19
Geology	22	-	-	2	-	23
Medicine	40	21	-	34	-	78
Industrial Chemistry	29	10	-	2	-	40
Law	18	-	-	17	-	26
Economics	33	-	-	16	-	41
Veterinary Science	4	20	-	28	-	38
Journalism	6	-	-	-	-	6
Engineering	14	20	-	-	-	34
Agriculture	26	13	-	6	-	42
Political Science	(DATA NOT AVAILABLE)					
Total	297	84	21	153	3	479

The expatriate instructors, and especially the Italians, have a dramatic effect on the total instructional budget and, because of their concentration in selected faculties, on the differential instructional budgets among faculties. To calculate the per-student cost of instruction, the following salary estimates (in addition to those listed earlier for full-time Somali staff) have been used:

FACULTY	SALARY Per Month So.Sh.
Italian expatriates	45,000
Other full-time expatriates	15,000
Part-time Somali staff	
Assistant Lecturer	800
Lecturer	1,100
Assistant Professor	1,500
Part-time expatriate staff	7,500

All instructional staff are assumed to be paid on a twelve-month basis except for the Italian personnel who are assumed to be employed on an average basis of six months.

Table 2.32 presents a summary of the student/FTE instructional staff data currently available for the National University of Somalia, by faculty and total. The student/staff ratios range from a low of 2.3 in Industrial Chemistry to a high of 10.7 in Journalism and average 5.9 University wide. All of these figures are exceedingly low and suggest a potentially serious internal economy issue. The University, purposefully or not, appears to be compensating instructional staff for their low salaries by reducing the student contact obligation to very low levels. The low salaries offset the low student/staff ratios,

TABLE 2.32

STUDENT/INSTRUCTIONAL STAFF RATIOS

NATIONAL UNIVERSITY OF SOMALIA

(By Faculty)

Faculty	FTE Instructional Staff	Enrollment	Student/Staff Ratio
Education	132	1014	7.7
Languages	19	100**	5.3
Geology	23	101	4.4
Medicine	78	322	4.1
Industrial Chemistry	40	92	2.3
Law	26	152	5.8
Economics	41	234	5.7
Veterinary Science	38	263	6.9
Journalism	6	64	10.7
Engineering	34	270	7.9
Agriculture	56	217	3.9
Political Science	(not available)	250**	-
Total*	493	2,829	5.7

*Excluding Political Science

**Estimated

but one must question the wisdom of an approach which cannot help but have a negative effect on staff motivation and morale. A system of fewer staff who concentrate a greater proportion of their time on students and receive higher salaries would be a preferred use of the same amount of total financial resources.

The excess capacity represented by the low student/staff ratios is not excusable on the basis of the institution's stage of development. There is no indication that programs are moving toward more normal student/staff ratios or that the move to the new campus site will allow for sufficient enrollment expansion even to offset the present staffing levels. Financial and statistical data can only indicate possible internal inefficiencies, not confirm them. However, the qualitative information available on staff morale and student contact with instructors supports the possibility of this problem being as real as it is apparent.

Table 2.33 presents the instructional budget, by faculty, for the National University of Somalia divided by the Somali share of government expenses and total budget expenses. Table 2.33 also presents unit cost estimates on a per-student and a per-graduate basis. The enrollment figures are for 1983 and the graduation rates are for 1982, but given the similarity of staffing and budget (the latter was indicated in Table 2.29), no major discrepancy should be introduced by the incongruence in the years from which these statistics are drawn.

As might be expected, the highest level of total expenditure per student or per graduate are directly related to the expenditures

TABLE 2.33

INSTRUCTIONAL UNIT COSTS BY FACULTY
NATIONAL UNIVERSITY OF SOMALIA

For Government and Total Expenditures

Faculty	Instructional Budget: Somali Government	Instructional Budget: Total	1983 Enrollment	Cost per Student: Somali Government	Cost per Student: Total	Graduates (1982)	Cost per Graduate: Somali Government	Cost per Graduate: Total
Education	6,374,000	6,374,000	1,014	6,286	6,286	234	27,239	27,239
Languages	640,800	640,800	(est) 100	6,408	6,408	1/	-	-
Geology	498,000	498,000	101	4,931	4,931	18	27,667	27,667
Medicine	1,300,800	6,970,800	322	4,040	21,648	50	26,016	139,416
Industrial Chemistry	679,200	3,379,200	92	7,383	36,730	11	61,745	307,200
Law	678,000	678,000	152	4,461	4,461	41	16,537	16,537
Economics	978,000	978,000	234	4,179	4,179	52	18,808	18,808
Veterinary Science	458,400	5,858,400	263	1,743	22,275	63	7,276	92,990
Journalism	158,400	158,400	64	2,475	2,475	(n.a.)	-	-
Engineering	(n.a.)	(n.a.)	270	-	-	34	-	-
Agriculture	711,600	4,221,600	217	3,279	19,454	37	19,232	114,097
Political Science	(n.a.)	(n.a.)	(est) 250	-	-	124	-	-
TOTAL	12,477,200	29,757,200	3,079	4,876 2/	11,628 2/	664	23,079 3/	57,229 3/

1/ First Graduates will be in 1983
2/ Exclusive of Engineering and Political Science
3/ Exclusive of Engineering, Political Science, Languages, and Journalism

for expatriate staff. The same four faculties with large numbers of Italian expatriate staff (Medicine, Industrial Chemistry, Veterinary Science, and Agriculture) are also the ones with the largest total instructional budgets by student and by graduate. If one looks only at the variation in per-student costs by government contribution, the disparities are dramatically reduced but still significant. Government's share of the per-student expenditure is highest in the faculty of Industrial Chemistry (So.Sh. 7,383).

The unit cost level for that faculty is more than double the unit costs financed by government in the faculties of Agriculture (So.Sh. 3,279), Journalism (So.Sh. 2,475), and Veterinary Science (So.Sh. 1,743). However, the lower government expenditure level in all but Journalism may be explained in light of the instructional resources available from the Italian government.

Studying only those faculties solely dependent on government funds, one finds a per-student annual expenditure range from So.Sh. 2,475 (Journalism) to So.Sh. 6,408 (Languages) with most of the other faculties in the So.Sh. 4,000 range. The earlier discussion of student/instructional staff ratios suggests that two countervailing influences are operating on government-financed unit cost figures. The low ratio of instructors to students acts to increase the unit cost levels, while the low government salary structure reduces them. The net effect is that the U.S. dollar equivalent of the rates given in Table 2.33 do not suggest any great overexpenditure on the University's programs except where substantial expatriate instruction takes place.

An internal efficiency issue raised by these data is related to the opportunity cost represented by the Italian donor funds. Every Italian instructor represents an annual salary amount equivalent to the following:

26.5	Somali Assistant Lecturers
19.6	Somali Lecturers
16.7	Somali Assistant Professors
12.9	Somali Professors
3.0	Other Expatriate Staff

Such calculations, while dramatic, are less meaningful given that the problem of the University is less the issue of number of staff and more the issue of staff quality and motivation. Six faculties have an annual wage bill for their full-time Somali staff that is less than the salary for one full-time Italian expatriate faculty member for a year.

The Italian instructors obviously serve valuable functions as senior mentors and as directors of many of the University's research activities. It should also be mentioned that the Italian assistance to the University includes significant amounts for research and further training, both of which enhance staff quality while providing opportunities for supplemental income. Greater attention should be given, both by the University's governing authority and by the external donors, to additional consideration of the means by which donor assistance can have the greatest impact on student instruction and staff research.

Table 2.34 presents the total budget for the National University in 1983, allocated by faculty. The "projects" amounts have been excluded because of their anomalous position within a current

TABLE 2.34

TOTAL EXPENDITURE COSTS BY FACULTY
NATIONAL UNIVERSITY OF SOMALIA FOR
GOVERNMENT AND TOTAL EXPENDITURES

(Somali Shillings)

Faculty	Instructional Budget		Enrollment (1983)	Cost per Student		Graduates (1982)	Cost per Graduate	
	Somali Government	Total		Somali Government	Total		Somali Government	Total
Education	15,565,910	15,565,910	1,014	15,351	15,351	234	66,521	66,521
Languages	1,547,300	1,547,300	(est.)100	15,473	15,473	1/	-	-
Geology	1,413,565	1,413,565	101	13,996	13,996	18	78,531	78,531
Medicine	4,219,730	9,889,730	322	13,105	30,713	50	84,395	197,795
Industrial Chemistry	1,513,180	4,213,180	92	16,448	45,795	11	137,562	383,016
Law	2,055,880	2,055,880	152	13,526	13,526	41	50,143	50,143
Economics	2,121,210	2,121,210	234	9,065	9,065	52	40,793	40,793
Veterinary Science	2,842,495	8,242,495	263	10,808	31,340	63	45,119	130,833
Journalism	738,560	738,560	64	11,540	11,540	(n.a.)	-	-
Engineering	(n.a.)	(n.a.)	270	-	-	34	-	-
Agriculture	2,678,705	6,188,705	217	12,344	28,519	37	72,397	167,262
Political Science	(n.a.)	(n.a.)	(est.)250	-	-	124	-	-
TOTALS	34,696,535	51,976,535	3,079	13,559 2/	20,311 2/	664	64,053 3/	98,203 3/

1/ First graduates will be in 1983.

2/ Exclusive of Engineering and Political Science.

3/ Exclusive of Engineering, Political Science, Languages, and Journalism.

expenditure budget for instruction and research. The allocable instructional costs from Table 2.33 equal So.Sh. 12,477,200 for all faculties exclusive of Engineering and Political Science. As the excluded faculties represent only 16.9 percent of all enrollments, it has been assumed that 83.1 percent of the other non-allocated University personnel expenditures of So.Sh. 5,710,476 (So.Sh. 20,743,247 minus 15,032,771) will be allocated on a per capita basis among the faculties. In addition, 83.1 percent of the non-personnel expenses in the 1983 budget are also divided among the faculties at a rate proportional to enrollment. The University-wide rate used for the allocation of the non-instructional personnel cost and the non-personnel costs is a total amount of So.Sh. 9,065 per student.

Two major types of information are added by Table 2.34 to that already contained in Table 2.33. First, the inclusion of all University expenditure activities means that the absolute levels of costs given in Table 2.34 are closer to the actual costs incurred for educating students in each of the faculties. Second, the difference between government budget and total budget, for the University and for each faculty, is more representative of the proportional burden borne by government for University program costs.

For example, while government financed only 18.6 percent of instructional costs in the Faculty of Medicine, it paid for 42.6 percent of the total budget allocable to the Faculty of Medicine. One should also remember the earlier caveat concerning the biases in allocating general University costs to specific faculties. The very

faculties in which expatriates are most common (especially Medicine, Industrial Chemistry, Veterinary Science, and Engineering) are the same ones most likely to claim a disproportionate share (relative to enrollments) of the general University budget. Thus, the proportion of costs borne by government is understated for those particular faculties.

In addition to the internal efficiency concerns expressed earlier, some note should be made of the effect of attrition on unit costs per graduate. With no attrition or repetition effects, the number of graduates should equal enrollment divided by the years of study (two years for Education, Journalism and Political Science and four years for all other faculties). The most serious problems appear to be for Education [1] (234 graduates of a possible 507); Geology (18 of 25), Medicine (50 of 80), Industrial Chemistry (11 of 23), Engineering (34 of 68), and Agriculture (37 of 54).

Only the faculties of Law, Economics, Veterinary Science, and Political Science manage to graduate a large proportion of their original intake. These attrition levels are justified if the University is to be used for a qualitative screening as well as pedagogical function. Reduced attrition with maintenance of graduation standards, however, may represent a more efficient use of University resources.

1/ The low rate for Education is indicative of the difficulty encountered by students in completing the newly designed three-semester-per-year, two-year program. Cumulative graduation levels should approximate 450 students per year in the near future.

2.5.6 Adult Education

The problems of data availability and quality encountered in the unit cost analysis of formal education are compounded when one moves to nonformal and less structured forms of education and training. Within the Adult Education division of the MOE, the two major activities are identified as women's education and nomadic education. The draft budget prepared in August 1982 proposes So.Sh. 500,000 for printing and materials and So.Sh. 972,000 for instructional staff. The latter amount assumes an average payment of So.Sh. 100 per month times six months to each of the primary school teachers who make up the 1,620 members of the adult education staff.

Unit costs are not calculated because no comprehensive data are available on the number of clients and staff by the subprograms. It is reported that the Women's Education Service (WES) provided training activities for 3,534 clients in 1982. Given 277 teachers, the per-client cost for the WES would be So.Sh. 47 or US $3.11 per client, per year. The rudimentary data on the other adult education program allow little sophisticated analysis.

2.5.7 Unit-Cost Summary and Analysis

Table 2.35 presents a summary of the unit costs, by level and type, for the formal education system. The per-student costs are taken from the preceding discussion. Some comment should be made on the derivation of cost-per-graduate estimates.

TABLE 2.35

SUMMARY OF UNIT COSTS

(GOVERNMENT EXPENDITURES ONLY, BY LEVEL AND TYPE OF EDUCATION)

Item	Cost Per Student (So.Sh.)	Ratio To Primary Education	Cost Per Graduate (So.Sh.)	Ratio To Primary Education	Attrition Cost Index
Primary Education	416	1.00	7,097	1.00	2.13
General Secondary Education	1068	2.57	5,246	0.74	1.23
Vocational Education	1301	3.13	2,767	0.39	1.06
Technical Education (3 Yr.)	1562	3.75	5,585	0.79	1.19
Technical Education (4 Yr.)	1562	3.75	7,247	1.02	1.16
Primary Teacher Training	934	2.23	-	-	-
Net Boarding Costs	2285	5.49	-	-	-
National University of Somalia					
Education	15,351	36.90	66,521	9.37	2.14
Languages	15,473	37.19	-	-	-
Geology	13,966	33.57	78,531	11.06	1.41
Medicine	13,105	31.50	84,395	11.89	1.61
Industrial Chemistry	16,448	39.54	137,562	19.38	2.09
Law	13,526	32.51	50,143	7.07	0.93
Economics	9,065	21.79	40,793	5.75	1.13
Veterinary Science	10,803	25.98	45,119	6.36	1.04
Journalism	11,504	27.65	-	-	-
Agriculture	12,344	29.67	72,397	10.20	1.47
University Total	13,559	32.59	64,053	9.03	-

The size of the successive grade levels of students in the school system has varied dramatically (for reasons discussed in detail in later sections of this report). Because of this, one cannot use the shorthand method of calculating cost per graduate by dividing a single year's total costs by the number of graduates in that year. To solve this problem, the decision was made to take the first year of a given level of education (e.g., Grade One for primary education, Grade Nine for general secondary, vocational, and technical education) and project the changes in enrollment for that cohort over the educational cycle until graduation.

For example, beginning with the 54,740 Grade One students estimated for 1982-83 and adding the successive enrollments over the next seven years, one comes to a total of 242,121 student-years of instruction between 1982 and graduation in 1990. At present, costs (So.Sh. 416 per student per year) this would mean that government would spend So.Sh. 100.7 million over the eight-year period. The estimated number of Grade Eight graduates in 1990 is 14,192 so that the average cost per graduate for this cohort is So.Sh. 7,097. Similar projections and calculations were made for each of the other levels and types of education in Table 2.35. General secondary education graduates were defined as those who successfully pass the Grade Twelve Examination. In 1982, the percent of Grade Twelve students doing so was 89.5. The graduation rate for all vocational and technical students was set at 97.0 percent. This rate is taken from the 1981 technical education examination.

Table 2.35 presents the ratio of each of the educational levels to the unit costs for primary education and presents this data for both per-student and per-graduate rates. The differences in these two cost indices results from the effects of program length and attrition, while differences within the indices are a function of relative costs and student/staff ratios. For example, the two technical education streams have the same ratio (3.75) for per-student costs but have different (0.79 and 1.02) per-graduate costs because the four-year technical program takes longer and has a different rate of attrition. A dramatic case exists for the faculty of Industrial Chemistry where the index to primary cost decreases from a per-student rate of 39.54 to a per-graduate rate of 19.38 despite the relatively high attrition in the recent years in enrollments. The earlier caveats expressed concerning per-graduate costs (especially for the Faculty of Education) would apply in interpreting these indices.

A final index which may be calculated from the data in Table 2.35 is an attrition cost index. If one compares the cost per graduate to the product of the cost per year times program length, the resulting ratio is an indicator of the effect of attrition on educational cost. For example, in primary education which has an eight-year cycle, the index would be derived by dividing 7,097 by 3,328 (eight times the annual rate of 416). The result, 2.13, may be compared with that of general secondary education, 1.23, to see the relative effect of attrition at the two educational levels.

The data problems and the lack of cohort attrition rates for the

University make the indices for certain faculties (such as Education and Law) especially suspect. The phenomenon of a large graduating class in Law in 1982 has led to the anomalous result of an index below 1.00. A special point of interest in the attrition cost index is the comparability of the figures for the three forms of vocational and technical education.

The unit cost data has been used to identify three major internal efficiency issues:

1) the high opportunity costs for higher levels of education in terms of foregone amounts of lower levels of education,

2) the special cost burden posed by boarding requirements in post-intermediate education, and

3) the effect of low student/staff ratios on cost levels in vocational education and in the University.

These issues, and those raised earlier in the fiscal capacity and manpower analysis, will serve as the basis for the concluding section of the economic and financial analysis discussion.

2.5.8 Returns to Education

The final analytical approach to be used in this economic and

financial analysis is to examine the profitability of education in terms of its internal rate of return. Because of variations in the quality of data and the exclusiveness of operating expenses within the definition of unit costs for the various levels and types of education reviewed here, one must use great care in drawing conclusions from the relative as well as absolute levels of rates of return discussed below. To calculate even gross indicative rates of return is difficult for Somalia. Nevertheless, the attempt is made here in the belief that the rate-of-return exercise, if not the numbers themselves, serves a useful purpose in pointing out the variables which work to determine the profitability of a level of education in monetary terms.

It should be made clear immediately that these calculations are exclusive of the social and psychological benefits and costs which are an important part of any private or collective decision to finance education. However, an important issue addressed here is the monetary benefit of education versus its monetary cost and the difference that exists when these amounts are compared in a private versus a collective context. The monetary rate of return is an important concept in any country, but it is even more important for a developing nation with scarce resources.

Indicative rates of return thus are calculated for private as well as total (private plus government) costs. Separate rates are calculated for graduates of primary, general secondary, vocational, three- and four-year technical education, and higher education.

The rates have been calculated by identifying the average direct costs (uniforms, books etc.) and the earnings foregone by students for each level. The concept of foregone earnings relates to the fact that students, while engaged in education, are forced to sacrifice employment opportunities. While a minor factor for primary education, foregone earnings are a major part of private educational costs at the higher levels of education. The rates of return calculated here are keyed to the time of graduation. Thus, the educational costs must be converted via compounding to equivalent monetary values in terms of purchasing power. The rate of interest used for compounding of costs in these examples is 10 percent.

These total private costs (direct plus foregone earnings) are then compared to the expected increase in lifetime earnings which results from education. For example, primary school graduates were assumed to average So.Sh. 4,500 per year in real earnings over their working life. Without such education, it was assumed they would earn an average of So.Sh. 3,000 per year. Thus, the average annual earnings of primary school graduates over their lifetime is expected to be So.Sh. 1,500 more than for those with less than a complete primary education.

The working life of a primary school graduate is expected to be forty years. This is not a crucial assumption given that within the rate of return calculation, the increase in the work life beyond the forty-year assumption would have a minor effect on the calculated rate of return.

The private costs for primary education consisted of So.Sh. 40 per year for exercise books and an average of So.Sh. 50 per year for a uniform (assuming that a uniform costing So.Sh. 200 is purchased at the beginning of Grades One and Four). Foregone earnings for primary education are calculated only for Grades Five through Eight. The amount is set at So.Sh. 300 per year based on an expected work year of 150 days at So.Sh. 2 per day.

Government costs are based on the unit costs of So.Sh. 416 per year. A simple, eight-year compounding of this amount is used rather than the attrition-based cost per graduate. Use of the latter rate would imply no value of education to the students who leave school before Grade Eight, and that assumption is not appropriate for this calculation.

For primary education the largest share of costs are those borne by government. This fact leads to the dramatic difference between the return on private investment in primary education (59.9 percent) and the return on total investment (20.6 percent). Increases in the anticipated level of earnings will increase the rate of return.

Calculations similar to those for primary education are made for each of the other levels of education, and the results are summarized in Table 2.36. Among the insights provided by these results (bearing in mind the earlier stated limitations on this form of analysis) are the facts that general secondary education has a lower private and total rate of return than any of the other levels of education noted. The low rate is primarily a function of high foregone earnings (for

TABLE 2.36

INDICATIVE RATE-OF-RETURN ESTIMATES

Program Level	Direct Private Costs	Foregone Earnings	Total Private Costs	Government Costs	Total Costs	Average Increased Earnings	Private Rate of Return	Total Rate of Return
Primary Education	1,113	1,392	2,505	4,757	7,262	1,500	59.9%	20.6%
General Secondary Ed.	1,118	20,885	22,003	4,957	26,960	2,900	13.0	10.4
Vocational Education	506	9,450	9,956	2,732	12,688	2,500	25.1	19.7
Technical Education (3-yr)	667	14,895	15,562	5,170	20,732	3,700	23.8	15.4
Technical Education (4-yr)	843	20,885	21,728	7,249	28,977	4,500	20.7	15.4
Higher Education (NUS)	-	34,343	34,343	22,630	56,973	11,400	33.2	19.9

four years) and a small effect an average lifetime earnings.

Foregone earnings also account for the relatively higher rate of return to vocational education as opposed to technical education. It should be noted, however, that this comparison excludes two factors which create an advantage for the technical school graduate. First, the income advantage is based on an assumption that the graduate remains in Somalia and earns his wages in government service. The technical graduate has a greater relative advantage over the vocational graduate in private sector or foreign employment than in government employment. Second, the technical graduate has the "option value" of applying for the University; this alternative is not available to the vocational graduate.

The example for higher education is based on an average across the twelve faculties. One would expect higher private rates of return in Medicine and Engineering and lower rates for Journalism and Education. The substantial government subsidy of higher education causes a very high private rate of return (33.2 percent) for the individual graduate. However, it should be noted that the monetary return on the total higher education investment is only 19.9 percent, not significantly different from any of the other levels of education except for general secondary.

This cursory review of educational investments and their profitability has ignored the issue of boarding costs because these are primarily expenditures for access and equity rather than investments in general human resource development. Two major conclusions can be drawn

from this analysis. First, the vocational and technical forms of education probably are not significantly different in their private rate of return but do, individually and as a group, have a significant advantage over the returns on general secondary education. This difference is in line with government policy to encourage attendance in the vocational and technical institutions. Second, the excessively high private rate of return on University education suggests that consideration should be given to shifting some portion of higher education costs to students and their families. To avoid discouraging attendance, this should be implemented simultaneously with provision of loan funds to assist students in meeting their share of the educational costs.

In the concluding section of the economic and financial analysis, these quantitative findings will be combined with those from the earlier unit costs analysis, discussion of manpower demand and supply, and the qualitative issues identified in the subsector assessments to provide a basis for further discussion of the systemic issues of cost and effectiveness which exist in Somalia's EHR sector.

2.6 SUMMARY CONCLUSIONS AND RECOMMENDATIONS

The extended discussion of the economic and financial analysis of EHR programs in Somalia has given rise to a variety of conclusions and recommendations. In this final section an attempt will be made to collect and organize these results in a summary fashion. The conclusions drawn from the analysis will be structured according to their origin in the fiscal capacity analysis, the manpower analysis, or

the unit costs analysis. The recommendations will be divided between those that relate to administration and practice and those that relate to more general policy.

2.6.1 Summary Conclusions

Conclusions are presented in three categories--fiscal capacity analysis, manpower analysis, and unit cost analysis.

2.6.1.1 Fiscal Capacity Analysis

(a) A need exists for improved macroeconomic data. The lack of dependable data on GDP and its components is a major constraint on the economic analysis of EHR activities in Somalia. The importance of macroeconomic activity to EHR is obvious: the economy must supply the resources to finance the system and provide the employment opportunities for the graduates of the system. The poor fit between the EHR system and the economy's resources and needs is due in part to the lack of knowledge of what these resources and needs actually are.

(b) A need exists for improved budgeting systems. The present system of national and ministerial budget accounts does not allow for the analysis of internal efficiency issues at the level of detail required for meaningful policy analysis. Budgets should be organized more on a programmatic or planning basis and not only on a functional accounting basis.

(c) The conditions for private sector development must be improved. Increased private sector activity in the economy is

relevant to the EHR system in two ways. First, increased private sector activity will improve the macroeconomic condition generally. Second, private sector expansion will reduce the concentration of modern sector employment in government activities. Both changes should strengthen the Somali economy in both the short and long run.

(d) Government employment incentives should be reexamined. The major characteristics of civil service employment in Somalia are the guaranteed employment of secondary school and university graduates and the consistently low wage scale. While the latter policy helps to offset the potential effect of the former policy, the result has been that up to 1981 substantial increases occurred in the government wage fund without a concommitant improvement in government services. A major problem within the present system is how to improve incentives for high quality public servants (especially at middle-level management positions) without aggravating the government's budget position.

(e) At present, inadequate coordination exists among EHR activities. Major programs related to EHR development are conducted by the Ministries of Education, Culture and Higher Education, Labor, Agriculture, Livestock, Defense, and, to a lesser extent, in several other government agencies. No central authority has been established to coordinate these activities to avoid redundancy and to promote responsiveness and efficient use of resources. A proposal does exist for a coordinating panel. Present plans call for this panel to be located in the Ministry of National Planning with representation provided by each of the ministries noted above.

(f) Improvements are needed in ministry-level planning of EHR programs. Within the various EHR ministries, planning activities suffer from a lack of physical, financial, and human resources. Although the accomplishments of the various planning departments are impressive given resource constraints, there is a need to improve staff numbers, training, and equipment. As to the last, the appropriate level of technology would appear to include the new generation of microcomputer equipment now available. This equipment requires minimal detailed training for operational skills and would greatly expand informational processing and recordkeeping.

(g) Somalia enjoys a transitory financial opportunity during the 1980s. Because of the convergence of the demographics of the EHR system and the current success of the Somali economy, the period from 1983 to 1990 offers an unprecedented opportunity for EHR development in Somalia. Because of the exposed nature of the economy, all planning should be phased in such a manner that adaptation can be made to changing conditions. Even so, the present expectation is that the remainder of the 1980s should provide an opportunity for quality improvement and for extension of access. Plans to take advantage of this opportunity must be initiated soon or else the opportunity will be missed, and government will be forced again into a supply-driven, reactive EHR policy.

(h) Donors should be prepared to fully fund EHR project costs. With government's resources allocated to system maintenance, quality improvement, and increased access (with a focus at the primary

education level), there will be few if any funds available for EHR development activities. The debt service problem of government also is a constraint in that it would be ill advised to finance EHR development programs through conventional loans. Donors will need to provide concessionary loans or grants to cover the capital and operating expenditures of any EHR project. Government will, of course, have to be prepared to absorb the recurrent costs for EHR activities after the development project has ended.

2.6.1.2 Manpower Analysis

(a) The EHR system has been basically one driven by supply. Schools, institutions, and levels of education have expanded in the last decade in response to the increased demand for education, not in response to the increased demand for education's graduates. The Somali EHR system has concentrated in the last decade on increasing access more than improving quality. It is now the time to refocus the priority away from quantity expansion and to quality improvement and an improved match of graduates to the needs of the economy.

(b) Serious data inadequacies constrain a demand-oriented EHR system. No responsive EHR system can be implemented until current information is available on the emerging needs of the labor market. Manpower surveys are both too expensive and too rapidly outdated to serve the data requirements for EHR planning. There is a need to institute an ongoing effort to trace the job search patterns of recent graduates. This research will identify the types of jobs found and the

constraints and facilitating devices which exist in the labor market. The initial focus of these studies should be on vocational and technical graduates and on university graduates.

(c) The Somali economy and labor market should be viewed regionally rather than nationally. The determinants of economic prosperity for Somalia lie not just in Somalia but throughout East Africa and into the Gulf States region. Similarily, the migration of Somali workers to Kenya, Saudi Arabia, Oman, Yemen, etc., implies that manpower analysis must look beyond the geographic boundaries of Somalia in order to appreciate the supply and demand effects operating on the EHR system. This regional international orientation to planning places special burdens on the data collection/research activities of the planning units. The current effort by the Ministry of Labor to document the nature and extent of Somali employment in the Gulf States is an example of how this special burden may be handled.

(d) Immediate improvements are required in primary education and in access to functional literary/numeracy training. One must not forget that the vast majority of Somali citizens are employed outside the modern sector. Improvement of primary education and an increased access to functional literacy and numeracy training are the most direct ways the EHR system can assist this majority. While the quality improvements will also facilitate other, higher level EHR activities, the basic justification is to prepare better trained workers for the traditional economic sector.

(e) Increased demand orientation is especially required in the

vocational, technical, and higher education programs. Because these programs are the most expensive of all EHR activities, it is even more important that there be an assurance that the graduates have skills that are relevant to the labor market. Because of the variety of specialization that exists in each of these types of education, it is important that manpower demand analysis be specific as to the types of vocational, technical, and university graduates required.

(f) The growth of post-Grade Eight education may need to be restrained. Over the decade of the 1980s, the post-primary educational system will not expand dramatically. Beyond 1988, however, the issue of the trade-off between increased democratization in educational access and longer education for the few will have to be faced. Expansion of the secondary education programs should be based on evidenced demand for such graduates. The priority investments for manpower purposes would be in literacy/numeracy training at earlier levels of the system and for quality improvements throughout the system.

(g) A special effort should be made to prepare manpower for the private sector. An increasing proportion of aggregate manpower demand in this decade will be for EHR graduates to work in the private sector. The secondary education programs (general, and vocational and technical) and the University should study the implications of this both in terms of their instructional design and in terms of job placement activities. A lack of appropriately prepared manpower could act as an additional constraint on private sector development in Somalia.

2.6.1.3 Unit-Costs Analysis

(a) High attrition costs exist in primary education. This phenomenon is always a difficult one to interpret. Usually, analysts assume high attrition represents wastefulness. However, attrition may be a necessary cost of providing more democratic initial access to the education system. For Somalia, the attrition rate is related to the problem of educational quality and, specifically, to teacher quality. Until some acceptable minimum quality level exists throughout the primary education system, the analysis of attrition and its incidence will not be a very informative exercise.

(b) The vocational and technical education programs suffer from a shortage of equipment and facilities. The low monetary cost of vocational and technical education in Somalia disguises a high real cost in the production of untrained or undertrained graduates. Vocational or technical graduates must embody a set of skills that differentiate them from other graduates. That is not always the case in Somalia and rarely is it sufficiently the case. Either funds must be found to finance vocational and technical education adequately or the present resources would be better invested in improving general secondary education.

(c) Boarding expenses must be examined in terms of opportunities to reduce the government's cost burden. The boarding cost debate is an especially difficult one. Boarding facilities are necessary to assure wider access, yet the cost of providing boarding facilities for a single student means that the education of several other students cannot be financed. Greater effort should be exerted

in identifying family, local community, and school-generated resources that will help alleviate this cost burden on the central government.

(d) Subsidies should be reduced for University costs. The present system of financing higher education provides extensive subsidization not only of instructional costs but of lodging and boarding expenses. These latter subsidies cannot be justified on either an equity or an efficiency basis. Because the graduates of higher education will earn an income higher than other citizens, the graduates should be prepared to pay for a significant share of their educational costs. The University should establish a student fee system and a loan program so as to improve the equity of financing without discouraging students from lower income families.

(e) Staff development programs at the National University should be reexamined. The staffing problem for the University is similar to that for the general civil service. There is an aggregate excess of staff (as indicated by the low student/staff ratios), but there are inadequate wage and other incentives to promote effective staff development. Government should encourage the University to examine the alternative of fewer but better paid staff and to explore means of using existing or potential donor funds to improve the instructional and research skills of Somali staff.

2.6.2 Recommendations

The recommendations listed here are designed to summarize the more

detailed recommendations that have appeared throughout the economic and financial analysis discussion. The recommendations have been divided into three major administrative needs and five major policy needs.

2.6.2.1 Administrative Needs

The requirements for improved economic and financial administration relate to three specific areas: data requirements, planning coordination, and planning quality.

The first recommendation is to improve the data base for EHR planning. Data improvements are required in terms of macroeconomic statistics (especially source and expenditure of Gross Domestic Product), budgeting, educational enrollment projections, unit costs analysis, and manpower demand. The last, manpower demand data, should be based on graduate tracer studies for the reasons cited earlier. The other data on budgeting, enrollments, and unit costs simply require new procedures of recordkeeping and analysis and should not have any dramatic cost implications. Each data base improvement will require a corresponding improvement in the analytical skills of staff and in the availability and use of support equipment.

The second recommendation is to improve the coordination of EHR activities. As soon as is feasible, a manpower coordination committee should be created within the Ministry of National Planing. Membership on the committee should include representatives from the Ministries of Education, Culture and Higher Education, Labor, Industry, Agriculture, Livestock, Health, Finance, and other Ministries and agencies

identified as significant actors in EHR supply or demand. The manpower coordination committee should concentrate on the coordination of both research findings and EHR development policy.

The third recommendation is to improve the quality of research and planning in the individual ministries. The first two recommendations will have little effect if the research and planning activities of the individual ministries are not improved. These departments require additional staff, staff development, equipment, and transportation resources to accomplish their tasks. A special need in the individual ministries is for skill in economic and financial analysis. This skill will be directly beneficial but will additionally facilitate liaison with the Ministry of National Planning and the Ministry of Finance.

2.6.2.2 Policy Needs

The first policy recommendation is to place a priority on quality improvements in primary education. Of all of the available EHR uses for government funds, no activity has as great a potential for positive effects as does quality enhancement at the primary education level. Such an investment should increase access, reduce attrition, enhance the value of a terminal primary education, and facilitate post-primary educational improvements. Quality enhancement at the primary level must involve greater formal education and more intensive teacher training for the primary school teachers. In addition, the availability of instructional materials must be increased.

The second policy recommendation is to restrain access to post-Grade Eight education. This recommendation is a fiscally necessary complement to the first recommendation. Post-primary enrollments should be allowed to increase as labor market demand justifies it or as Somalia's economic prosperity can afford it as a social good. Neither of these conditions is likely to obtain over the next five years. If extra resources do become available, they would be used more efficiently if they were spent on increasing primary school access rather than in expanding secondary school retention. In the long term, post-primary enrollments should be allowed to expand slowly but never at the cost of the quality improvements that will have been made by that time.

The third policy recommendation is that there be a review of the employment guarantees and wage structure in government employment. The present incentive configuration in government employment acts as a potential constraint on the achievement of the administrative recommendations made earlier. These policy issues are especially controversial, and it is inappropriate for this report to sanction one alternative versus another. However, it is obvious that there needs to be a clearer and more consistent system for rewarding the most able and industrious government employees. Whatever changes in employment policy are made, the efficiency of government administration should be a priority criterion.

The fourth policy recommendation is that government reconsider the subsidization program for boarding schools and for higher education. As noted earlier, these subsidies are very expensive in

terms of educational opportunity costs, i.e., the other educational activities that could be supported with these funds. In both boarding schools and higher education, consideration must be given to whether the benefits of these expenditures to the nation are sufficiently great to justify the foregone educational opportunities. In both cases, a policy emphasis should be to reduce the government's almost exclusive role as the source of funds for these activities.

The fifth policy recommendation is that more effort be made to relate the EHR system to Somalia's economic base activities. The EHR system, whether formal, nonformal, or informal, needs to be linked more closely with the pastoral and agrarian activities for the nation. There is a need to discover what education or training (if any) is required in these sectors. Next, there is a need to determine the most effective means of delivering this education and training to the client population. At present, a serious imbalance exists between the large scale of the traditional economic sector and the small scale of government EHR activities related to it.

The recommendations presented here must be taken as conditional and tentative. This economic and financial analysis, like the EHR assessment process in general, is only a first step in what should be an ongoing examination of EHR programs in Somalia.

This analysis has studied the evaluation and training programs in terms of their present status, the constraints on their operation, and their opportunities for increased internal and external economic

efficiency. Without doubt the Somali economy and EHR system face some very real and dramatic constraints. However, the government and people of Somalia also have some very significant opportunities to make improvements over this decade. This economic and financial analysis has tried to point the way to some of these opportunities. It is crucial that steps be taken now to prepare the nation for the increased challenges of the next decade.

3.0 MANAGEMENT

3.1 INTRODUCTION

Management capacity has been recognized in recent years as an increasingly important part of the education and human resource system. The administrative and management skills of a nation's public and private sectors are a major resource for development activities. Unfortunately, in many developing nations an inadequate management capacity is a major constraint on such activities.

In this section, management issues in Somalia will be addressed in terms of the status of the management training system, the evidenced needs for management skills, and present alternatives for the promotion of improved management. The analysis reviews the existing constraints on management training programs now in operation. The section concludes with a set of recommendations for the research and administrative analysis required to create a knowledge base from which long-range management training plans may evolve.

For the purposes of this assessment, managerial capacity is defined as the ability of an individual, a group, or an organization to acquire and use resources (material and human) to achieve individual or collective goals. The terms "management" and "administration" will be used interchangeably. While the management issues extend into the informal private sector of the economy, the focus in this discussion will be on formal managerial responsibilities in the modern public and private sectors.

3.2 STATUS

The status review includes an overview of current management with an emphasis on constraints in the system. This is followed by a description of training programs and institutions.

3.2.1 Current Management in Somalia

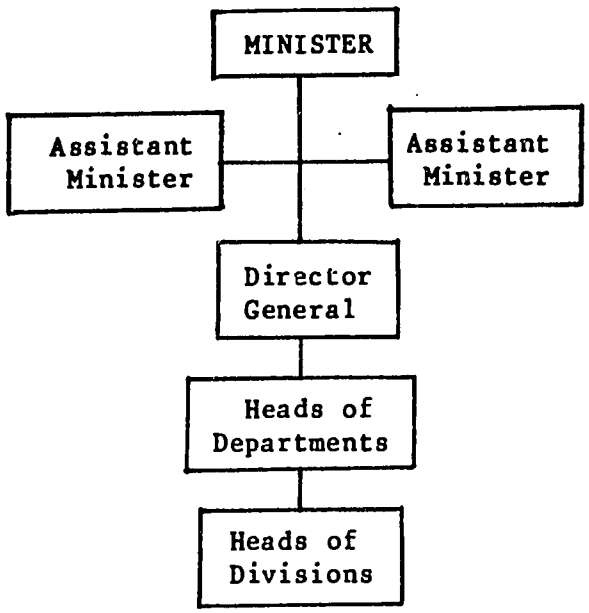
The major constraints on efficient administration in Somalia emerge from three sources. The first is the lack of managerial training among those individuals in the public and private sector. The major source of training or education is through on-the-job experience. All management expertise is developed from a combination of intelligence, formal training, and experience. In the Somali context, an excessive dependence has been placed on the first and last sources of management capacity, and not enough emphasis has been placed on formal training. Intelligence and experience can compensate for a lack of formal training, but this is an inefficient means for developing administrative skills. Intelligence and experience are mandatory complements to training in management; they are rarely adequate substitutes for it.

The second major constraint on management capacity is the incentive system within which the manager operates. The recruitment, promotion, and salary systems of the public sector are not related adequately to a merit or performance basis. Low wages in the public sector reduce motivation and increase the need for personnel to find supplementary income opportunities. These supplementary opportunities may reduce the time or effort invested in their managerial tasks.

Another weakness of the incentive system is the lack of explicit goal definitions for managerial units. Even an informal system of management accountability requires a clear statement of the criteria against which performance may be assessed. Where these criteria are nonexistent or excessively vague, accountability cannot be introduced into the incentive structure.

The third major constraint is the state of technological advancement. In Somalia, the use of the new information technologies is at a very low level. The emergence of low-cost, high-capacity microprocessing equipment makes possible the consideration of upgrading this management resource. The informational technology can play a direct role in management by increasing individuals' abilities to process and use data. In addition, the same technology can be used to upgrade the management skills of personnel through programmed learning materials. At present, even basic calculating devices are in short supply. This means that the management system has to be prepared for a major shift forward in the use of managerial support equipment. Careful planning will be required to prepare staff for this transition.

The structure of management in most ministries is as follows:



This hierarchal system is an efficient one only where the middle-level management personnel (Heads of Departments and Heads of Divisions) have the ability to carry out their responsibilities without undue recourse to the higher level administrators. Unfortunately, it is common in certain ministries for much day-to-day decision-making to be shifted to the level of the Director-General and, in some case, even to the Assistant Ministers or the Minister.

This process has several extremely negative effects. First, it creates delay as management decisions are postponed until the higher level administrator is available to make them. Second, the decision-maker is more removed from the actual activity being considered and, thus, is likely to be less well informed on details than is the lower level administrator. Third, the requirement to make these lower-level decisions reduces (if it does not exclude totally) the ability of the

higher level administrator to deal with the larger managerial issues of inter-departmental concern and to engage in the long-term planning activities that are the appropriate concern of the senior administrator. A final problem with this form of administration is that it does not provide the middle-level managers with the experience necessary to prepare them for more responsibility later in their careers. The problem is not that the system is hierarchical, but that there is not an efficient allocation of decision-making responsibility among the various levels. The present allocation may exist because of a desire for a concentration of authority at the top levels but appears more likely to be a result of inadequate management training at the intermediate levels.

3.2.2 Goals and Strategies

The Five Year Plan, 1982-1986 (FYP) lists eight major constraints which have impeded economic performance:

(1) the shortage of skilled labor and personnel with technical and managerial skills;

(2) lack of financial resources;

(3) an inadequate system of price incentives, including wage compensation as well as prices for commodity inputs and outputs;

(4) a weak data base;

(5) inadequacies in infrastructure;

(6) weak institutional structures;

(7) lack of spare parts and equipment; and

(8) poor maintenance.

Each of these constraints acts as a a barrier to the efficient development and/or use of managerial capacity. Special attention in the FYP is directed toward improving the efficiency of private-sector participation.

The management activities of the FYP are not dealt with collectively but exist as individual strategies for each ministry. One of the problems to be addressed later in this review is the lack of coordination among the various management training activities. Extensive economies of scale exist in the provision of middle level management skills, and these economies are not captured adequately by the present decentralized system.

The public sector manpower requirements for administrative, management, and executive officers are expected to grow from 1,292 in 1982 to 1,575 in 1986 and to 3,434 in 1990. Private sector requirements for this same category of worker will be 35 in 1982, 43 in 1986, and 94 in 1990. These requirements are for new workers and do not include administrators or managers already serving in the public and private sectors. The Ministry of Labor has under consideration a study of public sector employment; the study would encompass a training needs assessment to include both the development of new managerial personnel as well as the upgrading of current personnel.

The FYP includes, as a Category A project (one for which funding has been identified), the Terminal Phase III program for the Somali

Institute of Development Administration and Management (SIDAM). This project will provide advice and assistance to government on the development of the managerial cadre needed for continued national socio-economic development. The focus will be on the management needs of the central and local governments, public enterprises, and major development projects. The last is an especially important activity given Somalia's record of delayed implementation of certain externally funded development programs.

The SIDAM FYP program is not yet fully operational but would include a survey of management problems and needs at the central, regional, and local levels of the public sector. The survey will identify major constraints to effective public management, establish the number of managers to be trained, and result in design of the training programs in terms of purpose, content, and extent for each managerial group.

The goal of the project is to establish SIDAM as the central coordinating agency for management development and consultancy. This will be achieved through an upgrading of SIDAM's own professional staff and through the promotion of consultancy and research work.

3.2.3 Programs and Institutions

Technical and professional training, of which management development is a part, was offered at 29 institutions in 1981, up from 19 in 1979. English is the usual medium of instruction, and approximately 5,000 students are involved at all levels. Programs are

normally from one to three years in duration although certain of the management programs are less than one year.

These institutions address themselves to very different groups of the school age and adult population and offer different curricula. The Somali Institute for Development Administration and Management (SIDAM), in Mogadishu, provides in-service training in management, administration, clerical, and secretarial skills. The Central Bank together with the banking sector runs a Bankers' Training Institute. The Ministry of National Planning maintains an Institute of Economics and Statistics. There is a National Telecommunications Institute attached to the Ministry of Posts and Telecommunications. The Ministry of Health is responsible for the Post Basic Health Training Centre, two Nursing Schools (in Mogadishu and Hargeisa), and the Health Personnel Training School. The Ministry of Livestock, Forestry and Range operates the School of Animal Health and, through the National Range Agency, the Range Management School. The Institute of Commerce operates as a part of the Technical Teacher Training Institute. There is one specialized institution for marine professions under the Ministry of Fisheries (the Marine and Fishery Institute). In addition, there are the Mogadishu Polytechnical Institute; the Hargeisa Technical School; the Burao Technical Institute; the Technical Institutes in Dujuma, Kurtunwarey, and Sablale; and two further vocational training institutions.

The importance of management skills to the overall curriculum varies dramatically among these programs. In addition to the above programs, the Somali National University offers programs in Economics

and in Law, both of which have management aspects to them.

SIDAM, founded in 1965, currently averages approximately 1,000 students per year. The major courses of study are accounting, industrial management, general management, and development administration. SIDAM also offers a course of study in commercial and secretarial skills. Private sector students are allowed to attend SIDAM, and last year 40 percent of the students in the secretarial courses were from outside government service.

Courses are also offered in English and French language skills. Table 3.1 indicates the number of enrollees in SIDAM as of January 1983 and the graduates of all programs during 1982. The language courses are the largest single source of enrollment. Short-term courses normally enroll more than twice the number of students in the long-term courses of study. The level of enrollment in the post-graduate program remains small.

Staffing at SIDAM is characterized by an inadequate number of Somali professionals and a scarcity of instructors with graduate degrees. The ratio of senior to junior staff is 1:5.

An IDA project for $US 2.2 million has been initiated between SIDAM and the School of Business and Administrative Services of the California State University at Fresno, California. The project will last through March, 1987 and will provide funds for staff development and technical assistance for administrative, managerial, and executive education and training.

TABLE 3.1

SIDAM ENROLLMENT AND GRADUATES

January, 1983

COURSES	ENROLLEES	
	January 1983	Graduated 1982
1. LONG COURSES		
Post-Graduate	31	26
Undergraduate	140	94
SUB-TOTAL	171	120
2. SHORT COURSES		
4 months		24
3 months		33
2 months		94
1 month		64
Less than one month		56
Conferences, Seminars, etc.		40
SUB-TOTAL		311
3. LANGUAGE COURSES		
English & French		225
TOTAL	171	656

The National Telecommunications Institute, in its third year of operation, provides a three and one-half year curriculum consisting of two years of basic studies, six months of language studies (English), and one year in a specialization. Entrants must be secondary school graduates and have completed their National Service. Students are admitted to the program on the basis of the University Entrance Examination. For the most recent admissions class, sixty students (including eight women) passed the exam with scores ranging from 168 to 243. The median score was 170, however, indicating that these students performed less well on the exam than those who were admitted to the University faculties.

The staff consists of thirty Somali instructors and nine expatriates. The Somali personnel comprise sixteen graduates of the Somali National University and fourteen other staff who have some (usually two years) post-secondary training. The expatriate staff in 1983 consists of five experts, two assistants, and three volunteers. The nationalities represented are German, American, Napali, and Indian.

The Institute operates on a six-month semester, and students are scheduled for 46 hours of coursework and study per week. The program is supervised by the Ministry of Posts and Telecommunications, and the graduates join the Ministry after completing their training. The Institute has received equipment and technical assistance from the International Telecommunications Union.

The Institute of Commerce is supervised by the Ministry of Education as a part of the Technical Teacher Training Institute. In

1983, thirty new students, including five women, were admitted to the Institute on the basis of the University Entrance Examination. Scores for the new entrants ranged from 183 to 311 with a medium score of 202.5. The scores were significantly higher than those of entrants to the Telecommunications Institute.

There are currently eight instructional staff at the Institute of Commerce. These are two Somalis and six expatriates (two American, two Sudanese, and two Indian). Four of the expatriates have post-baccalaureate degrees. The Somalis have bachelor degrees, one in Math and one in English.

The training program consists of three years of academic study. There are nineteen weeks in each semester, thirty-six periods of fifty minutes each per week.

3.3 GENERAL MANAGEMENT NEEDS

In this section, the various requirements for improved management and management training will be discussed. The categories which need to be reviewed are:

(1) Data Needs
(2) Social/Institutional Reform
(3) Staff Development Planning
(4) Informational Technology
(5) Training Materials
(6) Planning and Coordination

3.3.1 Data Needs

The first major informational requirement for better management planning in the area of training is on the career outcomes for

graduates of SIDAM and the other training programs. There is a need to assess the value of training in terms of its applicability to the work tasks assigned to graduates. At present, no discussion of either internal or external efficiency is possible because the detail of resource allocation, costs, and training outcomes are lacking.

The second major informational requirement is for a needs assessment of management in public and private sector activities. It is unclear, at present, whether the major needs for Somali are in general management skills or in specific technical and clerical areas of training. The training programs in management, such as SIDAM's, were originally designed to meet specific needs. It is now time to reassess these needs, identify the training required, and to decide whether the existing training programs can be adapted to meet these needs.

3.3.2 Social/Institutional Reform

One of the striking features of the Somali governmental process is the need for greater institutional capacity for management. This capacity is constrained by the organizational structure of the ministries and other government agencies and by the incentive patterns within which managers and administrators must work. In the larger society, the need for greater encouragement of individual responsibility and private sector initiatives remains strong.

Management training is a necessary but far from sufficient condition to improve management practice. Government recognizes the

need to restructure incentives both inside and outside the public sector. In addition, administrative accountability must be introduced as a consistent expectation in all government agencies. Without these social/institutional reforms, little will be gained from the expansion of management skills.

3.3.3 Staff Development Planning

It is mandatory that the public and parastatal organizations recognize staff development as a basic obligation of their enterprise. This responsibility can be fulfilled through a combination of in-service, short-course, and long-course programs. The emphasis, however, should be on the planning of staff development such that minimum disruption of the institution's operation occurs.

Staff development planning presupposes an understanding of management responsibilities and training needs. It is unlikely that this understanding exists in most agencies. It will be necessary for each agency to identify one individual as primarily responsible for staff development activities. With the assistance of Somali and expatriate personnel, each agency should prepare a five-year, staff-development plan. The plan should identify what type of training is required, who will receive it, and where, for how long, and of what content the course of training will be.

3.3.4 Informational Technology

Improved informational technology is not a substitute for

management skills. It is, however, an important complement to them. By expanding the range of management control, it facilitates the ability of the able manager to administer a wider range of responsibilities. This is valuable for Somali for two reasons.

First, the present shortage of trained management personnel means decision-making responsibility is highly concentrated. This results in delay and an increased probability that decisions may be made on the basis of inadequate information. The informational technology now available can reduce time and increase access to data.

The second reason for the value of informational technology in Somalia at the present time is that the training of managers will result transitionally in an increased burden for present administrative staff. As personnel are removed from service for training, the remaining administrators temporarily will have to absorb more responsibility. Use of information management systems will allow this to be done at a minimum decision-making cost.

The advantage of the current generation of microprocessors is that the training required to use them can be accomplished in a short period of time. This, when combined with their relatively low initial cost and maintenance, makes microprocessors ideal tools to enhance managerial capability in Somalia.

3.3.5 Training Materials

While a variety of management-related courses now exist in Somalia, there has been no systematic attempt to develop and maintain a

set of training materials. This is an appropriate responsibility for SIDAM; the training materials collected should cover other institutions as well, however. It is inefficient in a nation the size of Somalia not to have greater standardization of course materials.

Assistance should be sought from National University of Somalia personnel and from expatriates in the development of course materials. The alternative of programmed instruction should be explored as a means of increasing the in-service component of management education.

3.3.6 Planning and Coordination

Management training needs in Somalia are especially dramatic at the present time but may be expected to continue as long-term characteristics of the education and human resources system. Both the short- and long-term dimensions of management needs require coordination and planning. Although SIDAM has been given responsibility for these tasks, its authority and its resources are inadequate for fulfillment of this responsibility.

There is a need for greater coordination among the ministries and between the public and private sectors in planning for and conducting management training. If SIDAM is to have this responsibility, it must be provided with the authority to assess management needs and to design training programs. This activity should be based upon the staff development plans prepared by each government agency.

Placement of students, evaluation of programs, and analysis of

graduate success are tasks which could be assigned to SIDAM if appropriate increases in resources could be made. Without increases in staff and financial resources, SIDAM will remain unable to accomplish its present tasks, let alone the additional tasks of planning and coordination.

3.4 PRIVATE-SECTOR MANAGEMENT NEEDS

Within the general assessment of education and human resources requirements in Somalia, one of the more difficult tasks is to specify the nature and extent of the human resource requirements for private sector development. Besides having to contend with the normal methodological problems of fitting change in educational supply to the demands of a productive section, there is uncertainty about what the shape and size of the private sector will be over the next decade. The problem of private sector development in Somalia is especially complex. Government remains committed to the maintenance of "scientific socialism" and, more importantly, has not endorsed any reduction in administrative centralization. Much will depend upon government's plan for privatization and government's ability to create the facilitating structures and incentives necessary to make modern-sector privatization work in what, until now, has been a difficult environment.

Countering these constraints are the long-standing traditions of individualized (even if within the extended family structure) economic organization in the pastoral and agricultural communities and the high degree of entrepreneurial adaptability of the Somali population. Many

of the problems which resulted in the failure of the public food marketing monopolies were due to the fact that the Somali farmers and herders were able to identify and adapt to alternative economic opportunities in a relatively short period of time.

For agriculture and pastoralism, the largest private sectors in Somalia (and they will certainly remain largest throughout the 1980s), the education and human resource requirements will remain largely what they are now. There is a need for expanded literacy and numeracy to expedite communication, government extension and health programs, and to facilitate economic exchange. In the emergent area of agro-business, more complex human resource skills may be required in such areas as agriculture (especially soil science and water technology) and management.

Although the present small size of the non-agrarian private sector makes forecasting of growth especially hazardous, the following seven areas appear to hold major potential for privatization:

(1) agriculture/livestock marketing,

(2) fishing,

(3) small manufacturing/import marketing,

(4) local construction industry,

(5) leasing/joint ventures,

(6) multinational corporate ventures, and

(7) divestiture of state-owned enterprises.

Each area is discussed in turn, and then a summary assessment is made of the management implications for facilitation of privatization in these areas.

The ending of the government monopolies for agriculture and livestock marketing have created a potential opportunity for a return to the extended private marketing system of the past. The requirements for licensing from government and for funding (either from the government monopoly banks, external sources, or via extended payment terms from the producers themselves) have restrained this activity in the last twelve months, but privatization of this activity appears secure for the immediate future.

The fishing industry is generally acknowledged to represent one of the greatest unexploited resources of the nation. The nascent fishing industry is currently dominated by foreign activity and by the cooperatives, but increasingly the individual fishing operations have gained in importance. The lack of a fishing tradition among the Somali population and the scarcity of venture capital for boat and equipment purchases are the major limits on this activity. If fishing does begin to grow, a need will emerge for a marketing sector similar to that now existing for agriculture and livestock. A concomitant increase in the demand for management skills may be expected.

Most studies of Somalia have not emphasized small manufacturing either as a major area for private growth or as a means of reducing trade deficits via import substitutions. If protection is provided from unfair competition from public enterprises and if licensing and tax treatment are supportive, there should be a substantial potential for creation and growth of small manufacturing concerns.

Another area of underestimated potential is the construction

industry. Limited severely by economics of scale in operations in most parts of Somalia, there is a great pent-up demand for housing. The challenge to the industry will be to find the resources to produce housing of a scale and price suited to the increasing urban population. Construction on government and donor projects and on housing for expatriates has created a distortion in the housing market away from long-term needs. The local construction industry may require a degree of "infant industry" protection in order to reach a scale which is economically viable.

Leasing and joint ventures are especially attractive opportunities for the hotel and restaurant sector, tourism generally, and for new agro-business initiatives. This category of privatization is more amorphous in that it is a technique for privatization rather than an actual area for private investment. Also, the leasing and joint venture operations will normally involve the Somali government and an external private investor. The effect on internal privatization is uncertain and dependent upon the business procedures of the external investor. As a minimum, such business activities should provide some on-the-job management training for Somalis.

The same questions of local participation and effect would apply to ventures in Somalia by multinational corporations. Given the concerns over nationalization in the last decade, many multinationals have shown a greater reluctance to train local staff beyond the lowest levels of management. The contractual requirements insisted on by government could improve this situation.

The Berg Associates report, "Encouraging the Private Sector in Somalia," warns against any assumption that the state-owned enterprises (SOEs) represent a great source for private sector activity. It is not reasonable to expect government to give up the few profitable SOEs, and the remainder do not appear as viable enterprises for either private or government ownership. An exception that does exist is in the area of banking and insurance. The major problems in these SOEs are not related to demand or technology but have to do with the quality (too low) and quantity (too high) of staffing. If a decision were made to divest the commercial banks and insurance activities, the result should be a marked improvement in the efficiency of these operations.

The implications for education and human resource strategy, generally, and for management training, specifically, from this list of possible areas of privatization are complex. The greatest requirements appear to be for management skills (including personnel management in larger operations), basic accounting, and bookkeeping. These human resource areas extend across the full range of potential private sector activity. Certain sectors, such as fishing, small manufacturing, and construction, would require either vocational technical graduates or the ability to provide on-the-job training in these skills. Other EHR requirements would emerge as the scope and nature of private sector development become clearer. The need for management, accounting/bookkeeping, and skill training, however, is paramount. In their absence, the lack of these basic human resources will act as a constraint on the privatization process.

Any program of human resource planning in support of the private sector should bear in mind that the major constraint on management capacity in Somalia, and thus on private or public sector development, is not only a problem of competence or training but of the management incentives environment. Little will be done in the private sector if there is no liberalization of the existing restrictions on private commercial and manufacturing activity. The human resource needs are concomitant to these needs for basic policy change.

3.5 ANALYSIS AND RECOMMENDATIONS

The justification for an emphasis on management issues, and specifically on management training, is multifaceted. It must be recognized that the demand for management and management training is a derived demand. Managers are required in order to assure efficient implementation and operation of all major public and private sector activities. Often, there is confusion concerning the role of management training within an education and human resource system that has its primary focus on basic skills development. However, the failure to achieve management competency will damage basic skills programs in several ways.

First, the programs themselves require administrative expertise in design and conduct. Second, other EHR programs must be managed efficiently, or fewer resources will be available for basic skills activities. Third, the quality of management of general social and economic development will determine the social and economic capacity of

the nation and, thus, the resources for and the uses that can be made of basic skills. In summary, it is reasonable to accept that Somalia's predominant education and human resource need is for improved quality in the provision of basic skills education and for more equitable access to it. At the same time, one may support a concomitant focus on management training. This focus on management training must cover all three areas noted above: management of basic skills education, management of other education and human resource programs, and management of general development activities.

In this section, the conclusions drawn from the earlier discussions in this chapter, as well as from the discussions of management issues that appear elsewhere in the report, are organized first by three main issues and then by two major areas of recommended action. These conclusions are provisional and based on less than complete data on the Somali management environment. However, the issues and recommendations offer a clear direction by which government can proceed to a more systematic and effective management structure.

3.5.1 Issues

The major issues of management capacity in Somalia are summarized under three headings: status of present needs, status of present programs, and commitment to improved management.

3.5.1.1 Status of Present Needs

No meaningful reform of management can be achieved without

increased information on the nature of management responsibilities and the shortfall between the present supply of managers and administrators and the required quantity of such personnel. As noted earlier, the first step in correcting this data problem must be a management needs assessment.

In addition to documenting the level and nature of unmet management demand, the assessment must identify the appropriate forms of training necessary to reduce the imbalance in supply and demand. A long-term (five-to ten-year) program is required. Any shorter program would be excessively costly to mount, would remove too many managers from active service, and would not produce the permanent managerial training reforms needed.

3.5.1.2 Status of Present Programs

As indicated earlier, there are a variety of training institutions and other organizations whose programs relate directly to management skills. While SIDAM is generally recognized as the leading provider of management training, it, in fact, provides only a small part of the actual management training experiences. Three major types of research are needed on all present programs.

First, a census of formal management training programs should be conducted. Information on students, staff, equipment, programs of study, and destination and success of graduates should be gathered. This information will allow for an initial identification of areas of potential internal and external inefficiency.

Second, detailed analysis should be conducted of the areas where these potential inefficiencies have been identified. The purpose of this analysis is to document the existence of the inefficiencies, if any, and, where they exist, to provide recommendations for removing them or reducing their effects.

Third, policy research should be initiated on the issue of the need for planning and coordination of management training. This research would combine the results of the management needs assessment with the detailed information on the training programs' operations and outcomes. A product of this policy research should be to identify to what extent planning and coordination should take precedence over program autonomy. In addition, the research should inform policy-makers as to the design of a systematic planning/coordination system.

This research need not postpone some initial reforms in the management and management training systems. Greater reinforcement of accomplishment, improved promotion and pay incentives, increased use of information management technology, and more systematic accountability standards are all required for the present management structure. Similarly, there are obvious needs for more training in specific management skills and for formal in-service management training. However, the above research plan is necessary as a basis for the long-term restructuring of management and management training. This long-term reform is the only means by which Somalia's public and private sectors can be prepared for the challenges of the 1990s.

3.5.1.3 Commitment to Improved Management

A major conditioning variable in the management environment is the set of attitudes which exist in the society toward bureaucratic employment and management responsibility. The acceptance of meritocratic rather than ascriptive standards for employment and advancement are a basic condition for organizational adaptation.

Because of Somalia's recent emergence as a modern economy, the development of "modern" attitudes toward organizational structures is still emerging. Fortunately, the Somali population, because of its pastoralist and agrarian history, has developed traditions that combine individual responsibility with social cooperation. This same combination of attitudes will be required to create successful bureaucratic systems in government and effective organizational systems in the private sector.

The question now is how government best can implement its commitment to managerial improvement. The required attitudes must be developed in the highest managerial levels first. Problems of middle level and lower level management are often reflective of the failure of senior managers to practice the administrative standards they espouse for their subordinates. The quality of senior level management in the public sector and in the emerging private sector is surprisingly high given the relative youth of the system. The need is for senior managers and administrators to evidence the commitment to improved management in the design and conduct of their own duties and to monitor the behavior of their subordinate managers to assure similar

behavior at these lower levels.

In addition to this personal aspect of commitment, government will need to show its own dedication to the principle of improved management by creating a structure of coordinated planning and implementation of management training. This will require government to override certain desires for autonomy on the part of individual institutions or even of individual ministries. However, the collective benefits of coordination are such that it will be a serious error to allow bureaucratic self-interest to predominate.

3.5.2 Conclusions and Recommendations

In the area of management, an unfortunate imbalance exists between information and importance. Management capacity is among the most important issues in any country's development plan and is an especially compelling issue for Somalia in the 1980s. The emphasis within the education and human resource system in Somalia has been divided between a primary focus on access to basic skills education and a secondary emphasis on the promotion of vocational and technical training opportunities.

As was discussed earlier, management education is a derived demand but a crucial one, nevertheless. A recognition of its importance is the first step toward the improvement of Somalia's management capacity. The next step is a commitment by government and civil service personnel to reform and restructure the present

system of management and of management training. Somalia has the advantage of an intelligent and industrious cadre of professionals, but optimizing this advantage depends on the timely accomplishments of structural reform.

The recommendations for improvement of management and management training are divisible into two major categories. Within each priority category a selection of specific recommendations is presented. As these recommendations are based on the earlier discussion, only brief summaries are presented here on each.

3.5.2.1 First Priority - Creation of Base-Line Information: Recommendations 1-3.

Recommendation 1: Conduct Management Needs Assessment. Little useful long-term reform can be achieved until more information is available on the supply and demand of management personnel and the nature of skills required.

Recommendation 2: Conduct Incentive Analysis of Civil Service Employment. As a complement to the needs assessment, an identification of the incentive configuration within which managers work is mandatory. Knowledge is also required of the general social and institutional context within which the civil service operates. The purpose of this analysis is to identify potential constraints and to develop opportunities for positive change.

Recommendation 3: Conduct Reviews of Training Programs. As detailed earlier, the paucity of information on current training

programs is such that neither internal nor external efficiency can be assessed with confidence. These considerations are paramount to reform of the training system and to decisions to increase the size and/or number of training institutions. A special dimension of this review is to analyze the appropriateness of the curricular methods and objectives of these programs in the light of findings of the needs assessment.

3.5.2.2 Second Priority - Programmatic Reform: Recommendations 4-7.

Recommendation 4: Prepare Staff Development Plans. Each ministry and major government agency should be required to have a detailed staff development plan. The plan should identify skill needs, training requirements, and the plans for providing the necessary training in either in-service or full-time programs.

Recommendation 5: Prepare Equipment Acquisition Plan. Each ministry and major agency should assess the opportunities for the use of management support equipment. This assessment should include the need for training of equipment operators. If ministry or agency staff are not competent to conduct this assessment, government should be prepared to provide technical assistance from its own or expatriate personnel.

Recommendation 6: Create Central Coordinating Agency. Government should create or identify an agency to be responsible for the planning and coordination of both management assessment and management training activities. This agency should be provided with adequate funds and authority to meet its responsibilities.

Recommendation 7: Develop a Systematic Use of Donor Assistance for Management Support. The coordinating agency, once created or identified, should work with donors to develop an integrated program for management reform and planning. This work must be closely linked to the work of the Ministry of National Planning. At present, donor support is provided for management on an uncoordinated basis and has had little effect. The research and reform programs suggested here undoubtedly will require the use of expatriate technical personnel. This also needs to be coordinated to avoid redundancy and to promote efficient use of these resource persons.

4.0 LANGUAGE ISSUES AND EDUCATION

This section highlights several issues of language use in the education and human resource sector which affect the system's external and internal efficiencies. Fuller discussion of these issues and their implications for education and training occurs in the subsector analyses that follow. To provide some context for the current situation of language diversity and fragmentation in the EHR system, the section also reviews the development of Somalia's language policy and practice. Finally, it offers some recommendations for language strategies to support human resource development, the rationales for which appear throughout this report.

Instruction within the country's education and training sector currently requires enormous linguistic and instructional resources. While Koranic education uses Arabic, primary schooling and general secondary schooling use Somali.

Most vocational and technical education is in English. The majority of the faculties at the National University of Somalia use Italian as the medium of instruction. However, Lafole College of Education, which prepares secondary teachers who will work in Somali, uses English.

The principle language problems emerging in this assessment are the following:

- loss of time and expense resulting from periodic need to retool in a different language prior to successive levels of education or training;

- instructional inefficiency resulting from use of language without student or, sometimes, teacher fluency;
- redundancy or inadequacy of curricular materials due to language shifts;
- weak fit between language of instruction and further study and/or work; and
- limited availability of means for teaching the various languages.

Somalia's chief need in addressing these problems is to establish a coherent, long-term policy for language use and language teaching in the nation's schools and training institutions. With resources stretched thin, it is unnecessarily wasteful to create educational materials only to have to scrap or revamp them because of changes in policy. A rationalized language policy will reduce expenditures for manpower and time in preparing the basic school curricula and in providing special courses to teach students the languages they need to continue their education and training. Such a policy also will enable government to deal with foreign donors in terms of that policy.

The principal recommendation is to reach promptly a well-planned decision about which language(s) to use for specific programs of study and which one(s) to use at each level of the educational system. The selection of external language(s) should be made in view of the language's relative ability to enhance access to work, to further study, international communications, scholarships, and commerce, wherever appropriate. An integrated curriculum then should be developed that anticipates any changes in language of instruction by

providing training in that language as a school subject for several years before the switch occurs. Supplemental means for language instruction, such as radio and volunteer instructors from international or bilateral agencies also should be encouraged.

4.1 HISTORICAL SETTING

In the years since independence, Somalia has had to deal with two major language issues that have important consequences for its educational system. They are:

1) choice of a script for writing Somali, and
2) determination of the role Arabic, English, and Italian should play in the educational system and the communication system of the nation.

After a period of indecision that lasted for the duration of the first independent regime, the script question was finally settled in 1972. Development of the educational system could not begin in earnest until it had been resolved. The decision about which external language(s) to use as the main vehicles of higher education and international or commercial communication is not yet firm. All three are currently in use with somewhat different but overlapping functions in the total communication context of the country. As a result, there is duplication of educational materials that the fledgling educational system can ill afford.

4.1.1 A Script for Somali

Among African nations, Somalia is fortunate in having a single

language for its population. Ninety-five percent of Somali nationals speak Somali, generally as their mother tongue.

There are three main dialects of the language. Northern Somali is the one that is becoming the accepted standard. The southern dialect spoken in pastoral and coastal areas is similar enough to the northern form to be readily intelligible. However, the dialect of Somali known as af may-may which is spoken in the more agricultural interriverine area of the Bay Region is different enough to create some difficulties for understanding. Radio broadcasting in Somali began in 1941, using the northern dialect; over the following thirty years, the radio was an active agent in standardizing the language and enlarging its vocabulary for modern use.

Somali is, first and foremost, a spoken language. Somalis pride themselves on skill in speech and on their tradition of poetry composition and recitation. Through poetry, Somalis record their history, celebrate important events, transmit news, and rally popular sentiment. Skilled memorizers and reciters preserve the Somali oral poetry heritage, and even in modern times, activists express their views in rich and metaphoric Somali verse. Perhaps because the oral language has been so strong, Somalis did not rush to choose a script.

A standard writing system for Somali was a key element in unifying independent Somalia. The choice of a script, however, was a hotly disputed issue. The major split was between many of the modern intelligensia, who favored some form of Latin script and orthography,

and groups of religious conservatives and of nationalist youths who opposed a "Christian" or a colonialist script and favored either an adaptation of Arabic script or one of several "national" scripts intended for the Somali language. Because the Arabic script is inadequate to represent Somali vowels and must be modified to write Somali intelligibly, some devout Moslems considered the modifications sacrilegious and preferred one of the invented scripts instead.

The first independent government immediately convened a script committee but permanently shelved the report it produced in 1961. After the 1969 revolution, still without announcing a script decision, government set up a second committee to write elementary school texts and a Somali grammar and dictionary. After some initial hesitation, this committee, which included some members of the 1960 group, carried out its task. On October 21, 1972, on the third anniversary of the revolution, the new script was announced with a dramatic gesture--helicopters overflying the celebrating crowds in Mogadishu dropped colorful pamphlets containing the text of the president's speech, written in Somali in Latin script. During the following year, a literacy campaign was mounted in Mogadishu, first for government workers, then for the urban population. In 1974-75, it was followed by a country-wide literacy and rural development campaign, commented on in Section 13.0.

During the same year, government also reduced the primary school cycle from eight to six years, hoping to achieve educational economies

through the use of Somali, rather than a foreign language in the school. Between 1974 and 1976, a series of primary school texts designed for the six-year cycle were prepared in Somali. The shortened cycle proved to be inadequate; in 1979, it was lengthened again to eight years, with the result that the primary school texts and curriculum are no longer fully coordinated.

4.1.2 The Role of Arabic, English, and Italian

Arabic, English, and Italian have all played roles as colonial languages in Somalia. Egyptian attempts to bring Somalia under its domination predate the establishment of British and Italian colonies. While Arabic is important as the language of the Koran and of trading partners of the Gulf States, some have hesitated to encourage its spread too much, lest it ease the way for undue Arab influence. English was the language of administration and of post-elementary education in the British colony in northwestern Somalia. Arabic was used in the early grades. Italian played a similar part in the southern Italian colony, although there instruction started in Italian from the very beginning.

The two colonial education systems produced a small Western-educated intelligensia. Some of its members had studied under the British system and spoke English; others had had their university training in Italy. A third group, many of them from the north, where British schools had taught Arabic, pursued their education in the

universities of the Arab world. At independence, Somali intellectuals were linguistically divided into three groups: those who spoke English, those who spoke Italian, and those who spoke Arabic.

At independence, Arabic, English, and Italian were made co-equal official languages in Somalia for written records and education, since there was no official script for Somali. Somali was used for parliamentary debate and as the official spoken language. As a result, officials who had no difficulty in speaking together sometimes could not write to each other or read the same documents.

Although complete unification of the two colonial education systems had to wait for resolution of the script issue, interim steps were taken during the 1960s. A unified curriculum for northern and southern primary and secondary schools was developed. In 1965, a UNESCO commission recommending that English be used for university education noted the lack of standardization of language use in the secondary system. In addition to English in the northern schools and Italian in the south, several of the secondary schools used Arabic as the language of instruction.

4.2 THE CURRENT SITUATION: DISJUNCTURES BETWEEN POLICY AND PRACTICE

The adoption of a Latin spelling system for Somali made it possible to simplify Somalia's language policy and to Somalize the education system. Today Somali and Arabic are the two official languages. All government employees must be literate in one or the

other. English and Italian, although not official languages, are used for special functions--English as a language of commerce, technology, and international communication; and Italian for certain legal and administrative purposes.

Somali is the language of instruction throughout the primary and general secondary schools. It may also be used for lectures at the University. The government strongly encourages children four to six years old to spend two years in Koranic school before entering first grade, and Arabic is taught as a school subject from first grade onward. It is also used to teach religion in government schools. English is added as a school subject in secondary school, while Italian has been dropped completely at that level.

A number of post-primary schools in Somalia, notably most of the vocational and technical schools and some specialized institutions, such as the National Range Management Institute, use English as a medium of instruction. They must provide, therefore, an intensive English course for incoming students. The alternative of switching to Somali instruction in technical schools does not look feasible in the near future; the job of translating the texts and course materials is prohibitive, and other translation and printing tasks take priority. Another response to the problem would be to introduce English as a subject, starting in Grade Five, so that students will have some introduction to the language before secondary school. Various education planners urge this as a priority upon the completion of texts and syllabus materials for the current curriculum.

Knowledge of Arabic has practical as well as religious value. Many Somalis find lucrative work in the Gulf States, where knowledge of Arabic stands them in good stead. A few continue their education in universities of the Arab world. A notion to promote and expand the teaching of Arabic throughout the primary and secondary schools is under consideration. This is linked to the interest of the Arab League Educational, Scientific and Cultural Organization (ALESCO) which would like to see Arabic language training as a condition for a major educational assistance program.

Language use at the university also owes more to pragmatism than to planning. In the mid- and late 1960s, the beginnings of Somalia's national university were embodied in a Faculty of Law and a Faculty of Economics, developed from two Italian post-secondary institutes, and the National Teacher Education Center (NTEC), an institution for teacher training established by Eastern Michigan University through USAID support. Italian was used at the law and economics faculties, English at NTEC. When government sought assistance for establishment of a full-scale national university, English-language donors did not offer adequate support, while Italy made a generous offer which was accepted. Of the twelve faculties that now comprise the University, nine use Italian as the language of instruction and three, the Faculties of Languages, Journalism, and Education (which is an outgrowth of NTEC), use English. The Italian-language faculties are technical or disciplinary schools and relatively small in size. The Faculty of Education offers a multi-disciplinary curriculum

modeled on the liberal arts college and receives over 45 percent of the incoming students. In all, approximately 45 percent of the students study in English.

There is no simple resolution to the language question at the University. As stopgaps, the University offers a pre-enrollment semester (soon to be two semesters) of intensive Italian for students who will need it, and it allows Somali instructors to lecture in Somali. Possible alternative long-range solutions would be:

- to move toward an all-Somali university--a move that would have the unfortunate effect of isolating the institution from international research and scholarship and of restricting students' access to further higher education;

- to move toward an all-Italian university. This, however, is not practical in the long run in view of Somalia's close proximity to the English-language universities of Eastern Africa, and orientation toward the Arab world which uses English as an international language;

- to move toward an all-English university. Although this has many practical advantages, doing this may not be feasible until Somalia can support its university without Italian aid, which has been substantial. (See Section 10.0 on Higher Education.)

The present course seems to be to live as well as possible with the status quo, at least until the university is completed. However, longer-term considerations will require rethinking the University's language policy based upon an assessment of advantages, limitations, and cost.

4.3 PROBLEMS AND ISSUES

To maintain links with the outside world and with her own past,

Somalia will need to retain Arabic, English, and Italian to some degree as languages of external communication--of commerce, technology, and scholarship. At the same time the nation must continue to promote the Somali language and produce written materials in it to maintain national unity and to assure all Somalis of access to government services and a chance to participate in building their country. Because a long-term language policy could not be implemented until 1972, Somalia has had an unusually short time to develop a coherent plan for the use and teaching of its languages. Some of the discontinuities evident now are the growing pains of a developing policy. Nevertheless, indeterminacy creates problems and leads to expensive and inefficient activities that the country can ill afford. Specific problems include:

- the need to pause at several points in the educational cycle (e.g., at entrance to technical secondary school and the university) to "retool" linguistically. This is expensive in terms of students' and teachers' time, materials prepared for a limited audience, and delays in producing trained manpower;

- instructional inefficiency at various education levels resulting from use of a language in which students, and sometimes teachers, are not fluent;

- vacillations in the school curriculum to accommodate changes in school language policy, leading to redundancy or inadequacy of instructional materials. Curriculum development and the preparation of materials for the basic school courses has proceeded slowly. Unnecessary changes can render past work inappropriate or useless. This inefficiency is costly and a drain on available professional expertise. The proposal to greatly expand the teaching of Arabic could have consequences of this sort;

- limited availability of means for optimal language instruction.

To begin to solve these problems, policy makers and planners have to resolve two underlying issues:

1. Is Somalia going to move to an all-Somali educational system through the university level? If not, where will the switch in language of instruction occur, and to what language? In deciding these matters, major considerations are:

   - internal access: Who will be able to enter the system or continue to the next level? Will entrants have been prepared linguistically by their prior schooling for the language of instruction at each level?

   - affordability: What are the costs of materials and text preparation or revision? Can use be made of existing materials?

   - external access: Which language(s) will afford the greatest access to international commerce, technology, research, and scholarship?

2. Which of the three international languages is it practical to retain? What are the long-term priorities? Over the long run, what purposes will each serve?

4.4 CONSTRAINTS TO LANGUAGE PLANNING AND LANGUAGE DEVELOPMENT

Adoption of a script for the Somali language was an essential first step in laying the groundwork for a national language policy for education and national integration. There are still a number of serious constraints to development and implementation of a coherent national language policy. The primary constraints are:

- the heritage of colonial division into a southern Italian-language colony and a northern English-language one;
- the financial, logistic, and sociolinguistic costs of conversion to Somali as the national language and in employing external languages; and
- distortions of language policy by international donors.

The once-sharp differences in language use between north and south have become muted in the last twenty years, as more southern Somalis have recognized the practicality of using English as an international language and have proceeded to learn English. Nevertheless, northerners still lead in endorsement of English as the main international language for Somalia.

The cost of conversion to written Somali constrains language development. The financial cost is perhaps the most obvious. Even though the Latin script requires no modification of existing typewriters and printing facilities, the volume of new materials needed is great: from paper and additional printing facilities, to writers, translators, and editors. Some donor support has been forthcoming for start-up costs. The World Bank has provided funds to expand the State Printing Agency facilities, particularly for textbook production, and UNICEF gives expendable supplies and authorship fees to the Curriculum Development Center of the Ministry of Education.

Less attention has been given to the logistic bottlenecks of expanding printing and distribution. This impedes the advancement of literacy in Somali by slowing the publication of instructional materials. Because there are not enough experienced printers and

printing machinery repairmen to keep presses functioning near capacity, machinery breakdowns lead to long delays in the publication process. There is also no regular distribution system for moving Somali publications of all types outside the capital: no regular shipping routes, no warehouses, no local distribution centers in outlying areas. The national printing effort which is currently run by government might be greatly enhanced through the promotion of private initiatives in this area.

The sociolinguistic constraints may be least well understood. Adoption of a script and spelling system is only the first step in developing Somali as a written language. To forge a unified and standardized written language, several sorts of guides to writing and editing are essential: dictionaries, technical glossaries, stylebooks and editing manuals, and teaching grammars for native speakers of Somali. None of these things could exist until a writing system was chosen. Work in this area has been assigned to the Somali Academy with a small staff and few outside resources. It has published a first dictionary in Somali; it expects to produce one double in size eventually. It is also working on a technical dictionary. Work on grammars is being undertaken at Lafole College of Education, but editorial stylebooks have yet to be compiled. Work to develop dictionaries and grammars requires technical training as well as physical resources. The few people engaged in the current effort are dedicated and hard working, but unless their numbers are augmented, the work could take decades.

A final constraint to development of a consistent, long-range language policy has been the financial incentives involved in using the language of various donors. The general direction of language policy appears to be to use Somali as the national language for internal communication, and starting from decisions reached in the mid-1960s, to use English as the main language of international contact and higher education. Before the establishment of written Somali, Arabic was used as the language of instruction in pre-primary and early primary grades and as the language of instruction for religion courses in government schools. It still is the language of instruction in Koranic Schools and for religion and is taught as a school subject throughout primary and secondary school, but its use in the educational system has been restricted in favor of Somali.

The changes from this policy direction concern the use of Italian and Arabic. Since Italy has been the major donor for developing the National University, government has agreed to the use of Italian as a medium of instruction in it. Since Italian had been dropped from the school curricula, this means that there is no preparation at the secondary level for this usage at the University. Some are encouraging the use of Arabic as a medium of instruction in social science subjects throughout the primary and secondary education system, as a condition for major ALESCO assistance to education.

4.5 CONCLUSIONS

The decision about which language to use at the various levels of

education and training has a decided effect on students' work opportunities and on their opportunities for further education. Development of the Somali script now enables national unification of basic schooling. Arabic is very useful for Somalis who seek employment in the Gulf States. However, English is the major language of international commerce, and of higher education in some Arab countries and in East Africa. It provides access to international scholarship and technical materials and to many job opportunities locally and abroad.

It is important to reach a prompt, permanent, and carefully considered decision about which languages to use for instruction and which languages to teach as subjects in the nation's schools at each level of the educational system, including technical schools, through the University. Much time, money, and human energy has already been expended in hastily preparing materials that were rendered obsolete by policy changes. Although Somalis are renowned for their skills in learning languages, the periodic disruptions caused by the need to train in languages to a sufficient level of fluency is a costly burden to bear.

Curricula in the schools should anticipate any changes in language of instruction by providing training in that language as a school subject for several years before the switch occurs. A consequence of language change which is not properly prepared for in the curriculum is that students, and sometimes faculty, have not adequately mastered the language of instruction, resulting in

ineffective teaching and learning. More materials and texts are needed in the particular languages of instruction.

4.6 RECOMMENDATIONS

The following recommendations offer guidelines for defining the roles different languages should play in the total communication pattern of Somalia and strategies to follow in implementing language policy.

4.6.1 First Priority - Consolidate and Extend the Use of Somali as a Written Language: Recommendations 1-2.

Recommendation 1: Expand Printing, Authorship, and Distribution Facilities for Publications in Somali. Establishment of non-governmental presses and private authorship and publishing should be encouraged. Distribution centers and bookstores can be established in regional and district centers. These should be supplied on a regular basis with Somali-language brochures and informational materials from government ministries and with periodicals, privately authored books, and poetry collections. Making written materials accessible in all regions of the country is essential for maintaining literacy outside major urban centers.

Recommendation 2: Support Development of Dictionaries, Style Manuals, and Teaching Grammars for the Somali Language. The written style for Somali is not yet standardized. Grammar and editing guides are needed to ensure that written Somali becomes and remains a unified national language.

4.6.2 Second Priority - Develop a Long-term Language Policy for Somalia: Recommendations 3 - 7.

Recommendation 3: Move Toward Codifying a Long-term, Consistent Language Policy that Government is Willing to Adhere to in Educational Planning. A possible strategy would be to establish a committee from relevant government ministries and organizations to study the issues and promulgate a long-range policy. The need for a long-range policy is evident from examination of the waste of resources and effort that has already resulted from rapid changes of policy within the school system.

Recommendation 4: Consider Teaching English as a School Subject in Grade Five and Continuing It Through Secondary School. Starting English in Grade Five will provide primary school graduates with an introduction to the language that will help them:

- gain competence more rapidly in understanding the language which is a medium of instruction in technical schools;
- learn commercial English; and
- profit from supplementary English readings at the secondary level, since supplementary readings in Somali have not yet been developed.

Recommendation 5: Consider Maintaining English-medium Instruction in Technical Secondary Schools. The justification for English-medium instruction in technical schools is that manuals and technical literature is widely available in English. Technical experts who know English can keep abreast of current developments in their field.

Recommendation 6: Examine the Possibility of Eventual English-medium Instruction at the University Level. Library materials and research reports in English tend to be more generally available and broader in scope than similar materials in Italian. Few such materials exist in Somali. Many of the University students already study in English. In addition, a good command of English gained at the university level permits graduates to pursue graduate study in a variety of Asian, African, European, and American universities.

Recommendation 7: Consider Continuing to Teach Arabic as a School Subject at all Levels and as the Medium of Instruction for Religion in Primary and Secondary School. Arabic is the language of Islam and is therefore an important choice for students because of its religious value. It also has great practical value for students who want to work in the Gulf states or attend universities in the Arab world.

5.0 KORANIC EDUCATION

This section briefly examines the Koranic school system and its status and relation to other subsectors of the educational system, as well as its role in the larger social framework. The analysis and recommendations focus, in particular, on increasing the capacity of the schools to perform functions secondary to their central mission.

The Koranic schools represent an education system that imparts the values of the Islamic religion to children at a very early age. This occurs in learning the Koran through repetition and recitation. Koranic schools constitute the oldest educational system in Somalia, having been introduced with the arrival of the Moslem religion to the shores of East Africa.

The Koranic schools introduce four important elements of Somalia life: a value system based on the principles of Islam, formal education, the Arabic language, and written script. The imparting of religious principles is the manifest function of the schools. Acquainting the children with formal education and Arabic language and script are their key latent functions.

It is estimated that there are 5,480 Koranic schools in Somalia, about seven times the number of schools with elementary grades. A small number of these were established around the turn of the century, 22 percent were established between 1960 and 1969, and the majority, 67 percent, between 1970 and 1982. The system is expected to continue expanding.

5.1 STATUS

This section reviews Koranic education with respect to its structure and instructional program. It also describes the character of the subsector in terms of its functions, opportunities, accessibility, and management.

5.1.1 Condition of Koranic Education

The Koranic schools are not, in practice, part of the official education system since they are private and not supervised by government, nor are the teachers trained as such. The subsector can best be defined as a "parallel" education system. This unofficial "parallel" system continues to demonstrate a vitality that is evidenced by a continuous increase in the number of its schools.

The schools are staffed by semi-itinerant "teacher scholars" who, almost exclusively, are men. There are a few districts that have a tradition of women teaching in Koranic schools; this represents an interesting precedent for integrating women into the semi-itinerant teacher scholar system. The traditional method of one teacher per school is still followed in the majority of the Koranic schools.

The students who attend the Koranic schools begin at the age of 4 or 5 and may continue until the age of 14. Although girls are encouraged to attend, the percentage of female students does not exceed one-third of the student population. Boys often continue until they are 14 years old, but girls usually stop attending the classes after the age of 9 or 10.

For the nomadic population, the Koranic schools frequently serve as the only form of education, the teachers often moving with their nomadic communities. This adaption of an instructional system to the problems of teaching a mobile population serves as a plausible model for the basic education of nomads, as will be discussed in Section 13.0.

5.1.2 Structure

The Koranic school system nominally falls under the purview of both the Ministry of Education and the Ministry of Justice and Religious Affairs. The communities actually establish the schools through private initiative, however, and are responsible for their management.

The schools are usually composed of one room. They are sometimes built from cement, but often they are wattle huts. In rural or nomadic areas the shade of a tree may become the setting for the school.

The teachers of the Koranic schools are paid by the parents of the students. In urban areas the teachers are paid in shillings, but there are no statistics on their monthly salaries. In most of the rural areas, teachers are paid in kind: commonly goats and cattle, or a camel when the student masters knowledge of the Koran.

Students spend approximately two to three years studying at the Koranic school before joining the primary school. Most of the students continue to go to Koranic school after they join the primary school,

and their schedule becomes divided between the two schools, before noon in the primary school and afternoon in the Koranic.

In 1982, the Arab League Educational, Scientific and Cultural Organization (ALESCO), in collaboration with the Ministry of Education, collected data for the first time on 655 Koranic schools in eight regions of the country. A total of 35 cities, towns, and villages were included. Based on results of the survey, published in January 1983, the estimated total number of students in the Koranic school system may be as high as 356,200. The estimated number of schools is 5,480, an average of 66 schools in each of the 83 districts.

The survey gathered data on enrollment by region and by sex, including the age of the students and the total daily hours that students spent at Koranic schools. Data were also collected on the level of teachers' education, topics taught, and sources of financial support.

The following chart, summarizing selected data from the ALESCO survey, indicates several predominant characteristics of Koranic schools: (1) boys outnumber girls by nearly three to one, (2) younger children outnumber older ones, (3) most Koranic schools are open ten hours per day, (4) few of the Koranic teachers engage in other occupations, (5) nearly ten percent of the teachers have completed primary school, (6) six percent of the schools teach topics other than the Koran--specifically Arabic and/or numeracy, and (7) most schools receive their principal support from the community.

ALESCO SURVEY OF 655 KORANIC SCHOOLS

NUMBER OF STUDENTS	
Boys	31,284
Girls	11,353
TOTAL	42,637
AGE OF STUDENTS	
5-9 years	30,653
10-14 years	11,992
TOTAL	42,645
DAILY HOURS STUDENTS SPEND AT KORANIC SCHOOLS	
10 hours	577 schools
7-9 hours	66 schools
4-6 hours	12 schools
LEVEL OF TEACHERS' EDUCATION	
Memorized knowledge of Koran	655
Islamic studies	593
Elementary Completion	13
Intermediate completion	46
Secondary completion	12
University diploma	5
TOPICS TAUGHT OTHER THAN KORAN	
Arabic language	23
Numeracy	18
SOURCE OF FINANCIAL SUPPORT	
Community	427
Mosque	119
Government	14
Rented	15
TOTAL	575
SOURCE OF SUPPORT OF TEACHERS	
Parents	610
Other	72
OTHER OCCUPATIONS OF TEACHERS	
Agriculture	37
Commerce	4
Legalizing marriage	6
Governmental school teacher	4
Seamstress	2
Guardian	19
TOTAL	72

5.1.3 Programs

The basic program of the Koranic schools is the same throughout the Moslem world, consisting of instruction in the Koran through repetition and recitation. Since they begin with essential verses and chapters, children are expected to memorize the most important sections by the end of the second year. Few Koranic schools teach subjects other than the Koran and its interpretation. Of the 655 schools surveyed, only 23 teach the Arabic language and 18 teach numeracy. This stems from the fact that the vast majority of the teachers are semi-itinerant teacher scholars who are knowledgeable about the Moslem value system and the principles and teachings of the Koran, but do not know the Arabic language themselves. According to the ALESCO survey, fewer than two percent of the Koranic school teachers have a secondary diploma, and fewer than one percent have a university degree.

The materials used at the schools are simple, inexpensive, and widely available. For books and copybooks, there are wooden boards on which students write verses for study. Since the ink is locally made (out of milk, charcoal, and gum) and can be easily erased, the board readily becomes a tabula rasa for a new chapter.

"Graduates" of Koranic schools who want to continue their religious education join the mosque schools. Some of these mosques receive assistance and funding from Arab countries, and a number of the religious teachers received training from Islamic universities in the Middle East, particularly at Al-Azhar University in Egypt.

5.1.4 External Efficiency

While the manifest function of the Koranic school is to introduce a value system based on Islam, the latent functions are to introduce the children to formal schooling, oral and written Arabic, and Moslem culture. Through its manifest function, the system is providing the population with a bond based on religion and cultural homogeneity. Through its latent functions, the system provides potential linkages with higher levels of Islamic education and with employment opportunities in the labor markets of the Gulf States.

The Koranic school system once operated as a prerequisite for those students wishing to begin primary school. Formerly, to be accepted at the primary level, students had to pass an informal exam consisting of reading some verses of the Koran. The Ministry of Education continues to encourage students to attend Koranic schools.

By introducing the Arabic language at an early age, the Koranic school system is providing a foundation for the continuation and strengthening of Arabic as one of the two official languages of Somalia. Knowledge of Arabic also enhances the opportunities of those seeking work in Saudi Arabia and other Gulf countries where an estimated 100,000 or more Somalis are currently employed. The Koranic school system also serves as a link to further Islamic education for some students because it feeds, at a higher level, into the mosque religious schools and then into the Islamic universities of Egypt and the Middle East.

5.1.5 Internal Efficiency

Regarding the manifest function of the Koranic school system--introducing Islamic principles and knowledge of the Koran--the schools appear to be achieving their goals. Nevertheless, because most of the teachers know only the Koran in Arabic and not Arabic as a language, little learning of the language actually occurs.

While Koranic schools average approximately 65 students, the number of students attending them can reach 100. Students may attend only part of the day, but most of the children are present in a continuous, day-long session. The large number of students results in overcrowding and reduces the personal attention that the teacher can give to each student.

The teaching materials of the Koranic schools are a good example of the capability of the system to adapt to the needs and conditions of the environment. As noted, wooden tablets, ink, and pens are locally made and available in adequate quantity.

5.1.6 Access and Equity

One of the most important aspects of the Koranic school system is its accessibility. Because of the large number of schools (an estimated 5,480 as compared with approximately 774 elementary-level schools) and their broad distribution, both urban and rural children have access to them. Most important is the fact that in many instances the Koranic schools represent the only structured education to which a significant part of the Somali population has access. Most nomads

would be deprived of any formal education if it were not for the Koranic schools.

Girls are significantly underrepresented in the Koranic schools, accounting for an overall enrollment of 27 percent. This figure is lower than the overall enrollment of girls in elementary schools (33%). Furthermore, because ALESCO data were based on the number of students enrolled at the beginning of the school year, the percent of girls may actually be less since their dropout rate from Koranic schools tends to be higher than that of boys.

Even though there are no legal or formal barriers restricting women from teaching in Koranic schools, traditionally only men teach. In a few districts, most notably Barawa, there is an exception which serves as an example around which further change may be built. In these districts, women do teach in the Koranic schools, constituting about three percent of Somalia's Koranic teachers.

5.1.7 Administration and Supervision

Even though the Koranic school system appears in the organization chart of the Ministry of Education, grouped with kindergarden schools, and is considered under the jurisdiction of both the Ministry of Education and the Ministry of Justice and Religious Affairs, the schools are private and function independently. The system is completely localized; central administration, coordination, and supervision do not exist. The Koranic teacher is the master of the school, overseeing the students and determining the program of

instruction. The materials used are provided by the parents. No text books are used and, of the 655 schools surveyed in 1982, only 42 had a Koran.

5.1.8 Cost and Financing

Nearly all of the schools are established and financed by the communities themselves, with only two percent of the schools donated by government to communities which could not afford them.

5.2 ANALYSIS

This section examines the needs of the Koranic school system in view of its goals. It next identifies plans for addressing these needs and considers several issues in light of constraints of the subsector. Finally, a set of conclusions is drawn, and these serve as the basis for the recommendations which then follow.

5.2.1 Needs

Based on a comparison of the manifest and latent functions of Koranic education with the current status of the system, three areas of need are identified and discussed. The overriding need, in terms of the principle function of the schools, is to render the teaching of the Koran more efficient by improving the teachers' capabilities in Arabic. The other needs, to optimize the schools' latent functions, are to ensure a stronger foundation for primary education by expanding the content of what is taught (e.g., to include numeracy) and to build a

better knowledge of Arabic as one of the two official languages.

5.2.2 Plans

Government has no official plans or projects with regard to Koranic education, although it favorably regards expansion of the number of schools. By encouraging itinerant "teacher scholars" to play a catalyst role in the settling process, in some instances Koranic schools are used informally as a mechanism to help settle nomadic communities.

5.2.3 Constraints

The major constraint of the Koranic educational system is that the skills of most of the teachers are limited to memorized knowledge of the Koran. The teachers have not mastered the Arabic language which they are using to teach the Koran. Another constraint is that the majority of the teachers do not have the primary level skills needed to develop the schools' potential to provide a stronger foundation for basic education.

5.2.4 Issues

The following discussion of issues focuses upon external efficiency, internal efficiency, access and equity, and administration and supervision.

5.2.4.1 External Efficiency

There are two major issues which relate to the external efficiency of the Koranic schools. These concern the effectiveness of the Koranic school system in optimizing its latent functions to prepare children for primary school and for future functioning in Arabic. Both issues center around the desirability of using Koranic schools to their optimal capacity in the development of skills for which they were not originally intended.

Regarding the preparation of children for primary school, the Koranic schools could expand their subject matter, on a modest scale, to include simple instruction in numeracy, literacy, and other elementary skills. Such instruction assumes even greater significance in the case of nomadic children who are not served by primary schools. For nomadic children, the Koranic schools are presently the only formal means by which they potentially can be introduced to these basic skills. The problem is less the capacity of the Koranic school system to incorporate supplementary material and more the present skill level of the teachers, a small percentage of whom have completed at least primary school.

Regarding the preparation of children for future functioning in Arabic, the Koranic schools could include instruction in Arabic as a language in addition to teaching the Koran. As earlier noted, competence in Arabic can serve as a direct link to opportunities for further study, first in mosque schools and later in Islamic universities, and to employment possibilities in the Gulf labor

markets. Again, the principal limitation is the lack of Arabic literacy among most of the teachers who have only rote knowledge of the Koran.

5.2.4.2 Internal Efficiency

The Koranic schools are effectively achieving their objective of introducing a value system based on the principles of Islam. If the aim of Koranic education is also to enable students to understand what they are learning, by understanding the language in which they are learning, then the internal effectiveness and efficiency of the schools need to be improved. At present, the method of teaching consists basically of repetition and recitation of the verses or chapters to be learned. Explanation of the language and its vocabulary and grammar rarely exists. The addition of these topics and the variation of instructional methods could not only enhance the learning of religious values, but also increase the linguistic and conceptual ability of the students.

5.2.4.3 Access and Equity

There are two issues of access and equity. One concerns imbalance between male and female enrollments, and the other concerns the ratio of male to female teachers. Although there are no formal barriers to the enrollment of girls, cultural traditions do not encourage their increased participation. In addition, women constitute only three percent of the Koranic teachers. An increase in the number

of women teachers could encourage greater participation by girls in Koranic education.

5.2.4.4 Administration and Supervision

Koranic schools are unique in that no central body exists to monitor and support Koranic education. It appears that the lack of administration and supervision does not hinder the effectiveness of the schools in teaching a common value system. Some central support may be useful, however, to enhance the latent functions of the Koranic schools.

5.2.5 Conclusions

Four conclusions emerge from the above analysis of constraints and issues. These form the basis for the specific program recommendations in the closing part of this section.

Conclusion 1. Enhancing the capacity of the Koranic schools to fulfill their latent functions to prepare students in basic skills and language deserves the greatest priority.

While the Koranic schools are fulfilling their manifest function to instill Islamic values through rote mastery of the Koran, the system is not exploiting its latent functions to introduce children to primary education and to Arabic as a language. The Koranic system teaches the greatest number of students relative to other education subsectors. Most importantly, it is accessible to segments of the population that otherwise would be deprived of any formal education, e.g., nomadic

children. The system provides the only potential opportunity that many children presently have to be formally educated in the elementary skills of numeracy and literacy.

Conclusion 2. Developing the capacity of Koranic teachers to provide instruction in elementary literacy and numeracy and in Arabic as a language should have next priority.

Koranic teachers, while masters of the Koran and Islamic studies, tend not to have been trained in the formal school system, and not to know Arabic as a language. Training in Arabic and numeracy as well as pedagogy could enhance their effectiveness as teachers of basic education.

Conclusion 3. Central provision of instructional supports to enhance the latent functions of the Koranic schools should be the third priority.

Conclusion 4. Expanding access for girls and encouraging women teachers merits fourth priority.

5.3 RECOMMENDATIONS

The following five recommendations concerning Koranic schools are intended as possible programmatic responses to the preceeding analysis and conclusions.

5.3.1 First Priority - Enhance Latent Functions: Recommendations 1 - 2.

Recommendation 1: Expand Subject Matter on a Modest Scale. The additional subject matter could include simple instruction in

numeracy, literacy, and other elementary skills.

Recommendation 2: Teach Arabic as a Language.

5.3.2 Second Priority - Develop Capacity of Teachers: Recommendation 3.

Recommendation 3. Strengthen Skills of Koranic Teachers. Introduce opportunities for present Koranic teachers to upgrade their skills in Arabic, literacy and numeracy, and pedagogy.

5.3.3 Third Priority - Provide Instructional Supports: Recommendation 4.

Recommendation 4: Make Elementary Instructional Materials Available to Koranic Schools.

5.3.4 Fourth Priority - Expand Female Access: Recommendation 5.

Recommendation 5: Encourage Female Children to Continue in Koranic Schools by Attracting Additional Females to Koranic Teaching.

6.0 PRE-PRIMARY AND PRIMARY EDUCATION

Providing trained manpower for Somalia's development needs is a task that must be approached from a number of directions simultaneously. Nonformal education, adult education, and vocationally-oriented programs address the immediate need to prepare youth and the adult population for new employment. Over the long run, however, it is the formal school system that must ensure an appropriate supply of trainable entrants to the workforce. This is not to diminish the importance of schooling in fostering attitudes, values, and skills which enrich the human condition and help to integrate individuals into national life. The formal school system is perhaps best able to lay the groundwork for long-term human resource development by providing students with literacy and numeracy and a good understanding of modern scientific and technical concepts. Subsequent training programs targeted to specific manpower needs can be more focused, more efficient, and briefer if they are not required to correct deficiencies in the formal educational experiences of the trainees. As work-force needs change over time under the influence of domestic and international economic developments, workers with an appropriate formal education can be retrained for new jobs more quickly and inexpensively. Somalia's economic strength has always resided in the flexibility of its people and in their ability to seize new opportunities and adapt to changing circumstances. The formal education system plays a key role in adapting this flexibility to the emerging needs of the economy and society.

This section of the report provides an assessment of the pre-primary and primary education systems. It is followed by an examination of the general secondary school system. The development of these levels of formal schooling are related in many respects. This section then discusses those issues where separation of the primary and secondary levels is not appropriate and reviews the concerns of the pre-primary and primary education systems *per se*.

At the outset, several terms need to be defined as they are currently used by the Ministry of Education (MOE):

> *Kindergarten* education refers to the optional one or two years of pre-primary school for children of ages four and five;
>
> *Elementary* education refers to the first four years of compulsory government schooling (Grades 1-4);
>
> *Intermediate* education refers to the four years following the elementary cycle (Grades 5-8);
>
> *Primary* education comprises the combined elementary and intermediate cycles (Grades 1-8);
>
> *Secondary* education refers to the schooling cycle following primary--it may comprise two to four years of schooling;
>
> *General secondary* education is the academically oriented four-year secondary program.

This terminology will be followed throughout this report.

This subsector discussion includes a review of the historical development and current status of pre-primary and primary education. Because of the very small number of kindergarten schools, the emphasis throughout this chapter is on primary education. The present structure and programs of the schools and of the Ministry of Education is

considered within the context of the Five Year Plan's goals and strategies. The primary system will be analyzed in terms of the internal and external efficiency criteria as well as in terms of the traditional standards of access and equity. Special attention is directed to the management/administration and costs/financing issues of primary schooling because these factors represent significant potential constraints on system reform.

The analysis section contrasts the current plans for primary education with the unmet needs identified earlier. The conclusions and recommendations section then describes selected areas of emphasis for future research and reform. These recommendations represent a set of alternatives available to government as it continues its work to adapt the primary education system to two important functions: to produce numerate and literate school leavers and to provide a strong foundation for general secondary and vocational/technical education programs.

6.1 STATUS

This discussion first examines the historical setting of the primary school system. It then reviews goals, structure, and programs, giving particular attention to consideration of system efficiencies, access, administration, and costs.

6.1.1 Historical Setting

The primary and secondary school systems inherited by the government in 1960 from its colonial predecessors were unusually weak,

even by contemporary African standards. There were not more than 30 complete primary schools in the entire country. Only 233 schools offered either a partial or a complete elementary cycle. There were five secondary schools in Somalia in 1960. The oldest, Sheikh, in the North, had been started in 1949 as a British boarding school for the sons of prominent Somalis. The three secondary schools in the south were opened to Somali students only in the mid-to late 1950s under the terms of the UN trusteeship.

The post-colonial education system remained divided because of its origin in two disparate colonial systems. Italian schools in the south taught entirely in the Italian language and were organized into a five-year elementary cycle, a three-year intermediate cycle, and a four-year secondary cycle. In the north, British schools provided a three-year elementary cycle taught in Arabic followed by an English medium four-year intermediate cycle and a four-year secondary cycle. There was no coordination of curricula among the early post-colonial schools.

The task of educational unification was seriously hampered by the lack of a script for the Somali language. The obvious way to avoid factionalism over the choice of a language of instruction was to move toward instruction in Somali. (The difficulties government faced in resolving the script issue are discussed in Section 4.0.) While the script debate continued, Somali planners took several interim steps toward unification of their educational system. An eight-year primary cycle, with a curriculum unified in subject matter, was developed in 1963. However, the main focus in the 1960s was on the expansion of the

system at the secondary level, since the development of materials for the primary system would have to await the final decision on written Somali. A move to an English language system with Arabic instruction in the early grades (similar to the British model) was considered in the late 1960s, but at the time of the 1969 revolution, the language situation in Somali schools was still unsettled. Schools were still teaching in Italian, English, or Arabic.

The revolution of 1969 led to marked changes in educational policy. Top priority was given to resolving the question of a script. The revolutionary government took prompt steps to clear the way for total Somalization of the schools. It convened a committee to write elementary school texts in Somali and, in 1972, announced the adoption of a Latin script and spelling system for the Somali language. In the aftermath, educational development pushed forward on two fronts--general literacy and Somalization of the schools. All schools were closed in 1974-75 for the national literacy campaign. During this period, selected teachers were put to work preparing textbooks, course materials, and curricula in Somali.

In the same year, a literacy and rural development campaign mobilized all ninth, tenth, and eleventh grade students to spread literacy in the new script to all parts of the country. The campaign moved Somali forward at an unparalleled rate in the space of a year. In 1973 the literacy rate was estimated at around five percent; by 1975 it was asserted to be sixty percent. As a result, Somalia was awarded the UNESCO prize for outstanding achievement in the field of literacy.

In 1975-76 the primary schools reopened under a special one-year program and with a revised overall structure. Government's goals for the new system were for immediate Somalization of the language of instruction and free and compulsory primary education. The 1975-76 academic year was 16 months long. The year was divided into a first semester of 7 1/2 months and a second semester of 8 1/2 months.

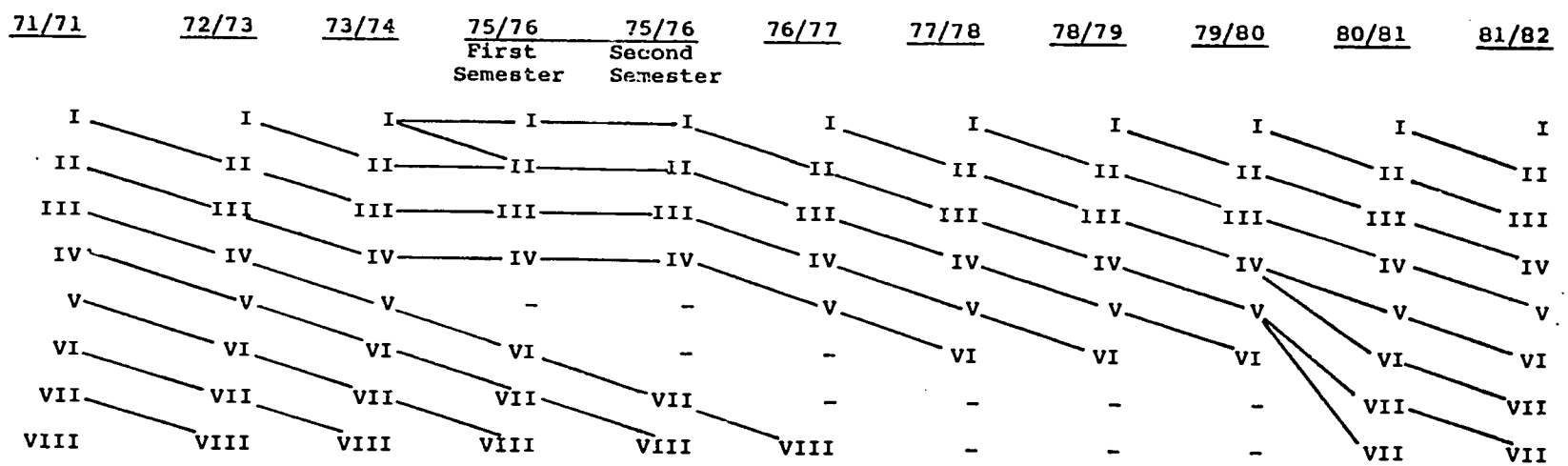
The Grade One class was made up of the students who would normally have been in that grade, students who would have entered the previous year (when schools were closed), and a portion from the 1973-74 Grade One class. Chart 6.1 helps to clarify this and the following discussion of the 1975-76 reforms and the subsequent reforms in 1980-81. The Grade One enrollment in 1975-76 was, not surprisingly, the largest in Somalia's brief history and has not been reattained since.

Students who were in Grades Two, Three, and Four in 1973-74 were required to repeat the full academic year in 1975-76. The Grade Two students were joined by a portion of Grade One students from 1973-74 who were allowed to advance rather than repeat Grade One. While the decisions on such placements were to be based on meritocratic criteria, there was no active monitoring of the grade assignment process. Grades Five, Six, and Seven were placed on an accelerated schedule whereby they completed a year of schooling in each of the two six-month sessions of 1975-76.

The repercussions of the 1975-76 reform can still be seen in the current educational system. There are irregular cohort sizes from one grade level to the next. Less documented but not less certain is the

Chart 6.1

RESTRUCTURING OF PRIMARY EDUCATION
1971-72 - 1981-82



Source: Ministry of Education

conclusion that the accelerated programs reduced the instructional quality and subject coverage received by students.

The stated rationales for these changes in structure were the need for fiscal savings and the belief that the use of the Somali language as the medium of instruction would enable primary schooling to take place in six rather than eight years. It was soon obvious, however, that the result of the shortened primary cycle was a dramatic decline in the quality of students leaving school and of those entering into the secondary education programs. Concern was also expressed about the young age of school leavers at all levels of the secondary system.

In 1979, the decision was made to return to the eight-year primary school cycle. As seen in Chart 6.1, this required the artificial creation of seventh and eighth grade classes. In 1980-81, the former year's Grade Four cohort was divided into the new Grades Five and Six, and in 1979-80, the Grade Five cohort was divided into the new Grades Seven and Eight. All students, except the new fifth graders, had skipped an academic year, and the new Grade Eight class had skipped two full years of study. The criteria for grade assignments was to be based on examination results, but again, government resources did not allow for close monitoring of the process.

A special problem created by the second reform was that in the interim since 1975, a set of classroom textbooks had been created for the six-year primary cycle. In 1979-80, the MOE produced teacher guides to help teachers adapt the six-year cycle materials to the new eight-year structure. Problems related to the shortage and adaptability

of these materials persist and will be discussed later.

It should be noted that concomitant to these structural changes, the primary education system was affected dramatically by changes in the larger Somali national condition. The severe drought of 1974-75 and the border dispute of 1977-78 (and resultant refugee problems) placed great strains on government's fiscal capacity to aid primary education. In addition, the management and administrative focus of public maintenance and development activities had to be shifted away from the education sector. While government maintained its commitment to educational development, the immediate priorities were understandably elsewhere.

In 1983, the primary education system is beginning to redirect its attention from short-term crises to longer term issues of access, equity, and efficiency. The system's ability to achieve this transition will depend upon stability in both its external national environment and in its internal policies, goals, and strategies.

6.1.2 Goals and Strategies

The Ministry of Education's main objectives, as stated in the Five Year Development Plan, 1982-1986 (FYP), represent an evolution of the long-term policies of the 1970s rather than a change of direction. Of the eight education objectives, three focus directly on primary education. They are to:

- continue the process of democratization and expansion of educational opportunities through compulsory, universal, and free primary education (classes 1-8);
- improve the content of educational programs; and

- increase the effectiveness of the educational process with a view to developing intellectual abilities, attitudes and values, and improving the practical skills of the people.

Another educational objective, "to strengthen the teaching and popularization of the Arabic language," has a marked potential impact on the primary system. This issue is addressed in Section 4.0.

The first FYP education objective indicates the continuing importance the MOE accords to improving access to primary education by physical expansion of the system. Because of the extensive nomadic population, the primary system is presently able to reach only 30-40 percent of Somalia's total population. Given uncertain population estimates, it is impossible to ascertain precisely the proportion of the age cohort of the non-nomadic Somalis who currently use the primary system. The major issue of access is the extension of literacy and numeracy to the citizens presently excluded from the system. It remains to be determined whether the formal primary education system is the appropriate institution; it may prove less expensive and more effective to use an alternative, nonformal structure. The remaining access issue of regional and urban/rural bias are important but are more tractable within the normal procedures for extending formal primary education.

The goals to improve content and increase effectiveness speak to the serious problems of primary education quality which are the legacy of the internal and external disruptions of the educational system in the 1970s. The issues of poorly trained (and excessively young) teachers, teacher motivation and morale, inadequate or unavailable

materials, curriculum coordination, inadequate facilities, and ineffective management systems will be addressed individually in the analysis section. An overriding concern is that government's long term goal of free, universal, and compulsory education must be achieved in terms of an acceptable level of quality and not just in quantitative terms. The present condition and constraints of the system combine with the uncertain situation of resource availability in the future to create tremendous demands on the planning and management systems of the Ministry of Education.

6.1.3 Structure of the Pre-Primary and Primary System

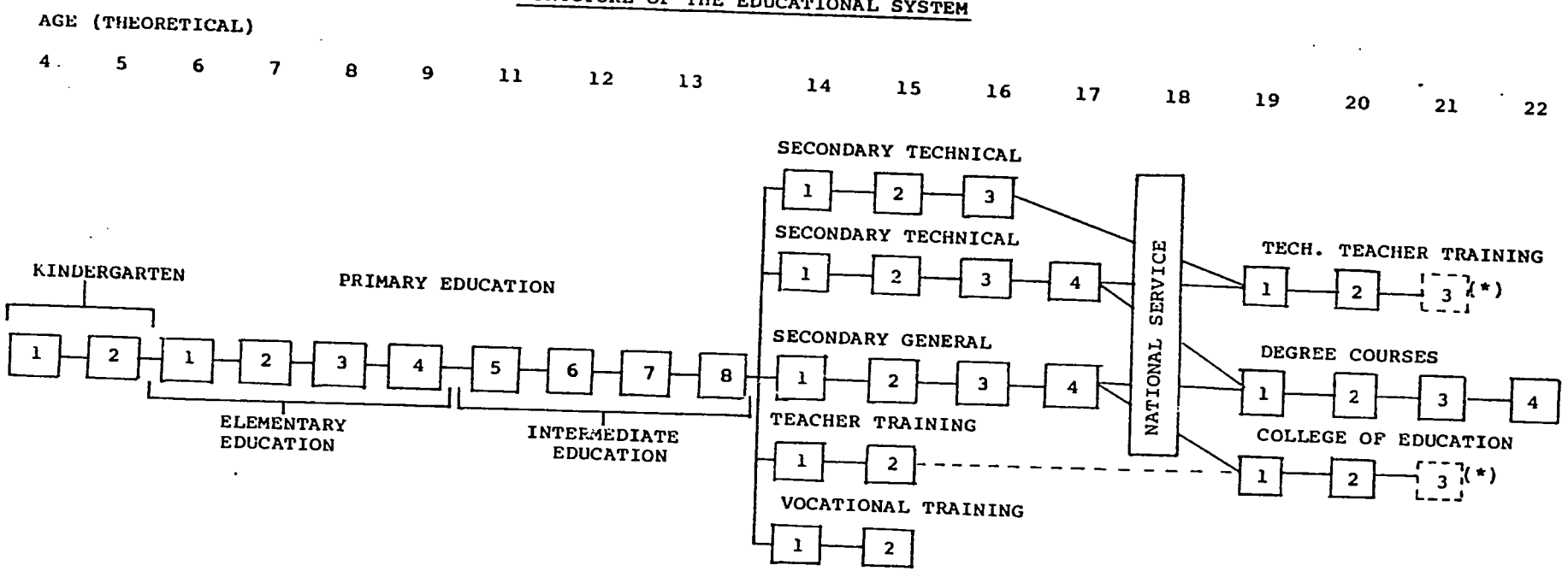
Chart 6.2 presents the structure of the Somali formal educational system in 1983. The unified primary education system has no privately supported counterpart. The Koranic schools operate as parallel rather than competing institutions to public education as was discussed in Section 5.0 on Koranic education. The ages given in chart 6.2 as corresponding to a particular grade level are indeed theoretical. As the later analysis of age distribution by grade level will show, the theoretical age group for a particular grade rarely constitutes more than twenty percent of all students in that grade.

6.1.3.1 Kindergarten Programs

The formal public education system begins with an optional two years of kindergarten for children of ages four or five, followed by a compulsory four years of elementary school and four years of

Chart 6.2

STRUCTURE OF THE EDUCATIONAL SYSTEM



(*) Three-year program will be re-introduced.

Source: Ministry of Education.

intermediate school. In practice, pre-primary schooling is rare. In 1980-81, only 17 kindergarten schools existed, nearly two-thirds of which were in Mogadishu or its environs. Two years of pre-primary instruction in Koranic schools, however, is encouraged for admission to first grade. Table 6.1 provides detail on pre-primary school (kindergarten) statistics for 1980-81.

The data indicate the restricted distribution of kindergarten schools. Only six of the sixteen regions have any schools, and seven of the total seventeen schools are located in Banaadir. Sex equity issues appear less of a problem than regional imbalance in that over half of all students and almost all teachers are female . The use of multi-teacher classes in the kindergarten program is made obvious by the difference in per-class (48.9) and per-teacher (14.6) enrollments.

6.1.3.2 Elementary Education

The Somali primary education system has as its goal the creation of full eight-year cycle schools. At present, a majority of schools do not have a full eight-year cycle. The available statistics on primary education are divided into elementary (Grades 1-4) and intermediate (Grades 5-8) data. This discussion will follow the division into elementary and intermediate education, but readers should bear in mind that a substantial number of schools consist of both elementary and intermediate grade levels.

The discussion of the elementary class structure is organized around three major characteristics: enrollments, teachers, and

TABLE 6.1

PRE-PRIMARY SCHOOL DATA BY REGION

1980-81

Region	No. of Schools	No. of Classes	Total Enrollment	Percent Female	Total No. Of Teachers	Percent Female
Shebelleh Dhexe	1	2	117	49.6%	4	100.0%
Banaadir	7	22	983	50.2%	100	93.0%
Shebelleh Hoose	5	12	679	57.3%	24	91.7%
Bay	1	2	35	54.3%	5	100.0%
Bakool	2	3	170	42.4%	4	100.0%
Juba Hoose	1	2	105	53.3%	6	100.0%
Total	17	43	2089	52.0%	143	93.7%

Average School Enrollment - 122.9

Average Class Enrollment - 48.9

Student/Teacher Ratio - 14.9:1

facilities. The discussion is based on 1981-82 data but compares these amounts to the 1980-81 statistics. Both enrollment levels and teacher numbers are considered in total and in terms of sex distribution. Most of the data presented below also allow for comparison of inter-regional differences. Table 6.2 presents enrollment data for the elementary grades, by region and by sex of students and teachers. The regional imbalance in elementary education is made clear in comparisons among regions for the three statistics of student/teacher ratio, average class size, and average school size. The student/teacher ratio varies from 19.7:1 in sparsely settled Mudug to 63.0:1 in populous Northwest (W/Galbeed) region. The average of 34.7:1 for the nation is a reasonable one, but the fact that eight regions are below 30:1 and two are over 55:1 indicates a need for teacher redistribution. A problem in teacher assignment is the reluctance of some teacher trainees from the more distant regions to leave Mogadishu and return home after training. The regionalization of primary teacher training which currently is under consideration would help alleviate this problem.

The concern arising from the statistics on class and school size is with class sizes that may be too large and school sizes that may be too small. Most class sizes are smaller than the student/teacher ratio only because of multi-grade teaching obligations. It is worth noting, however, that the relative oversupply of teachers in Mogadishu has resulted in an average class size larger than the student/teacher ratio. With more than one teacher per class, there is a possibility of under-utilization of the teacher's time unless instruction is organized around

TABLE 6.2

ELEMENTARY EDUCATION (GRADES 1-4)

ENROLLMENT AND STAFFING BY REGION

1981-82

Region	Number of Schools	Number of Classes	Aver. Classes per School	Total Enrollment	% Female	Total Teachers	% Female	Student Teacher Ratio	Average Class Size	Average School Size
W/Galbeed	79	623	7.9	29,661	20.8%	471	19.1%	63.0	47.6	375
Togdheer	31	119	3.8	3,597	31.3	116	23.3	31.0	30.2	116
Sanaag	22	82	3.7	1,808	28.2	47	6.4	38.5	22.0	82
Bari	34	130	3.8	2,395	27.6	120	19.2	20.0	18.4	70
Nugaal	13	39	3.0	1,151	34.8	29	34.5	39.7	29.5	89
Mudug	20	57	2.9	1,064	41.7	54	46.3	19.7	18.7	53
G/Galgaduud	25	78	3.1	1,787	40.1	71	35.2	25.2	22.9	71
Hiiraan	47	347	7.4	13,741	25.6	351	14.5	39.1	39.6	292
Sh/Dhexe	71	274	3.9	6,669	37.4	218	22.9	30.6	24.3	94
Banaadir	55	816	14.8	38,719	48.5	1,360	56.9	28.5	47.4	704
Sh/Hoose	133	690	5.2	22,474	38.0	659	28.2	34.1	32.6	169
Bay	49	208	4.2	5,556	36.3	256	28.5	21.7	26.7	113
Bakool	19	60	3.2	1,351	35.5	48	41.7	28.1	22.5	71
Gedo	30	266	8.9	12,179	22.5	218	12.8	55.9	45.8	406
J/Dhexe	49	154	3.1	4,088	31.5	151	12.6	27.1	26.5	83
J/Hoose	52	225	4.3	6,189	33.9	225	24.0	27.5	27.5	119
Total	729	4,168	5.7	152,429	34.1%	4,394	33.3%	34.7	36.6	2,907

sub-class groups. The reality is that some teachers do not have to teach a full schedule even though they are classified as "full-time."

All pre-primary teachers are permanent, full-time staff as are the great majority of elementary grade teachers. In 1980-81, 83.3 percent of all teachers of elementary grades were permanent full-time staff. The remainder were National Service teachers, full-time instructors recruited from the previous year's class of general secondary education graduates.

The elementary level of the primary education system is characterized by a special problem of incomplete-cycle schools. In 1980-81, 47.3 percent of all elementary-level schools were incomplete, and 25.6 percent had only one or two grade levels. Again, regional inequities compound this problem. Only 8.9 percent of the elementary schools in Banaadir were incomplete, while in 10 of the other 16 regions over 50 percent of the schools were incomplete.

An additional problem in elementary education in recent years has been that of classroom utilization. Schools often were constructed hastily in the 1960s and 1970s, and many have fallen into partial or total disrepair. Another problem is that there may not be adequate furniture available for all of the classrooms in a school. Finally, some schools have suffered enrollment declines and simply do not have an adequate enrollment for their physical capacity. Eleven percent of all elementary classrooms were unoccupied in 1981-82 with the highest rate of underutilization in the predominantly pastoral Nugaal Region, where 30 percent (12 out of 40) of the classrooms were unoccupied. Shebelle

Dhexe and Banaadir, with their settled populations, had unoccupied classroom rates of only 3.1 percent and 5.2 percent, respectively.

The dramatic nature of the enrollment decline from 1980-81 to 1981-82 affected all the factors considered here--school size, class size, student/teacher ratios, and facilities utilization. Table 6.3 depicts the enrollment change between these two academic years for each of the elementary grades for each region. Enrollments fell between 1980-81 and 1981-82 at every grade level except Grade Four. Only one region, Mudug, had a net enrollment increase in 1981-82 at the Grade One level and only two, Hiiraan Region and Northwest Region, had gains in Grade Two. Even at the Grade Four level where enrollments increased overall, there were declines in seven of the sixteen regions. Nationally, elementary enrollments fell by 19,565 with Grade One enrollments alone declining by 12,302.

The declines are more than a case of a normal variation in cohort size. They reflect a situation of potential disillusionment with the benefits of formal education. The trade-off of quality for quantity in primary education may be resulting in a situation where poor quality is discouraging increased quantity. The appropriate policy consideration, if the enrollment declines are based on these perceptions by students and parents, is to emphasize quality enhancement while preparing for the resurgence of enrollments that will follow a change in perceptions.

A different view of the changes from 1980-81 to 1981-82 is presented in Table 6.4. Here, the changes in elementary enrollment, number of teachers, and student/teacher ratio are presented, by region,

TABLE 6.3

1980-81 and 1981-82 ELEMENTARY EDUCATION, ENROLLMENT COMPARISONS

BY GRADE AND REGION

REGION	GRADE ONE 1981-82	GRADE ONE Change from 1980-81	GRADE TWO 1981-82	GRADE TWO Change from 1980-81	GRADE THREE 1981-82	GRADE THREE Change from 1980-81	GRADE FOUR 1981-82	GRADE FOUR Change from 1980-81	TOTAL CHANGE
W/Galbeed	10,495	- 3,345	9,393	+3,845	5,690	+1,033	4,083	+1,524	+ 3,057
Togdheer	1,060	- 48	853	- 17	837	- 164	847	+ 12	- 217
Sanaag	442	- 87	435	- 35	408	- 133	523	+ 95	- 160
Bari	632	- 194	589	- 15	580	- 74	594	+ 67	- 216
Nugaal	296	- 76	136	- 284	296	- 308	423	- 159	- 827
Mudug	333	+ 90	161	- 181	251	- 171	319	- 184	- 445
G/Gaduud	491	- 22	329	- 243	466	- 142	501	- 206	- 613
Hiiraan	5,148	- 10	3,446	+ 228	2,540	- 558	2,607	+1,197	+ 857
Sh./Dhexe	1,714	- 289	1,602	- 392	1,485	- 789	1,868	+ 48	- 1,422
Banaadir	8,910	- 1,674	9,694	-1,001	9,663	-1,773	10,452	+ 341	- 4,107
Sh./Hoose	6,507	- 7	4,494	-1,758	5,291	-2,887	6,182	+ 951	- 3,701
Bay	1,441	- 245	1,253	- 297	1,261	- 726	1,601	+ 313	- 955
Bakool	409	- 20	330	- 92	293	- 114	319	- 101	- 327
Gedo	6,849	- 4,381	2,922	- 355	1,445	+ 26	963	- 159	- 4,869
J./Dhexe	1,203	- 1,298	762	-1,498	1,075	- 642	1,048	- 826	- 4,264
J./Hoose	1,577	- 696	1,523	- 195	1,537	- 298	1,552	- 166	- 1,355
Total	47,507	-12,302	37,922	-2,290	33,118	- 7,720	33,882	+ 2,747	- 19,565

TABLE 6.4

CHANGES IN ELEMENTARY EDUCATION DATA

1980-81 to 1981-82

BY REGION

Region	1980-81 Enrollment	1981-82 Enrollment	Change in Enrollment	1980-81 Teachers	1981-82 Teachers	Change in Teachers	1980-81 Student/ Teacher Ratio	1981-82 Student/ Teacher Ratio	Change in Ratio
W/Galbeed	26,604	29,661	+ 3,057	401	471	+ 70	66.3	63.0	- 3.3
Togdheer	3,814	3,597	- 217	109	116	+ 7	35.0	31.0	- 4.0
Sanaag	1,968	1,808	- 160	54	47	- 7	36.4	38.5	+ 2.1
Bari	2,611	2,395	- 216	109	120	+ 11	24.0	20.0	- 4.0
Nugaal	1,978	1,151	- 827	45	29	- 16	44.0	39.7	- 4.3
Mudug	1,510	1,064	- 446	61	54	- 7	24.8	19.7	- 5.1
G/Gaduud	2,400	1,787	- 613	67	71	+ 4	35.8	25.2	-10.6
Hiiraan	12,884	13,741	+ 857	229	351	+122	56.3	39.1	-17.2
Sh./Dhexe	8,091	6,669	- 1,422	288	218	- 70	28.1	30.6	+ 2.5
Banaadir	42,826	38,719	- 4,107	1,359	1,360	+ 1	31.5	28.5	- 3.0
Sh./Hoose	26,175	22,474	- 3,701	746	659	- 87	35.1	34.1	- 1.0
Bay	6,511	5,556	- 955	242	256	+ 14	26.9	21.7	- 5.2
Bakool	1,678	1,351	- 327	71	48	- 23	23.6	28.1	+ 4.5
Gedo	17,048	12,179	- 4,869	156	218	+ 62	109.3	55.9	-53.4
J/Dhexe	8,352	4,088	- 4,264	204	151	- 53	40.9	27.1	-13.8
J/Hoose	7,544	6,189	- 1,355	269	225	- 44	28.0	27.5	- 0.5
Total	171,994	152,429	-19,565	4,410	4,394	- 16	39.0	34.7	- 4.3

for both years. It may be seen that only two regions, the Northwest Region and Hiiraan Region, had higher total enrollments in 1981-82 than in the previous year. The number of teachers, however, increased in eight of the sixteen regions. The result was to lower student/teacher ratios in thirteen regions with only Sanaag, Shebelleh Dhexe, and Bakool undergoing increases. The dramatic figures in Gedo are due to the earlier large intake of refugee children into elementary schools. The increase in teachers in the Gedo region (over one-third above the previous year's number) and a dramatic decline in enrollment (almost one-fourth) combined to reduce the student/teacher ratio to a more reasonable but still high 55.9:1 in 1981-82. The issues of teacher allocation and refugee enrollments affect the full primary system and will be returned to after the presentation of data on the status of intermediate education.

The problems of elementary education will be pursued further in the later analysis. The data reviewed here reveal regional imbalances, a less dramatic but equally important issue of sex equity, problems of underutilization of facilities, and a precipitous shift in aggregate enrollment patterns.

6.1.3.3 Intermediate Education

This section follows the same development used in the discussion of the elementary grade levels. The discussion focuses successively on enrollments, teachers, and facilities' utilization. Again, where possible, year-to-year changes, regional variation, and male/female

participation and employment ratios are highlighted.

Table 6.5 presents the summary of enrollment and staffing data for intermediate grades in 1981-82. The low average number of classes per school is indicative of the lack of full four-year intermediate classrooms in operation. Only Banaadir and Shebelli Hoose have an average number of classes greater than the four required for a school to provide one class at each grade level. In 1980-81, the proportion of incomplete intermediate schools (67.8%) was even higher than for elementary schools (47.3%). More than 60.0 percent of the intermediate schools were incomplete in every region except Banaadir, in which only 10.5 percent were incomplete.

The proportion of incomplete schools is not the result of government indifference. In fact, government's policy to initiate new schools from Grade One and to add one year at a time is partly responsible for the rate of incomplete schools. However, this is not the full explanation. A second major factor is that there often simply are not enough students left at the higher grades to justify another class.

While this phenomenon is, in part, a result of student attrition, it also becomes a cause of attrition. Some students who wish to continue intermediate education may be forced out simply because there are not enough of them in a particular town or village to justify a new grade-level class and teacher. The lack of a complete intermediate school in a town or village is a factor that may convince parents that it is not worthwhile for their children even to enter intermediate

TABLE 6.5

INTERMEDIATE EDUCATION (GRADES 5-8)

ENROLLMENT AND STAFFING BY REGION

1981-82

Region	Schools	Number of Classes	Aver. Classes per School	Total Enrollment	% Female	Total Teachers	% Female	Student/ Teacher Ratio	Average Class Size	Average School Size
W/Galbeed	55	189	3.4	6,608	28.4%	231	12.1%	28.6	35.0	120
Togdheer	26	86	3.3	2,960	27.4	96	1.0	30.8	34.4	114
Sanaag	22	60	2.7	1,401	26.3	43	2.3	32.6	23.4	64
Bari	29	70	2.4	1,491	27.4	84	4.8	17.8	21.3	51
Nugal	15	49	3.3	1,542	34.8	51	5.9	30.2	31.5	103
Mudug	19	50	2.6	1,039	42.3	66	16.7	15.7	20.8	55
G/Gaduud	25	68	2.7	1,540	41.8	70	10.0	22.0	22.6	62
Hiiraan	36	127	3.5	3,825	30.5	198	15.2	19.3	30.1	106
Sh/Dhexe	70	227	3.2	4,639	35.8	235	14.5	19.7	20.4	66
Banaadir	54	702	13.0	31,843	47.5	1,499	47.4	21.2	45.4	590
Sh/Hoose	111	516	4.6	15,379	37.6	679	18.7	22.6	29.8	139
Bay	40	144	3.6	3,893	35.6	190	13.7	20.5	27.0	97
Bakool	18	51	2.8	1,068	36.2	64	18.8	16.7	20.9	59
Gedo	23	69	3.0	1,864	30.6	88	5.7	21.2	27.0	81
J/Dhexe	36	115	3.2	3,464	35.1	120	6.7	28.9	30.1	96
J/Hoose	49	188	3.8	4,931	34.4	263	20.2	18.7	26.2	101
Total	628	2,711	4.3	87,487	38.7%	3,977	26.7%	22.0	32.3	1,904

education. These factors are so important (and have an impact on rural/urban and regional balances in enrollment) that consideration should be given to providing full-cycle schools even where multi-grade level teaching will be required.

As with elementary education, intermediate education suffered an overall decline in 1981-82 as enrollments fell to 87,487 from the previous year's level of 99,710. Table 6.6 presents detail on the changes between 1980-81 and 1981-82 in educational data for the intermediate level. Aggregate intermediate education enrollments fell in all but three regions--the Northwest, Bari, and Gedo. The largest absolute declines were in Shebelli Hoose and Banaadir with 4,035 and 2,929 fewer students, respectively, than the year before.

Unlike the case in elementary education, however, the enrollment decline in intermediate education was coincident with an increase in the total number of teachers. Banaadir gained 215 teachers and reduced its overall student/teacher ratio from 27.1:1 to 21.2:1. Only five of the regions losing student enrollment also lost teachers. Strangely enough, in four of these cases, the region suffered a disproportionate loss in teachers and thus suffered an increase in its student/teacher ratio.

These data reflect a serious problem with the practice of teacher assignment by class rather than by student numbers. In addition, since teachers have difficulty living on their salaries without supplementary support from their families, the issue of teacher assignment is linked to that of teacher recruitment and retention. Government's attempts to remedy inequitable patterns of teacher allocation are constrained in two

TABLE 6.6

CHANGE IN EDUCATIONAL INTERMEDIATE EDUCATION DATA

1980-81 to 1981-82

BY REGION

Region	1980-81 Enrollment	1981-82 Enrollment	Change in Enrollment	1980-81 Teachers	1981-82 Teachers	Change in Teachers	1980-81 Student/ Teacher Ratio	1981-82 Student/ Teacher Ratio	Change in Ratio
W/Galbeed	6,242	6,608	+366	230	231	+1	27.1	28.6	+1.5
Togdheer	3,238	2,960	-278	112	96	-16	28.9	30.8	+1.9
Sanaag	1,504	1,401	-103	55	43	-12	27.3	32.6	+5.3
Bari	1,430	1,491	+ 61	79	84	+ 5	18.1	17.8	- 0.3
Nugaal	2,019	1,542	-477	47	51	+ 4	43.0	30.2	-12.8
Mudug	1,278	1,039	-239	62	66	+ 4	20.6	15.7	- 4.9
G/Gaduud	1,710	1,540	-170	56	70	+14	30.5	22.0	- 8.5
Hiiraan	3,953	3,825	-129	174	198	+24	22.7	19.3	- 3.4
Sh./Dhexe	5,048	4,639	-409	222	235	+13	22.7	19.7	- 3.0
Banaadir	34,772	31,843	-2,929	1,284	1,499	+215	27.1	21.2	- 5.9
Sh./Hoose	19,414	15,379	-4,035	676	679	+ 3	28.7	22.6	- 6.1
Bay	4,173	3,893	-280	206	190	-16	20.3	20.5	+ 0.2
Bakool	1,182	1,068	-114	73	64	- 9	16.2	16.7	+ 0.5
Gedo	1,597	1,864	+267	54	88	+ 34	29.6	21.2	- 8.4
J/Dhexe	6,418	3,464	-2,954	129	120	- 9	49.8	28.9	-20.9
J/Hoose	5,732	4,931	-801	253	263	+ 10	22.7	18.7	- 4.0
Total	99,710	87,487	-12,223	3,712	3,977	+265	26.9	22.0	- 4.9

main ways. First, the fact that the sole primary teacher-training institution is located in Mogadishu means that potential teacher trainees from remote areas, and particularly from the north, may choose not to come to it. The problem is especially acute for females. The resulting recruitment pattern reinforces the common teacher bias toward urban locations; the preference is particularly strong among female teachers whose husbands are employed in the capital. Second, there is a serious planning constraint in that, as shown in Section 2.0 and earlier in this section, year-to-year enrollment variation by region, by school, and by grade level is such that a proper allocation of teachers one year would be inappropriate the next.

The first of these two constraints, concerning location of training, should be reduced with the implementation of the regionalized system of teacher training. Also, the Ministry of National Planning's regional and rural development activities are designed to bring more of the basic services (electricity, water, basic health care) to more locales and should reduce teacher resistance to some rural locations.

The planning constraint can be remedied in two ways: first, by reinforcing the statistics and planning activities of the Ministry of Education; and second, by modifying the teacher assignment process. This may be predicated on paying teachers more adequately, so that they can then be assigned to areas in which they have no immediate family, as enrollment patterns dictate. The production of annual enrollment projections by region and district would allow teacher assignments to be made on the basis of long-run anticipations of demand, rather than as a

reaction to past increases in the number of students. This new procedure would require improved coordination between the Planning Department and the Primary Education Department.

Moving from enrollments to data on teachers, it is worth noting again in Table 6.5 that Banaadir has 37.7 percent of all teachers (roughly in proportion to its share of enrollments, 36.4%) but has a dramatically higher proportion of female teachers. Banaadir's 47.4 percent rate of female teachers is more then double that of any other region.

The student/teacher ratios in intermediate education are very low, and average class size, although larger, still does not indicate problems of crowding except in the Banaadir region. Still, the data indicate an absorptive capacity in the system to accept new students without dramatic changes in the total number of teachers and assuming the continued use of National Service personnel. Teacher reallocation within regions and even within schools may be necessary, but there is no dramatic indication of an existing or potential shortage of teachers. The problems of teacher quality, morale, and motivation remain issues of concern and will be returned to in a later section of this chapter.

Once again, the data in Table 6.5 indicate a variation in school size similar to that found for the elementary grade levels. Those regions with urban centers have a pattern of significantly larger schools. While the economies of scale in intermediate education are not as important as those found in secondary education, the issue of small school size does have two troubling dimensions. First, it is related to

the problem of incomplete schools which was discussed earlier. Second, small school size is correlated with degree of rural isolation. This would mean that the amount of extracurricular opportunity to enrich or apply their school training is slight to nonexistant for children in these schools. This places additional responsibility on the school to teach in the academic areas, to motivate the student's interests, and to offer a range of other experiences that normally would be left to the school's external environment. The nature of rural intermediate schools and their teachers is such that it is unrealistic to expect that this last responsibility is fulfilled.

The final concern regarding intermediate education is that of facilities. As noted in Section 2.0, an indeterminate number of schools include both elementary and intermediate grades. Thus, the total number of elementary and intermediate schools involves some double counting of facilities. The problem of unoccupied classrooms is only slightly less serious at the intermediate level than for elementary education. Ten percent of all classrooms are identified as unoccupied. The rate varies from 4.1 percent and 4.6 percent in Shebelle Dhexe and Banaadir, respectively, to 32.2 percent for the Mudug region. Only four of the sixteen regions have rates below 10 percent, but because these are the largest regions in terms of classroom numbers, they reduce the overall average significantly.

This review of the status of the intermediate grade levels of primary education, like that of the elementary levels, has emphasized the quantifiable and documented characteristics of the system. Several

other issues (teacher morale, materials availability) have been referred to in passing, but the lack of basic data has prevented any detailed discussion. A great need exists for data collection and analysis on specific planning issues (e.g., teacher allocation criteria and effects) and for more extensive qualitative research on all aspects of the primary education system. The quantitative findings reviewed here are important and reveal some serious points for policy consideration. They are not, however, the sole source of information necessary for planning and implementation of the needed educational reforms.

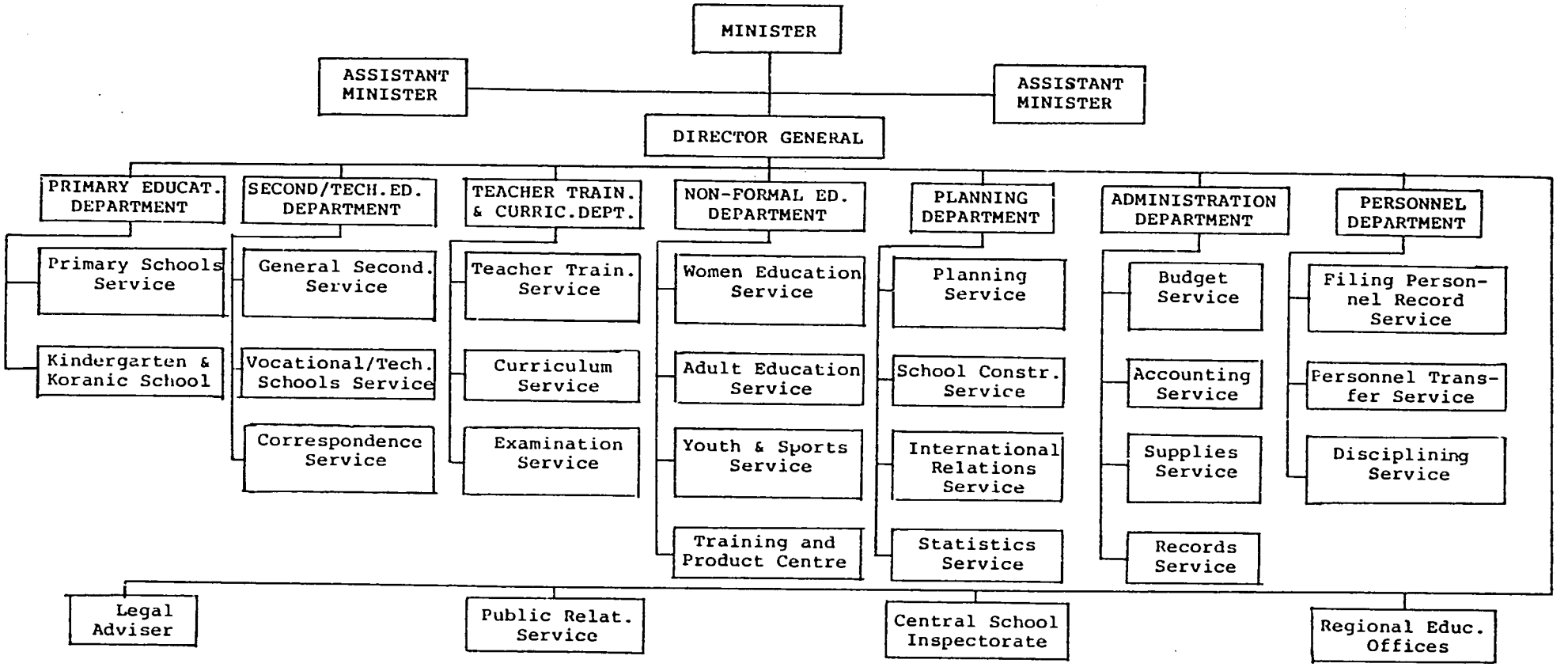
6.1.4 Administration of the Primary Education System

Primary and secondary schools are administered by the MOE, which is also responsible for vocational and technical education, primary teacher training, and nonformal education. Chart 6.3 shows the organizational structure of the MOE. Most of the departments that serve the primary schools perform the same functions for general secondary schools as well. In addition to the three general administrative units (the Administration, the Personnel, and the Planning Departments) the following units work closely with primary education:

- The Primary Schools Department: responsible for overall coordination of the primary schools, for assigning teachers and headmasters, providing educational materials, and keeping records of all primary schools. In practice, the Primary Schools Department has had to rely almost entirely on the Regional Education Offices for most school-by-school decisions about apportionment of teachers, funds, supplies, inspectors, and data collection. The Primary Schools Department thus acts mostly as a communication channel from the MOE to the regions;

CHART 6.3

ORGANIZATION CHART - MINISTRY OF EDUCATION 1983



- The Curriculum Development Center: responsible for curriculum design and production of syllabi, teachers' guides, texts, and teaching materials for primary and general secondary schools;

- The Examination Service: compiles, distributes, grades, and records the Primary Leaving and General Secondary Leaving Examinations, and awards and validates certificates;

- The Central Inspectorate: responsible for supervision of teachers and headmasters and for relaying information from the MOE to the schools and from the schools to appropriate sections of the MOE. The inspectorate performs many of these functions through the regional inspectors (working in regional education offices) who report to the Central Inspectorate. The Central Inspectors are expected to visit every regional education office twice a year. In practice, they often manage to make regional office visits only once a year;

- Regional Education Offices: located in each of the 16 regions, the REO's are the key link between the MOE in the capital and local schools throughout the country. In most regions there are also district offices between the Regional Office level and local schools. Regional Offices are headed by a Regional Education Officer who is responsible for procurement and allocation of teaching staff and supplies for all primary and secondary schools in the region. The Regional Education Officer has several Regional Inspectors on his staff, whose job it is to visit all schools in the region. Nearby schools are visited several times a month; remote ones at least once, and generally twice a year.

6.1.5 The Primary School Program

The Primary Education Program is reviewed in terms of four major aspects:

- Curriculum and Materials
- Examinations
- Teachers
- Facilities

The purpose of this section is to survey the major activities in each sector and to identify areas of unmet needs. The congruence or lack of congruence of these needs with current MOE plans will be returned to in the analysis section as a basis for the later recommendations for policy and practice consideration in primary education.

6.1.5.1 Curriculum and Materials

The primary school curriculum forms the basic program of the primary schools. There is a single course of study for all schools in the country, prepared by the Curriculum Development Committee of the MOE. Two sets of enrichment materials have been prepared to supplement the basic curriculum. The Population Education Program has developed charts and module booklets (on population issues) for each of the primary grade levels. In addition, the donor-supported Institute for In-service Teacher Training has prepared supplemental materials that are currently in use in certain refugee center schools.

The Curriculum Development Center of the Ministry of Education is responsible for formulating the curriculum, writing the detailed syllabi, preparing teacher guides, writing texts, and producing all the requisite materials--texts, guides, and teaching aids--for both primary and secondary schools. The CDC has a current staff of approximately 18, with eight more staff members abroad for training courses of varying duration. Since there are at least eight subject areas for which curricula and texts are needed, its staff is stretched very thin.

The CDC has no printing facilities at present to produce the materials it has already prepared. It must depend on the State Printing Agency, which is capable of a maximum output of 1.5 million texts per year. Because of changes needed in the primary school texts, essentially all of the books needed for the school system remain to be printed or will need to be reprinted in the near future. Since there are eight texts per student for each school year, and a total of approximately 285,000 students in the primary and general secondary schools, this means that about 2,280,000 texts are currently needed, in addition to teachers' guides and resources materials.

The Curriculum Development Center is now working on integrated syllabi for the primary grades. These syllabi are intended to serve both as courses of study and as teachers' guides and will include statements of objectives, suggested teacher activities, student activities, and evaluation criteria for each grade and subject.

6.1.5.2 Examinations

The Primary School Leaving Examination is given in July each year. It tests eighth graders in each of the five intermediate education subjects. To pass, a student must earn a combined total score of 275 out of a possible 550 points. There are 150 possible points on the mathematics examination, and 100 possible points on each of the others. Questions are of a multiple choice or true/false format. The examinations for primary schools are sent by the MOE to six area centers--in Hargeisa, Galkayo, Merka, Baidoa, Kismayo, and Mogadishu.

From these area centers the tests are distributed to local schools or examination centers. Proctoring the examinations is reportedly a problem in some parts of the country.

Table 6.7 presents the Grade Eight Examination results for 1980-81. The overall pass rate of 77.1 percent disguises two significant patterns. First, a certain proportion of Grade Eight students do not sit for the examination. If the number passing the examination is compared to the previous January's enrollment levels, the pass rate drops to 72.7 percent. Even this adjustment, however, fails to take into account the dramatic differences among regions in terms of how many students take the examination and the proportion of exam-takers who pass.

Generally, a high percentage of the eighth grade class takes the Grade Eight Examination. In two regions, Hiiraan and Jiuba Hoose, more students sat for the examination in June than were recorded in January enrollments. However, four regions had more than 15 percent of their eighth grade students fail to take the examination in 1981: Shebelle Dhexe (15.1%); Galgaduud (16.0%); Jiuba Dhexe (16.4%); and Shebelle Hoose (21.0%).

The highest pass rate among participants occurred in Galaguud (93.3%) followed by Banaadir (91.0%) and Mudug (87.9%). The lowest participant pass rates occurred in Gedo (41.0%), Jiuba Dhexe (41.8%), and Bakool (51.9%)--all of which are regions located in the Southwestern boarder area of Somalia.

TABLE 6.7

GRADE EIGHT EXAMINATION RESULTS, 1981

By Region

Region	Enrollees	Exam Participants	No. Passing	%Enrollees Passing	% Participants Passing
W/Galbeed	1,957	1,944	1,617	82.6 %	83.2 %
Togdheer	1,063	992	862	81.1	86.9
Sanaag	536	512	445	83.0	86.9
Bari	507	500	412	81.3	82.4
Nugaal	971	928	681	70.1	73.4
Mudug	490	454	399	81.4	87.9
G/Gaduud	550	462	431	78.4	93.3
Hiiraan	1,416	1,465	1,214	85.7	82.9
Sh/Dhexe	1,872	1,590	1,126	60.1	70.8
Banaadir	11,606	11,536	10,498	90.5	91.0
Sh/Hoose	6,606	5,218	3,787	57.3	72.6
Bay	1,374	1,330	860	62.6	64.7
Bakool	415	405	210	50.6	51.9
Gedo	489	429	176	36.0	41.0
J/Dhexe	2,430	2,032	849	34.9	41.8
J/Hoose	2,170	2,197	1,415	65.2	64.4
Total	34,452	31,994	24,982	72.5%	78.0%

Since the literal definition of a passing score is 50 percent, the Grade Eight examination serves as only a minimal screening device. The MOE should study the raw score results of the test as a means of identifying regions with special instructional problems. It is possible to have two regions with similar pass rates and dramatically different levels of learning achievement. Study of the raw scores would also identify subject-specific weaknesses and could provide a basis for remedial or other support activities.

6.1.5.3 Teachers

Primary school teachers, other than the temporary National Service Teachers, are graduates of the Primary Teacher Training Institute (PTTI) at Halane. Primary school graduates enter the PTTI directly after successfully completing the Grade Eight Examination. The PTTI is often not a student's first choice but often is chosen by those students eligible for the general secondary education alternative.

After three years of teaching experience, the primary education teacher is eligible to take an examination to qualify for the secondary teacher training program at Lafole College of Education. If unsuccessful, the teacher remains in primary education. The present system tends to remove the best teachers from primary education because the low level of pay makes primary teaching valuable as a means of gaining access to secondary teacher training.

The effects of the low salaries on morale and motivation are compounded by the teacher assignment process. Although attempts are

made by government to locate teachers according to their requests, the reality of the assignment process and the needs of the system do not always allow for this. The net effect of these incentive patterns is to make primary school teaching an unattractive career for most individuals. Those who remain in the career may compensate for the low pay by reduced effort and frequent absenteeism to pursue other income-earning activities. The supervisory system, incorporated in the Central School Inspectorate, is unable to monitor classroom behavior adequately or even to verify the presence or absence of teachers. The Inspectorate simply does not have sufficient resources to allow it to fulfill its responsibilities at the level it would desire.

The primary teacher's work in the classroom faces many obstacles. Textbook and materials supply is an obvious weakness in the instructional support system. Another classroom problem that may be overlooked is the width of the age distribution encountered by primary school teachers. Table 6.8 presents the age distribution of students by grade for the eight years of primary education in 1980-81.

Even though it is the goal of government to initiate schooling at age six, only 17.4 percent of all enrollments at Grade One consisted of six years olds, and only 38.8 percent consisted of six and seven year olds. At no grade level does the proportion of enrollment for the theoretically appropriate age for that grade exceed 20 percent.

The problem for the classroom teacher is indicated by the width of the distribution and by the proportion of students more than three years older than the expected age level. For Grade One, 31.7 percent of all

TABLE 6.8

AGE DISTRIBUTION OF PRIMARY ENROLLMENTS

1980-81

BY GRADE LEVEL, FOR TOTAL ENROLLMENT AND FEMALE ENROLLMENT

	AGE LEVEL												
	6	7	8	9	10	11	12	13	14	15	16	17	Enrollment Total
(A) Total Enrollments													
Grade One	17.4%	21.4%	17.1%	12.4%	10.1%	7.5%	6.2%	3.9%	4.0%	-	-	-	59,809
Grade Two	-	17.9	21.9	17.8	14.7	10.1	7.8	4.9	2.7	2.1	-	-	40,212
Grade Three	-	-	17.0	20.9	19.1	15.3	11.3	8.0	4.3	2.4	1.7	-	40,838
Grade Four	-	-	-	17.1	20.7	19.1	16.3	11.9	7.3	4.7	2.1	0.9	31,135
Grade Five	-	-	-	-	15.5	20.4	20.7	17.1	12.0	7.0	4.5	2.8	18,290
Grade Six	-	-	-	-	-	13.1	19.1	19.7	16.0	12.8	10.5	8.9	22,111
Grade Seven	-	-	-	-	-	-	17.5	21.9	20.3	17.5	12.7	10.0	24,857
Grade Eight	-	-	-	-	-	-	-	19.3	20.8	20.7	18.0	21.1	34,452
(B) Female Enrollment													
Grade One	20.2%	24.4%	18.9%	12.1%	9.7%	5.7%	3.9%	2.7%	2.3%	-	-	-	19,244
Grade Two	-	20.0	23.7	18.8	14.7	9.3	6.7	3.4	1.9	1.5	-	-	14,552
Grade Three	-	-	18.4	23.0	19.7	15.0	11.4	6.8	3.0	1.8	0.9	-	15,196
Grade Four	-	-	-	17.0	22.4	20.2	16.1	11.3	6.4	4.2	2.1	0.3	11,847
Grade Five	-	-	-	-	16.2	21.8	20.5	17.0	12.2	6.4	3.3	2.6	7,713
Grade Six	-	-	-	-	-	14.7	20.7	19.9	16.4	12.3	10.0	6.1	7,451
Grade Seven	-	-	-	-	-	-	17.0	21.7	20.7	18.2	13.2	9.1	10,534
Grade Eight	-	-	-	-	-	-	-	19.7	21.4	22.3	19.8	16.8	11,516

students are ten years old and older. A total of nine different age groups are represented. Similar patterns exist throughout the grade levels.

It is interesting to note that female students appear to average slightly younger for each grade level than do the male students. This advantage is reduced at higher grades; even at Grade Eight, 41.7 percent of all female students are thirteen and fourteen, while 40.1 percent of all students are in those two youngest age groups.

These statistics have meaning in two ways. First, they explain part of the cause of the attrition rates in primary education. A proportion of students simply "age out" of the school rather than "drop out" solely for academic reasons. More important for the current discussion of teachers is the implication which these data have for classroom management problems. The differences in both emotional maturity and physical maturation place a strain on the management skills of new teachers. Also, it is possible for a new teacher assigned to the higher primary grades to be younger than some of the students.

Given the constraints of very little formal education, brief teacher training, low salary and incentives, and a less-than-ideal teacher allocation system, it is surprising that the primary education system operates as well as it does. When one considers the turnover problem (National Service teachers leave after only one year and the permanent teachers often do not stay beyond the third year) and the relatively young age of many of the PTTI's graduates, the overall scale of the teacher problem for primary education appears to be enormous.

Since educational quality must begin with teacher quality, the present nature of teacher recruitment, training, assignment, and of the pay system operates as a major constraint on any attempt to improve general education quality at the primary grades.

6.1.5.4 Facilities and Equipment

Most elementary and intermediate schools are created through a combination of central government, local government, and local self-help programs. Most schools at the primary level are made of local construction materials and consist of four rooms or less. Equipment is usually nonexistent except for classroom furniture, and as stated earlier, in remote and rural schools even furniture is not in adequate supply. The exception to this condition are the schools in the urban centers where minimal support materials (maps, demonstration equipment, reference books) may be available.

The major facilities problem is one of maintenance. The Central Budget provisions place the primary responsibility for maintenance on the local community. Maintenance activities, like student enrollments, are strongly affected by the perception of educational quality and of the value of the school to the student's economic life. The poor maintenance in many schools does not necessarily reflect a lack of appreciation for schooling, but only a recognition of the quality of education being received in that school. A second, contributing factor to the maintenance problem is that, since the MOE does give occasional assistance for maintenance and repair, there may be a tendency at the

local level to procrastinate, even when repair work is urgent, to see whether the Ministry will help.

Given current enrollments, the existing facilities are adequate in number if maintenance could be improved. Any increases in enrollment would be a problem primarily in a distributional rather than an aggregate sense. For example, a potential for large enrollment increases exists in the refugee areas. The excess capacity of school facilities in other areas would not help in meeting the demand for new facilities in the refugee communities. For this reason, planning must look beyond the aggregate physical capacity of the primary education facilities and focus on the specific match of facilities supply and demand, at least at the village level. The continued use of local government and self-help programs (and donor aid where available) should be encouraged so that government's scarce resources for primary education can be freed to deal with the problems of quality.

6.1.6 External Efficiency

The primary education system produces three types of school leavers: dropouts, terminal Grade Eight completers, and those who go on for additional education. The dropouts are divisible into those who leave the system either with or without a permanent level of literacy and numeracy. In most nations, it is assumed that at least four grades of schooling are required to achieve permanent literacy and numeracy skills. If one uses this standard for Somalia then, based on the progression rates used in Section 2.0, 523 out of every 1,000 students

who leave primary school will do so with permanent literacy and numeracy. If one uses a more conservative standard of Grade Five participation, then only 442 out of every 1,000 may be assumed to have these skills.

Including repetition in Grade Eight, there are 357 students in that grade level for every 1,000 who begin the primary cycle. Of these, 259 may be expected to pass the Grade Eight Examination at current participation and pass rates. The ability of the remaining 98 who do not pass to find useful employment is a major social problem.

Neither detailed employment surveys nor school tracer studies exist on this population. It is reasonable to assume that a significant number of them work at traditional pastoral and agricultural activities, while the rest seek work in modern-sector activities. On the basis of recent studies in several countries, literacy and numeracy skills learned in primary school may be assumed to be of use to school leavers in traditional occupations. However, no studies have been done in Somalia to ascertain the impact of schooling in these areas or to determine how best to build on this new educational base in agricultural and range management activities. It is also impossible at present to assert what part of these school leavers' incomes are traceable to their school experiences.

In the modern sector it must be assumed from the general employment situation that the students who choose or are forced to terminate their education after literacy/numeracy but before going on to secondary education are at a distinct employment disadvantage. The

difficulty for this group of school leavers is that many of the jobs they might fill in the modern sector are occupied by dropouts or graduates of the higher levels of education. At best, they probably qualify for the lower levels of semi-skilled employment and are more likely to displace the even less educated laborers in some marginally skilled and labor-intensive traditional occupations.

The external efficiency of the primary system for those students who continue in school is a problem of a different sort. Ideally, the Grade Eight Examination would allow for a detailed qualitative assessment of strengths and weaknesses in primary education. Unfortunately, the results of the test are used solely for placement of students and serve no diagnostic purpose for the primary education instructional system. It would be unwise to assume that the high progression rates in secondary schools imply that students come to secondary school especially well prepared. It may be a combination of the quality of primary school preparation and of the level of the achievement standards which exist in secondary education.

To summarize, the state of external efficiency of primary education is subject more to conjecture than to analysis. The great need here is for a specification of the primary school level at which literacy and numeracy are attained. Tracer studies of dropouts and eighth-grade school leavers would greatly enhance the understanding of the direct employment effect of primary education. There are no indications of serious external inefficiency in the primary school system, but this is more likely a result of the lack of data than of the lack of problems.

6.1.7 Internal Efficiency

Assuming that the individuals who graduate from or otherwise leave primary school do so with the appropriate skills, the next question is whether the system produces those skills efficiently. The major issues in internal efficiency are cost levels of resources, resource-use ratios, and student attrition and repetition. The cost levels of resources used in primary education are consistently low mainly because of the depressed salary structure for primary education teachers. Actual cost levels in schools may be even lower than the unit cost estimates imply since the estimates assume provision of books and class supplies at a rate which may not be found in all primary classrooms.

The level of resource use suggested by the earlier discussion of class size, student/teacher ratios, and school size is one that is below that found in most other African nations. The low use rates for teachers and facilities suggest potential excess capacity in the system. This excess capacity has had little effect on total demands for building construction and maintenance at the primary school level.

The most serious issue of internal efficiency is the problem of student repetition and attrition. Students in the primary grades may repeat any grade once but may not repeat more than two grades in their educational career. The most common grade for repetition is Grade Eight where students take the opportunity to try again to pass the Grade Eight Examination. No formal statistics are maintained on repetition, but the Grade Eight class is consistently larger than the previous year's Grade Seven class.

Attrition data can be imputed from cohort progression rates, but

such calculations confound attrition and repetition effects. For the 1980-81 to 1981-82 primary school years, the intergrade progression rates were as follows:

Grade One to Grade Two	.765
Grade Two to Grade Three	.824
Grade Three to Grade Four	.830
Grade Four to Grade Five	.845
Grade Five to Grade Six	.844
Grade Six to Grade Seven	.889
Grade Seven to Grade Eight	1.078

The Grade Seven to Grade Eight progression rate is above 1.0 which indicates that repetition more than offsets the presumably low rate of attrition at this grade level.

One measure of internal efficiency is to consider the number of student-years of education it takes to produce a single graduate. With no repetition or attrition, the rate would be eight years for primary education; one year for each grade level. From the data above it may be calculated that the current primary system must provide 12.38 student-years of education for every student in the eighth grade. If one uses the results of the Grade Eight Examination as a base, it may be determined that it requires an average of 17.07 years of primary education to produce a single student who passes the examination.

High rates of attrition are not synonymous with inefficiency. One purpose of the system is to provide an opportunity for educational success, not a guarantee of it. In the present primary system, however, a substantial part of the high attrition rate may be due to the poor quality of the schools themselves. Some students may be failing, but

many others, or their parents, are deciding that the school experience is not sufficiently rewarding to take the child away from the traditional family support activities. The system cannot become more selective and efficient, in terms of the students it retains, until students evidence a stronger desire to stay in school themselves.

So far, there is no indication of a lack of demand for schooling among either children or parents. There are signs, however, of increasing skepticism concerning quality and the ability of the primary education system to improve one's economic opportunity. The primary education system will maintain this form of internal inefficiency until the steps necessary to improve instructional quality are implemented.

6.1.8 Access and Equity

The data originally presented in Tables 6.2 and 6.5 provide a useful basis for the discussion of regional and sex equity. Data are lacking to allow for an adequate discussion of the issue of access. It has been noted that the formal education system, at present, mainly serves the 40 percent of the population in permanent settlements. The remaining 60 percent of the population consists of nomadic or semi-nomadic pastoralists. Attempts to reach the school-age cohort of the pastoralist population have proven expensive and of limited effectiveness. The formal educational system may not be the most efficient means for reaching this group. A variety of alternatives should be considered including use of self-instructional materials and radio broadcasts, combined with the concept of a "nomadic teacher." The

Koranic teachers who work with the pastoralists move as the people move, and this model may be adaptable to the nonformal system.

Providing access to education for the nomadic population through either the formal primary system or through nonformal means can be done only at considerable cost. The nomadic people tend to be spread thinly over an area, and thus the number of children who can be served by a single teacher will be restricted. Furthermore, during the school term a single community is located in different areas in different years. This means that any permanent school facilities built for nomadic children can be occupied only sporadically. The resulting higher costs per student do not represent internal inefficiency. They are an inherent part of the need to provide access to a highly mobile population.

A second unusual access problem faced by Somalia is the case of the refugees. With a total refugee population estimated at 400,000 to 700,000 individuals, the refugee camps consist largely of women and young children. These children represent a tremendous potential demand increase for primary education. At present, the educational facilities in the camps are just being developed. If a decision is made for refugee settlement or for long-term occupancy of their present sites, both government and donors may be expected to increase educational facilities in the refugee areas.

Improvement of access for refugee children is a relatively easy task since they are a settled population. They also represent a potentially serious burden on the capacity of the primary schools and on

the fiscal resources of government. It will be necessary to plan carefully the extension of education to this population so that the quality enhancement required throughout the system is not postponed once again. The refugees deserve educational access, but the increase in access will only be meaningful if the primary education system is improved.

The special problems of the pastoralists and refugees aside, there are still constraints to the analysis of more traditional measures of access. Table 6.9 presents a regional comparison of proportions of primary education access to an estimate of the proportion of population currently in each region. The population distribution is based on the 1975 census updated to the end of 1981. The enrollments are from January 1982. Both the enrollment and population estimates include the refugee populations in the Northeast Region, Hiiraan, Middle and Lower Shebelleh, and Gede. The last column in Table 6.9 presents a representation index (R.I.): the enrollment proportion divided by the population proportion. Ideally, the population figure should be for the school-attending age cohort only, but population data at this level of detail are not available by region. The use of the 1981 update of the 1975 census for the calculation of an R.I. requires four major assumptions:

(1) that the original census and the updating procedure were both methodologically correct;

(2) that population redistribution among districts has not occurred at a rate faster than that assumed in the census updating;

TABLE 6.9

DISTRIBUTION OF PRIMARY ENROLLMENTS AND POPULATION BY REGION

1981

	1981-82 Primary Enrollment	Percent of Total Enrollment	End, 1981 Population Estimate	Percent of Total Population	(2)/(4)
	(1)	(2)	(3)	(4)	(5)
W. Galbeed	36,269	15.1	719,600*	14.4%	1.05
Togdheer	6,557	2.7	304,000	6.1	.44
Sanaac	3,209	1.3	169,000	3.4	.38
Bari	3,886	1.6	179,000	3.6	.44
Nugaal	2,693	1.1	100,000	2.0	.55
Mudug	2,103	0.9	250,000	5.0	.18
Galgaduud	3,327	1.4	215,000	4.3	.33
Hiiraan	17,566	7.3	305,800*	6.1	1.20
Sh/Dhexe	11,308	4.7	354,000*	7.1	.66
Banaadir	70,562	29.4	551,000	11.0	2.67
Sh/Hoose	37,853	15.8	139,400*	2.3	6.87
Bay	9,449	3.9	368,000	7.4	.53
Bakool	2,419	1.1	468,000	9.9	.11
Gedo	14,043	5.9	349,100*	7.0	.84
Jiuba/Dhexe	7,552	3.1	253,000	5.1	.61
Jiuba/Hoose	11,120	4.6	264,000	5.3	.87
Total	239,916	100.0%	4,988,900*	100.0%	1.00

* Including refugee population.

(3) that the age cohort for education is allocated among regions proportionately to total population; and

(4) that educational quality is relatively the same among regions.

Only the first of these assumptions may be accepted with confidence.

The increasing pattern of urban migration in Somalia means that the 1981 calculations may have underestimated the regional redistribution of population since 1975. In addition, one must consider that the highest rate of migration is likely to be by those adults of childbearing age. The effect of this is that the urban-oriented regions are likely to contain a larger percentage of the school-age cohort than their proportions of total population would indicate. This effect would be reinforced by the preference for some extended families to send school-age children to the urban or urban-proximity regions for schooling.

The reason for sending children to these areas is precisely because school quality is not equal among the regions. Banaadir and its neighbors and the Northwest region appear to have a quality advantage over the more rural regions in the nation.

The R.I. index in Table 6.9 indicates that only four regions (W.Galbeed, Hiraan, Banaadir, and Shebelleh Hoose) have an R.I. above 1.0; all other regions have a smaller percentage of the school population than of the total population. The figures for Banaadir and Shebelleh Hoose are so high that one may be assured that the R.I. would be above 1.0 even if adjustments were made for age-cohort differences among regions.

The urban/rural access inequalities cannot be analyzed in the same way as the regional inequalities because of data limitations. In addition, the definition of "urban" covers a wide range of environments from towns to the true metropolitan centers of Hargeisa and Mogadishu. From 1980-81, 90,124 elementary students were enrolled in urban locations and 81,870 in rural ones. The figures for intermediate education were 78,080 and 21,630 for urban and rural sites, respectively. Two conclusions can be drawn from these data even though the exact statistical nature of the access differential can not be calculated. First, the urban population produces a disproportionate share of all enrollments relative to the rural population. Second, the urban imbalance in enrollment increases at the higher levels of primary education. An urban child has the advantage of greater access initially and is more likely to attend a school with a complete primary cycle. The convergence of these advantages results in a system where both initial access and the opportunity for educational retention are biased against the rural child.

The access and equity issues discussed to this point have been largely geographical in dimension. A major equity issue in primary education access and persistence relates to female students. In trying to deal with the sex equity issue, government faces a wide variety of cultural, social, and economic traditions which result in lower attendance rates for female than for male students.

Table 6.10 summarizes the proportion of female students and teachers at the primary school levels in 1981-82. Detail for

TABLE 6.10

PROPORTIONS OF FEMALE TEACHERS AND STUDENTS

PRIMARY EDUCATION, BY GRADE

1981-82

Grade Level	Total No. of Teachers	Percent Female	Total Enrollment	Percent Female
One	-	-	47,507	32.5%
Two	-	-	37,922	32.5%
Three	-	-	33,118	35.5%
Four	-	-	33,882	36.7%
Total Elementary	4,394	33.3%	152,429	34.1%
Five	-	-	26,314	37.0%
Six	-	-	15,438	42.7%
Seven	-	-	19,649	34.0%
Eight	-	-	26,086	41.6%
Total Intermediate	3,977	26.7%	87,487	38.7%
Total Primary	8,371	30.2%	239,916	35.8%

enrollments is also given by grade level. Females make up approximately one-third of all teachers and students in the primary system. The proportion of teachers who are female is only slightly less than the proportion of students who are female. Two interesting, and possibly contradicting, relationships appear in these data.

The proportion of females in the enrollment totals increases at the higher grade levels. Similar patterns are found in tracing retention rates for cohorts. One can hypothesize that a screening process for intelligence and/or perserverance operate in selecting female students to attend school. It is also possible that, as alternatives to staying in school, more work opportunities are available to schoolboys than to schoolgirls. In any case, the retention rate for females from grade to grade in primary education appears to be higher than for males.

The second, possibly contradictory, relationship is that the proportion of females in teaching declines in higher grades. Females made up only 26.7 percent of all teachers at the intermediate level in 1980-81, as opposed to 33.3 percent at the elementary level. Since female teachers are major role models for girls, this poses a potential constraint on continued retention of female students.

The sex equity issue also cuts across the earlier discussions of regional and rural/urban equity. Of all female teachers in elementary education, 36.1 percent are teaching in Banaadir; for intermediate education, the corresponding figure is 44.7 percent. Banaadir is the only region where females make up a majority of all elementary teachers

(56.9%) and has the largest percentage of female teachers at the intermediate level (47.5%).

In 1980-81, female teachers made up 46.5 percent of all teachers in urban elementary schools but represented only 13.7 percent of the teachers in the rural schools. For intermediate education, the rates were 29.8 percent female teachers in urban schools and only 7.0 percent in rural schools. There are obvious social and cultural limits to government's ability to assign female teachers to rural districts other than those from which they originate. The fact remains, however, that the rural female student and even many urban female students outside the Banaadir region are less likely to encounter teacher role models of their own sex than is the urban Banaadir student.

The access and equity issues discussed in this section suggest that there is much left to be done to democratize access to primary education. One must remember, however, that the Somali primary system is still relatively young and has, at times, followed paths of least resistance in its expansion. The remainder of the 1980s will offer an opportunity to extend access more equitably whether the criterion is a regional, rural/urban, or male/female one. Any new policies to encourage access must be based on a recognition that all three dimensions of the access and equity issue are interrelated and should be dealt with in a coordinated manner. Also, as was stressed earlier, access to the formal system may not be the solution for dealing with much of the pastoralist population, and no access strategy should be financed at the expense of a further postponement of quality improvement.

Because the quality variation by region is one of the determinants of variable access and retention, an equitable approach to quality improvement should begin with schools for the rural population. In this way, the quality enhancement efforts simultaneously can promote the goals of greater equity and improved efficiency.

6.1.9 Administration and Supervision

The management problems of the Ministry of Education, in general, and of the Primary Education Department, in particular, may be traced to three origins: structural problems in the MOE's organizational design, the recruitment and incentive system for personnel, and the nature of support training. Each of these origins will be discussed in turn, although they are interrelated in several ways that will become obvious in the subsequent discussion.

As was indicated earlier in Chart 5.3, the internal structure of the MOE is based on seven "line" units (Primary Education, Secondary, Technical and Vocational Education, Teacher Training and Curriculum, Non-formal Education, Planning, Administration, and Personnel) and four support units (Legal, Public Relations, Central Inspectorate, and Regional Education Offices). All of these units report to the Director General and through him to the Assistant Ministers and Minister. The effect of this structure is to place great burdens on the Director General for many issues of detail in the individual units while depriving him of sufficient opportunity to engage in the planning and programming decisions that must be made at his level.

No formal hierarchy exists among the seven line units and four support units, although a variable informal hierarchy exists based on the strength of personnel and particular policy emphasis of the moment. The organizational equality of these units means that any debates over areas of authority must be resolved between the unit chiefs or by appeal to the Director General. As a result, duplication of activities has grown and several units engage in functions that overlap areas of work conducted by the Primary Education Department.

Duplication of functions only becomes redundancy when the duplicate actions waste resources or prevent the achievement of goals. The need to study the possibility of structural reorganization in the Ministry is not based on evidence of major inefficiency at the moment. However, the scope of the activities of the Ministry may be expected to continue expanding at an even faster rate for the remainder of this decade. The best time to consider structural reform is before this acceleration of activity begins.

The recruitment of staff for the Ministry is almost exclusively from the teaching corps. A common process of advancement is from teacher to headmaster, to regional inspector, to central inspector, to regional education officer, to the central Ministry staff. Not all officers pass through each of these steps, but an asset of the Ministry's recruitment system in that its personnel have experience in the school and classroom environment.

The major weakness of this system is that it leaves all training to on-the-job experience. There is a crucial need to provide middle

level personnel in the Ministry with management training commensurate with their responsibilities. The combination of formal management training with lengthy field experience at a variety of levels of the system is an excellent basis for improved administrative performance.

Two constraints limit attempts at administrative or management reform in the MOE. The first is the personnel incentive structure. The relatively low wage and allowance scale, combined with little chance of job termination, has two distinct effects. First, the morale and motivation of all employees is affected by the concern for adequate resources to support themselves and their families. Second, managers cannot provide adequate rewards for excellence. The net result is a system that operates on the goodwill of the staff and the motivational skills of the administrators. It is remarkable how well the system works under this incentive configuration.

The second constraint to administrative reform is the paucity of support equipment (e.g., data processing) and technically skilled staff. These factors are serious problems throughout the Ministry but have the greatest impact on the Planning, Administration, and Personnel Departments. Both equipment and skilled support staff are necessary for administrative reform, but an improvement in either would be insufficient to promote overall administrative reform. As was the case with organizational reform, the longer these improvements in staff and equipment are delayed, the more costly the reform effort will be.

The overall performance of the Ministry of Education, given its extensive responsibilities and serious constraints, is truly impressive.

This record will be endangered, however, if steps are not taken to prepare the Ministry for the even more serious challenges that are coming. An integrated reform that would restructure unit responsibilities, improve management skills, increase technically skilled staff, and increase the amount of support equipment would greatly facilitate many of the other reforms discussed in this assessment of the EHR sector.

6.1.10 Costs and Financing

The costs and financing issues in primary education are relatively simple. As noted in Section 2.0, the low wage cost of primary education helps to offset the effect of the relatively low student/teacher ratios. The low wages, however, contribute to the high turnover of teaching staff. Nevertheless, unless there are recurrent surges in primary enrollments in the next few years, the existing system should be able to adapt to the projected enrollment levels, even given teacher attrition.

The current system operates with an equitable division of costs among government, the local community, and the family. Government guarantees free primary education to all and acts to fulfill this guarantee by providing teachers and, to the extent possible under current constraints, textbooks and support materials. School construction and maintenance is a joint responsibility of central and local government. Often a local government will assume all of these costs as a means of accelerating educational development in the area. Maintenance remains a problem for many schools, but as was noted above,

this phenomenon may be related to local perceptions of school quality. Improved evidence of primary education's usefulness likely will result in an improved local attitude toward maintenance.

The main parental obligation for education is to provide the child with a school uniform. Some parents also purchase exercise books and supplies, where these are not available from the school. Parents also help finance their children's education by contributing to school maintenance in cash or in kind. Some communities outside regional and district centers in the northern regions have also made a practice of supplying housing or supplementary food allowances. Foregoing a child's economic contribution to the family to allow him or her to attend school represents a further sacrifice for agricultural and pastoral families.

Unlike other subsectors, the cost and financing issues for primary education do not constitute an immediate policy concern. As the primary education program of quality enhancement takes place, costs will undoubtedly increase both in a per-student and aggregate sense. The earlier fiscal capacity analysis in Section 2.0 suggests that, with proper planning, these cost increases should not represent an undue burden on government's fiscal capacity.

6.2 ANALYSIS

In the preceding review of the status of pre-primary and primary education in Somalia, the analysis has been limited to interpretations of the available statistics and inferences concerning alternative policy

directions. This section builds upon the status review by summarizing the existing constraints and plans for pre-primary and primary formal education and by identifying the central issues in each of the following areas: external efficiency, internal efficiency, access and equity, administration and supervision, and costs and financing.

6.2.1 Constraints

The major constraints under which primary education operates are: inadequate planning and management data, poor teacher quality, inadequate quantity and quality of textbooks, and uncertain resource availability. The Ministry of Education has not yet developed its data-base planning activities to a level where they allow adequate lead time for the primary education system to make needed adjustments in staffing or facilities construction. Although an excellent core of personnel exists in the Planning Department, there is a serious need for improved training, more support staff, and the supply of basic equipment for data tabulation and analysis. Without these resources, the Ministry will remain constrained in its ability to prepare for emerging demands on its schools.

Poor teacher quality is the single largest constraint on the effectiveness of the primary system. The teacher pay and assignment policy induces low teacher morale and motivation. The result is that the best teachers tend to leave primary education or to treat teaching as an income-supplementing activity. The recruitment of eighth grade leavers for primary teacher training and the inadequacy of the present

two-year course combine to create new teachers who are largely unprepared for the demands of the classroom experience.

A concomitant constraint to that of teacher quality is the lack of adequate textbooks and classroom materials. The redesign and development of materials should be scheduled so as not to interfere with providing students with a minimal supply of current instructional materials. The problem faced by most primary schools is not to obtain the best materials, but to obtain any materials at all.

The last major constraint is the pattern of uncertain funding for primary education in recent years. This difficulty has been an understandable result of the strains on the Somali economy and government budget in the last decade. With a more optimistic expectation for the future of the economy, it should be possible to provide primary education with a budget that will allow for quality improvement while attempts are maintained to extend access to presently unserved or underserved populations.

Each of these constraints is tractable to policy redirection. The ultimate constraint on further development of primary education will be the capacity of the Ministry of Education to clarify its specific objectives. Most important is the decision between the priorities of quality enhancement and quantity expansion. The current enrollment projections are indicative of a period of transitional stability in demands on the system. It should be stressed that the lead time is shortest for primary education in adjusting to enrollment variations. This argues for a flexible approach to financing and to staffing within this subsector.

6.2.2 Plans

The major activity planned for primary education in the Five Year Plan is the construction of 2,662 new classrooms to meet the goal of 52 percent intake for the six-year-old age cohort. The FYP envisioned the hiring of 5,101 new teachers, 167 new headmasters, 137 secretaries, 274 clerks, and 666 supporting staff in the course of the plan period.

Attempts are also planned to improve primary teacher training at both the pre-service and in-service level. Pre-service improvement would concentrate on the replacement of the Halane Teacher Training Institute by a set of five regional teacher training centers. The centers are scheduled to be located in Burao, Galkayo, Baidoa, Kismayo, and Mogadishu. In addition to providing construction costs, the project would provide funds for training fellowships for the staff.

The in-service activities will utilize radio programs, correspondence courses, seminars, supervisory visits, and evaluation examinations. Special seminar courses and creation of an in-service training resource center are planned.

Other projects which will have an impact on primary education include the promotion of the Curriculum Development Center activities and a project to improve the provision of resource materials to rural classrooms. The latter project, if funded and implemented, will organize workshops to ensure that teachers can use the new materials effectively.

These projects, while individually appropriate, represent a fairly traditional approach to the needs of primary education. The construction project is basically a quantity-expansion activity and, given enrollment projections, may not be as critical as was anticipated at the time the FYP was drafted. The other projects are all necessary parts of the needed effort to improve quality. Unfortunately, there does not appear to be the necessary coordination to assure that the teacher- and materials-quality programs will be complementary ones.

In the section that follows, the needs identified in the status review are classified by major issue areas. The aim is to study each need in terms of current constraints and plans. Ultimately, the goal is to develop specific recommendations to deal with those needs which remain unmet by current government plans.

6.2.3 Issues

The discussion of issues is organized around the topics of external efficiency, internal efficiency, access and equity, administration and supervision, and costs and financing.

6.2.3.1 External Efficiency

The major issue concerning the external efficiency of primary education relates to the quality of learning in the classrooms. Both for early school leavers and for those who complete the primary cycle, the quality of instruction received is a major constraint on their immediate or future economic success. While no data exist on the issue of permanent literacy and numeracy among dropouts, the nature of many primary school classrooms is such that there can be little optimism that

such permanence is achieved before the end of the elementary grades. It may not be achieved for some students even then.

The current cohorts in, or about to enter, secondary school may be expected to show the effects of the grade acceleration system introduced when primary education was reextended to eight years. While they do not represent a fair test of the primary schools' instructional efficacy, there is no reason to anticipate great improvement in the future cohorts. The relevance of primary education both to immediate and future employment and to further schooling will continue to be limited by the quality of teachers and the availability of instructional materials.

6.2.3.2 Internal Efficiency

For primary education in Somalia, it is important to distinguish between inexpensiveness and inefficiency. The present system is certainly inexpensive in terms of governmental financing. It may, however, be deemed inefficient in that it underutilizes the abilities of both the teachers and the students.

The relatively low student/teacher ratios may be interpreted in two ways. They represent either a purposeful overstaffing of schools or a fortuitous compensation for poor teacher quality. In either case, the phenomenon is indicative of an underlying inefficiency. Similarly, the lack of textbooks and materials keeps costs down but also means that the monies that are expended will have little effect.

The actual "cost" of primary education is much higher than that revealed in government expenditure data. The true cost of poor-quality

primary education is concealed in the loss of more productive lives for the students and in the sacrifice of future development opportunities for the nation. Viewed in this way, the primary education system may be seen to be neither inexpensive or efficient.

6.2.3.3 Access and Equity

The major access and equity issue in Somalia is the tradeoff between these standards and that of instructional quality. The last ten years have been a period in which quality improvement has been postponed so that access could be provided more equitably by region, by rural/urban location, and by sex. An undesired effect of this policy has been to create concern among parents and students about the value of primary education. In addition, the net effect of the policy has been to do little about the major inequities in access even though aggregate enrollments have increased for non-Banaadir regions, rural areas, and for female students.

It is mandatory that the educational access policy be reoriented toward working for improved access to a given quality level of education. Enrollments will continue to increase, but the priority should be on enrichment of the existing disadvantaged schools rather than simply the creation of more disadvantaged schools. The enrollment projections and current student/teacher ratios suggest substantial physical absorptive capacity in the present system. This will allow for continued expansion of access without major new facilities construction. Facilities are needed for the presently unserved rural areas. These

schools should be provided only when resources are available to produce a satisfactory level of quality.

The special issue of sex equity in primary education involves important social and cultural constraints. Government's employment policy has helped counter some of these limitations by continuing to encourage more proportional employment of women teachers, especially at the intermediate school level. In this way, government is playing a significant role in correcting the gender equity problem.

6.2.3.4 Administration and Supervision

Two major issues appear in this area. The first is a macro-educational one concerning the overall management capacity of the Ministry of Education, and the second is the microeducational one of instructional supervision. As discussed earlier, management capacity in the MOE is limited both by the general incentive system for staff and by the specific lack of management training and staff development opportunities.

The microeducational issue concerns the inadequacy of the teacher support system. Because of constraints imposed by staffing and budget, the Inspectorate and the Regional Educational Offices (REOs) are not able to provide the twin functions of teacher improvement and teacher monitoring outside regional centers. This is an especially disturbing problem because of the age and inexperience of much of the primary school teaching corps. Without supervision, advice, and in-service training opportunities, the teachers are left to their own devices.

With the additional problems which exist currently in providing teachers with course syllabi and materials, the position of the individual teacher is an unenviable one.

These two administrative issues are linked in that the management-capacity constraint at the Ministry level acts to limit the achievements which can be promoted by Inspectors and REOs at the local level. Improvement in one without concomitant change in the other will mean that the ultimate issue of administrative effectiveness will remain unresolved.

6.2.3.5 Costs and Financing

The major issue for costs is the ability of the present system to absorb new student intake so that the discretionary funds of government can be used for quality improvement. Any decision on teacher salaries, in addition, must consider whether increased wages will promote quality more than alternative uses for those same funds in training and materials production.

The present system of financing appears to be an efficient and equitable one. Government should target new school construction in those areas and regions where present school capacity is inadequate to deal with the projected enrollment increases. Government needs to work with local governments, local communities, and the schools to develop recommended maintenance activities on a regular basis. Individual families should not be asked to bear a larger burden of the explicit cost of primary education. Parents already subsidize the opportunity

costs of education by releasing their children from home and economic support activities.

6.2.4 Conclusions

One major and two secondary conclusions emerge from the above analysis of constraints and issues. In the last section these conclusions form the basis for four sets of priority-oriented recommendations.

Conclusion 1. The improvement of school quality deserves priority over all other areas of concern regarding primary education.

The quality of the instructional process either is determined by or determines the external and internal efficiency of schools, the true meaning of access and of equity, and ultimately provides the context within which the issues of management capacity and of costs and financing must be considered. All of these issues, and the possible remedies related to them, have meaning only if one begins with a standard of quality.

Conclusion 2. Expanding access to unserved portions of the population should follow improvements in instructional quality.

Conclusion 3. Improving management of the education system should be given increasing attention as goals of quality enhancement and then expanded access are realized.

6.3 RECOMMENDATIONS

In this concluding section an attempt is made to specify

recommendations that are responsive to the plans, constraints, and issues discussed above. The recommendations are organized within a structure of four priority areas.

The context for these recommendations is that the primary education system is at a point of transitory opportunity. For the next five to seven years there exists an ability to promote quality enhancement without incurring dramatic costs in system expansion. If this opportunity is missed, Somalia will face the 1990s as most developing nations have faced the 1980s: responding to the supply pressures of social demand rather than to the demand signals from manpower requirements.

6.3.1 First priority - Improve Teacher Quality in Current Primary Schools: Recommendations 1 - 3.

Recommendation 1: Redesign Primary Teacher Training as a Post-Grade 10 Activity and Eventually as a Post-Secondary Activity. There is now an opportunity to make a significant difference in the quality of teachers through shifting the two-year teacher training program from a post-primary system ultimately to a post-secondary one. An intermediate, interim strategy should be to provide primary teacher training following the completion of Grades 9 and 10 of secondary school. This interim strategy would enable students to begin teacher preparation with a stronger content background. It would also be feasible given the present adequacy of teacher supply and the underlying cost implications for government. The general secondary system can

absorb the additional students who would have gone into the PTTI after completing Grade Eight. There will be a transitional savings in salaries since the wage obligation of government will be postponed.

During the interim strategy, government can plan for the transition of primary teacher training to the post-secondary level. Upon graduation from general secondary school, prospective trainees then may be allocated to either the two-year primary teacher training program or to the three-year secondary teacher training program.

Ultimately, government will pay higher wages for new primary school teachers but will not be forced to pay all teachers more. The transition period can be used to provide intensive in-service or formal training to the present teaching corps. Those successfully completing the course would qualify for higher wages as well. The total wage bill effect will be absorbable even within the present conservative projections of fiscal capacity.

Recommendation 2: Review the Pay and Assignment System. The Ministry of Education should study options in the pay and assignment system that will compensate teachers who work in rural and remote areas. If this is not feasible, consideration should be given to guaranteeing teachers the right to transfer to another school after service of a certain period of time in the rural school locations. The result of this change should be to make teaching in primary school a more attractive career alternative.

Recommendation 3: Improve Supervisory and Support Assistance. The Inspectorate should be provided with sufficient resources (including

transportation and fuel) to visit each school at least yearly. A program should be designed for support materials and assistance to be available to each teacher upon request. Inspectors should make extra visits to those schools where new or National Service teachers are located.

Evaluation of teachers should include interviewing students and parents about the activities of the school. The Inspectorate should work with local government leaders to implement an ongoing maintenance program for school facilities.

6.3.2 Second Priority - Improve Educational Materials Availability: Recommendations 4 - 5.

Recommendation 4: Provide Alternative Source of Printing Capacity. The major bottleneck in provision of materials to schools is the limited printing capacity of government's printing system. Immediate steps should be taken to identify an alternative printing source so that existing manuscripts for texts and guidebooks can be reproduced for distribution. If possible, consideration should be given to use of a private-sector establishment for these printing activities.

Recommendation 5: Continue Review and Updating Of Existing Instructional Materials. The quality problems with existing materials are not sufficient to delay production and distribution of materials. However, efforts should be initiated to review, edit, update and, if necessary, redraft materials for each of the primary grades. The CDC should receive adequate staff and financial resources to allow them to

fulfill their responsibilities under this program.

6.3.3 Third Priority - Increase Access to Unserved or Underserved populations: Recommendations 6 - 9.

Recommendation 6: Concentrate Construction of New Facilities in Regions and Rural Areas where Primary Education is Not Available. A policy of restrained quantitative expansion should be encouraged with most of the expansion coming within existing schools. New school construction should take place in those specific locations where the population of school-age children is presently underserved in terms of access opportunities. The selection of school sites should be based upon enrollment projection data provided by the Planning Department of the Ministry of Education.

Recommendation 7: Provide Complete-Cycle Instruction at All Elementary and Intermediate Schools. This new policy will do much to promote regional and rural/urban equity in the primary school system and should limit attrition. A part of the cost of this policy will be borne by the teacher who is now forced to teach multi-grade-level classes. The teacher assignment system should identify schools with such multi-grade classrooms as priority recipients for new teachers. The student/teacher ratios that will result in some schools as a result of this policy will be part of the necessary cost for improved equity in educational and social opportunity.

Recommendation 8: Design Nonformal Delivery Systems to Provide Literacy and Numeracy to the Nomadic Population. The major access issue in Somalia cannot be resolved in the short run by the formal

educational system. A nonformal program based on mobile teachers, radio broadcasting, and, at later stages, on self-instructional materials offers the only feasible means of incorporating the nomadic and semi-nomadic youth into the literate population. This nonformal program should extend its opportunities for learning not just to the school-age youth but to adults as well. The literacy/numeracy instruction can be combined with health and other instruction to increase the immediate relevance of the academic instruction to the learners.

Recommendation 9: Encourage the Employment of More Female Teachers in Primary Schools, Especially in the Upper Grades. The importance of women teachers in primary education is to provide an expanded conception of women's roles. This is a function which is important for both male and female students. Special efforts need to be made to provide more opportunity for women as school headmistresses and as teachers in the upper grades of primary education. The effect of these changes should be to encourage more female students to begin formal education and to stay in school longer.

6.3.4 Fourth Priority - Improvement in System Management: Recommendations 10 - 12.

Recommendation 10: Upgrade MOE Planning Department. The Planning Department and its Statistics Division should be upgraded in staff and support resources to allow the Ministry of Education to better develop long-range operational plans and respond to both demand changes in the economy's manpower system and changing enrollment patterns in the

schools. Present staff is inadequate in number to fulfill these tasks. They provide an excellent foundation, however, for the creation of a joint educational planning and research department. For maximum effectiveness, this department should be placed directly under the Director General's office and act as a coordinating agency for the Ministry. It should also serve as the liaison unit with the Ministry of National Planning's proposed manpower planning unit.

Recommendation 11: Reorganization of MOE Structure. There should be a management analysis conducted of the MOE with a focus on areas of redundancy and inadequate performance. The reorganization should reconsider both horizontal and vertical organizational structures within the Ministry. One goal should be to clarify responsibility and work to ensure that units have the authority and resources necessary to fulfill their duties. A second goal should be to free the senior management staff for policy and long-range planning activities and to place day-to-day administration more in the hands of middle level management.

Recommendation 12: Upgrade Management and Skill Training for MOE Staff. The present needs for training in the MOE are, first, for middle level management skills for department and division heads and, second, for increased technical skill among junior staff. Quantitative and statistical skills, familiarity with data collection and processing, recordkeeping, budgeting, and basic planning skills are all needed by MOE staff. Each department should conduct a needs assessment and identify the training required to enable staff to fulfill their specific functions.

7.0 SECONDARY EDUCATION

This section examines general secondary education in Somalia. This is the academically oriented, four-year program which follows primary education and leads, for a small minority of students, to university. This chapter first reviews the present structure of secondary education. In the analysis section, current needs and constraints are compared to government's plans.

Students who complete intermediate school may sit for the Primary School Leaving Examination. They then have four schooling options: general secondary education, two-year vocational education, three- or four-year technical education or primary teacher training programs. The majority opt for general secondary. In 1982, 69 percent of those who passed the primary school exam chose general secondary. General secondary education is a four-year program (grades 9 through 12) covering science, math, humanities, and languages. At the end of the four years, students sit for the General Secondary School Leaving Examination. Those who pass are required to spend the following year in National Service before they receive their Secondary School Leaving Certificate. They are then eligible to sit for the University Entrance Exam, if they so desire.

The principal needs identified in the subsector are for an improvement in quality, a better link between the education received and skills required in the labor market, and better planning based on

current enrollments and future demand. At the end of the chapter, recommendations are presented to address each of these needs.

7.1 STATUS

This section briefly notes the historical setting of secondary education. It then reviews general secondary education with respect to its structure and its recent changes, and describes the subsector in terms of external and internal efficiency, access and equity, administration, and costs and financing.

7.1.1 Historical Setting

Background on the development of the formal education system is provided in Section 6.1.1. At the time of independence there were not more than twelve secondary schools in the country. The few secondary schools established by the British and the Italians before independence were founded to provide formal education to a small Somali elite--the future leaders of their country. Despite an avowed policy of expansion at the secondary level in the 1960's, the secondary system continued to offer high-quality training to a small proportion of Somali youth. During the early years of independence a number of private secondary schools were established. These were not state-supported but were financed and run by foreign missions. Among them were Ala secondary school, established by the Egyptian mission in Mogadishu, and the Mennonite secondary school at Jowhar. In consequence, despite government attempts at national integration of secondary schools and

development of a national curriculum, secondary schools in the second half of the 1960s gave instruction in different languages (English, Italian, and Arabic) and followed different programs with no coordination among them. In the early 1970s, government nationalized all secondary schools and was then able to impose a unified program at the secondary level throughout the country. Somalization of the schools lagged behind the primary system because Somali texts were not published for the secondary level until the late 1970s.

7.1.2 Goals and Strategies

As addressed in the Five Year Development Plan, 1982-1986, government's primary goals are (1) to accept 80 percent of all qualified primary graduates into secondary education, and (2) to diversify their enrollment, channeling more students into vocational and technical training options. Government's target is that only 24 percent of the primary school graduates should continue in general secondary education.

Even with diversification, general secondary enrollments are expected to rise. To accommodate this increase, government will construct 17 new general secondary schools between 1982 and 1986. Primary emphasis in government planning, however, is to improve the quality and efficiency of general secondary education. Strategies for accomplishing this include (1) increasing the student/teacher ratio, (2) upgrading teaching staff and strengthening secondary school teacher training, (3) engaging in curriculum development, and (4) improving

existing facilities. With donor assistance, government is constructing a curriculum development center to provide audio-visual and other instructional materials. By 1986, the facility is expected to provide for the local production of all text and supplementary books for secondary education.

7.1.3 Structure of Secondary Education

Chart 6.2 in the review of pre-primary and primary education depicts the structure of the formal education system. The following discussion focuses on enrollments, teachers, and facilities with respect to general secondary education.

7.1.3.1 Enrollment

Dramatic increases in secondary school enrollments are recent. In the twelve years from 1965 to 1977, enrollments rose from 1,908 students to 6,981. Table 7.1 shows that from 1978 on enrollments virtually exploded, going from 11,130 in 1978-79 to 44,860 in 1981-82 (an increase of 303%). However, this surge will peak in 1983-84, and enrollments will decline through 1990, as indicated in Table 7.2.

Within this overall decline, there are sharp differences in both previous education preparation and enrollment by grade level that pose serious issues for instruction, educational planning, and logistics through 1990. To understand these future issues, it is necessary to understand the derivation of these "enrollment bubbles" currently moving through the system.

Table 7.1

SUMMARY OF GENERAL SECONDARY SCHOOL STATISTICS
SELECTED YEARS 1973-1982

	1973-74	1978-79	1980-81	1981-82
Schools	28	36	51	68
Classes	222	282	663	895
Students	7,746	11,130	37,850	44,860
Percent Females	16%	21%	29%	32%
Teachers	439	706	1,277	2,026
Student/Teacher Ratio	18:1	16:1	27:1	22:1
Student/Class Ratio	35:1	40:1	57:1	50:1

Table 7.2

PROJECTIONS OF GENERAL SECONDARY EDUCATION ENROLLMENTS 1982-83 to 1990-91

	8th Grade Class	Number Passing Exam	Grade Level: Nine	Ten	Eleven	Twelve	Graduates	Total Gen Sec Enrollment
A) RECENT STATISTICS								
1980-81	34,452	25,036	19,893	6,557	4,386	2,376	2,126	33,212
81-82	26,086	18,881	17,310	17,165	6,095	4,290	3,840	44,860
B) PROJECTIONS								
Proportion of previous Category		.725	*	.863	.930	.978	.895	
1982-83	21,182	15,357	13,028	14,939	15,963	5,961	5,335	49,891
1983-84	14,795	10,726	10,721	11,243	13,893	15,612	13,973	51,469
1984-85	21,284	15,431	7,401	9,252	10,456	13,587	12,161	40,696
1985-86	23,157	16,789	10,493	6,387	8,604	10,226	9,152	35,710
1986-87	18,787	13,621	11,249	9,056	5,940	8,415	7,531	34,660
1987-88	17,726	12,851	8,854	9,708	8,422	5,809	5,199	32,793
1988-89	16,988	12,316	8,225	7,641	9,028	8,236	7,372	33,130
1989-90	19,575	14,192	7,635	7,098	7,106	8,829	7,902	30,668
1990-91	20,201	14,646	8,515	6,590	6,601	6,950	6,220	28,656

* 82-83 - .69
83-84 - .69
84-85 - .69
85-86 - .68
86-87 - .67
87-88 - .65
88-89 - .64
89-90 - .62
90-91 - .60

During 1974-75, schools were closed to make staff available for the national literacy campaign. When they were reopened in 1975, the first grade class consisted of three categories of students: those who would normally have entered first grade in that year, those deferred from the previous year when schools were closed, and a portion of those students who had been in first grade the year before schools were closed (1973-74) and who were told to repeat the grade. The remaining first graders from 1973-74 went directly to second grade (1975-76). The result was to make the 1975-76 first-grade cohort disproportionately large while the second grade in that year was relatively small. Further, the first grade class the next year (1976-77), while closer to "normal size," represented a sharp drop from the previous first grade class size (e.g., the 1975-76 inflated year). However, before the impact of these enrollment patterns was felt in secondary school, another reallocation occurred.

In 1980-81, primary education was extended from six to eight years. To accomplish this, the Grade Four and Grade Five classes from 1979-80 were each split. (These are the students who were first and second graders in 1974-75.) Fourth graders were split into fifth and sixth grades (48% and 52%, respectively). Fifth graders were sent directly to either seventh or eighth grade (48% and 52%, respectively). Seventh and eighth graders in 1980-81 were the 1975-76 Grade One cohort. The pattern of student grade progression is diagrammed in Chart 6.1 in Section 6.1.1.

Only since 1980-81 has the impact of these reallocations hit the secondary school. Ninth graders in 1981-82 were in the 1975-76 first grade cohort that accumulated the three-year backlog of students. Then this particular group was selected to skip from fifth directly to eighth grade in 1980-81. Consequently, the 1981-82 ninth grade class is large (even after the fifth grade split), particularly young (since they skipped two grades), and less well prepared academically (again, because they skipped two grades).

The ninth grade class from 1981-82 through 1983-84 also shares this heritage. Both the 1983-84 and the 1984-85 ninth graders will have skipped a grade at some point earlier in their education. The consequences of this pattern are evident in both class size and extent of prior preparation. The "enrollment bubbles" created by splitting classes can be traced in Table 7.2, which reports enrollment by grade projected through 1990. In particular, the 1984-85 ninth-grade cohort is disproportionately small (relative to the classes on either side of it). Likewise, in the 1984-85 academic year, ninth and tenth graders will both have had the same number of years of prior education, as will eleventh and twelfth graders. The impact of these enrollment patterns on educational quality and on teacher preparation will be discussed in Section 9.0, Teacher Education and Training.

Enrollment by student age, reported in Table 7.3, is not affected by these cohort splits since it is based on 1980-81 data. One of the more striking features of these data is the range and relative evenness of the age distribution within a grade. For example, tenth graders

Table 7.3

SECONDARY SCHOOL ENROLLMENT
BY AGE, 1980-81 DATA

Grade	Age								
	Fourteen	Fifteen	Sixteen	Seventeen	Eighteen	Nineteen	Twenty	Twenty-one	Total
IX	4,854	4,850	4,076	4,603	3,149	2,012	1,308	600	26,452
X		1,204	1,158	1,689	1,596	1,257	1,549	1,219	9,672
XI			692	930	1,149	865	760	1,208	5,604
XII				457	581	662	583	1,480	3,763
TOTAL	4,854	6,054	6,926	7,679	6,475	4,796	4,200	4,527	45,491

span eight years (ages 15 to 21), and no more than 18 percent of the students are at any single age. These age differences are associated with differences in student maturity and experience. As such, the age range poses meaningful consequences for instruction and teacher preparation. These will be developed more fully in the analysis portion of this section (7.2).

7.1.3.2 Teachers

The number of teachers increased somewhat more slowly than the number of students, but at a rate that placed tremendous strain on teacher training capacities since there is only one training school for general secondary teachers. In 1978-79, schools were staffed by 706 teachers; in 1981-82, the number had grown to 2,018, an increase of 185 percent (Table 7.4). To speed up the supply of teachers, the MOE reduced the teacher training program from three years to two using an accelerated curriculum (six semesters over two years). However, the shortened program tended to have an opposite effect. There was a reduction in teacher training output since many students could not complete the course in two years. In 1980-81, only 270 of the 500 students in the second year of teacher training graduated. The large number who continued their studies forced a slowdown in subsequent intake. As an additional problem, teachers who graduated in two years generally did not have an adequate preparation, and the quality of secondary school teaching declined. In response, the MOE now plans to restore teacher training to three years beginning in 1983-84, and

Table 7.4

NUMBERS OF TEACHERS AND CLASSROOMS, 1981-82

Region	Full Time Teachers						Part Time Teachers				Total Teachers		Total FTE Equivalent	Classes	Classrooms		Schools	FTE Teacher/ Student Ratio	Average Class Size
	Permanent		National Service		Expatriate		Somali		Expatriate						Occupied	Unoccupied			
	Tot	F	Tot	F	Tot	F	Tot	F	Tot	F	Tot	F		Total					
W. Galbreed	144	4	1	-	1	-	12	-	-	-	158	4	151	92	78	14	9	1:33	54
Togdheer	50	2	-	-	12	-	14	1	-	-	76	3	69	28	23	4	3	1:21	51
Sanaag	18	-	-	-	6	-	7	-	-	-	31	-	28	14	17	7	3	1:23	46
Bari	13	-	9	-	-	-	10	-	-	-	32	-	27	14	15	2	2	1:27	52
Nugaal	13	-	9	-	-	-	23	-	-	-	45	-	33	19	13	10	3	1:22	40
Mudug	15	1	-	-	-	-	-	-	-	-	15	1	15	10	6	-	1	1:31	47
Galgaduud	13	-	18	-	-	-	9	-	-	-	40	-	26	12	10	5	2	1:15	46
Hiraam	27	-	18	-	-	-	9	-	-	-	54	-	50	36	22	6	3	1:33	45
Sh/Dhexe	34	3	24	2	-	-	14	1	-	-	72	6	65	27	25	7	4	1:20	48
Banaadir	420	66	400	55	74	-	194	14	-	-	1,088	135	991	414	254	34	18	1:24	59
Sh/Hoose	76	5	75	-	-	-	52	2	-	-	203	7	177	103	71	4	8	1:24	41
Bay	42	2	31	3	-	-	8	-	-	-	81	5	77	34	30	8	4	1:18	42
Bakaal	8	-	-	-	-	-	7	-	-	-	15	-	12	5	4	3	1	1:16	39
J/Dhexe	4	1	4	-	-	-	-	-	-	-	8	1	8	2	2	1	1	1:10	39
Geolo	11	-	11	-	-	-	4	-	-	-	26	-	24	10	8	6	2	1:15	37
D/Hoose	40	4	-	-	9	-	25	-	-	-	74	4	62	39	30	6	3	1:28	44
TOTAL	928	88	600	60	102	-	388	18	-	-	2,018	166	1,815	859	608	117	67	1:24	

ultimately to four years. Extending the training period will cause a drop in output for one year, as second year students continue for a third year instead of graduating.

General secondary teachers are drawn from three sources: 47 percent are permanent teachers employed by MOE, 29 percent are secondary school graduates completing their National Service, 6 percent are expatriates (computed from data in Table 7.4). This means that nearly one out of every three permanent teachers has not completed a teacher education program and is teaching close to the highest level he or she just completed. Another 18 percent of the teachers are part-time instructors, all of whom are Somali. Among these are regular secondary teachers handling additional classes for extra pay.

In the past, the MOE reporting system frequently has pooled full-and part-time teachers in national statistical summaries. The use of "head count," while useful for comparison across years, overestimates the teaching force in any given year. The MOE began keeping tabulations of part-time teachers in 1981-82, thereby enabling the computation of the "full-time equivalent" (FTE) number of teachers. This, in turn, allows the computation of a student/teacher ratio that reflects more accurately the classroom environment than does the one based on teacher head count. The student/FTE teacher ratio for 1981-82 was 24:1.

7.1.3.3 Facilities

MOE reported three measures of facilities and facilities use.

The first measure is the extent of overall increase in the number of schools. Though the Five Year Development Plan, 1982-86 projected the need for 17 new general secondary schools by 1986, twenty-five schools are already under construction for 1983.

The second measure, also reported in Table 7.4, is the number of occupied and unoccupied classrooms. The number of classes often exceeds the number of occupied classrooms since two classes occasionally both use a single room. Classrooms generally are not listed as unoccupied if they were unused due to the lack of a teacher. Most unoccupied classrooms were not available for use because they were without furniture, had broken or unusable furniture, or had no instructional materials. Total number of classrooms increased from 572 to 725 between 1980-81 and 1981-82. However, during that time, the occupancy rate dropped from 89 percent of the rooms in use to 84 percent. This means that the 63 unusable classrooms in 1980-81 increased to 117 unusable by 1981-82, a net loss of an additional 54 rooms.

The third measure of facilities use is the number of classes per school and per classroom. The number of classes by grade and region is reported in Table 7.5. From 1980-81 to 1981-82, the number of classes increased from 707 to 859 (a 22% increase). During 1981-82, there was an average of 1.4 classes meeting in each classroom, up from 1.2 classes per room in 1980-81. Thus, despite the increase in schools and classrooms, there appears to be increasing demand on existing space.

Table 7.5

AVERAGE ENROLLMENT BY GRADE AND REGION

Region	Grade 9			Grade 10			Grade 11			Grade 12			Total		
	Classes	Total enroll	Female enroll	Classes	Total enroll	Female enroll	Classes	Total enroll	Female enroll	Classes	Total enroll	Female enroll	Classes	Total enroll	Female enroll
W. Galbeed	25	1,403	313	37	2,176	549	19	946	216	11	471	83	92	4,996	1,161
Toghdeer	11	540	112	10	554	93	4	190	32	3	147	6	28	1,431	243
Sanaag	6	326	37	6	226	44	1	52	6	1	44	6	14	648	93
Bari	5	274	42	6	294	67	2	116	14	1	96	14	14	780	137
Nugaal	12	506	120	5	198	43	1	34	2	1	16	2	19	754	167
Mudug	4	189	68	4	187	63	1	52	14	1	18	5	10	446	150
Galgadaad	5	251	79	4	175	29	2	68	7	1	46	6	12	550	121
Hiraam	16	757	216	14	656	155	4	148	20	2	73	5	36	1,634	396
Sh/Dhexe	14	644	154	10	523	91	2	91	10	1	44	4	27	1,302	259
Banaadir	152	8,474	3,550	158	9,124	3,914	60	3,318	1,168	44	2,420	691	414	23,336	9,323
Sh/Hoose	49	2,158	523	36	1,468	246	9	326	53	9	290	35	103	4,242	857
Bay	14	557	145	15	625	156	3	142	24	2	95	13	34	1,419	338
Bakaal	1	50	7	2	89	9	1	25	2	1	30	4	5	194	22
J/Dhexe	2	77	18	-	-	-	-	-	-	-	-	-	2	77	18
Geolo	4	155	24	4	141	20	1	47	1	1	22	1	10	365	46
D/Hoose	17	791	225	13	578	121	5	183	33	4	157	31	39	1,709	410
Total	337	17,162	5,733	324	17,014	5,600	115	5,738	1,602	83	3,969	906	859	43,883	13,741

7.1.4 Programs

The curriculum for general secondary schools is the same throughout the country. Nine subjects are taught: English, Somali, Geography, History, Chemistry, Physics, Biology, Mathematics, and Arabic/Religion. The medium of instruction throughout is Somali, except for Arabic/Religion.

Little donor support has been targeted specifically for general secondary education. World Bank, Danida, and UNICEF provide support for the Curriculum Development Center and for materials and printing equipment as discussed in Section 6.1.5.1.

7.1.5 External Efficiency

Four interrelated factors influence the external efficiency of general secondary education. First, there has been little articulation of secondary education output with national or regional labor demand. Second, government's policy of guaranteeing employment to secondary school graduates by creating an artificial labor demand has distorted normal incentive systems that would encourage graduates into areas of manpower need. Third, large numbers of secondary school students leave the country to find employment abroad. Lastly, the quality of general secondary education is low, leaving some secondary school graduates without the skills they need to be competitive for employment outside the public sector. Each of these points will be discussed.

Secondary education has been supply driven. Government's emphasis has been on extending post-primary educational opportunity to

a large percent of eighth grade graduates. However, little attention has been given to identifying the fields in which graduates can expect to find work or the particular skills that are most in demand. Indeed, there is currently very little information available that addresses these issues. There are two reasons for this. First, while many graduates work abroad, government has regarded emigration as an impediment to national development and has not sought to encourage it by providing information on employment opportunities abroad. Second, graduates who remain in the country have been guaranteed government employment, so greater responsiveness to demand has not improved students likelihood of getting jobs.

Thus, data on foreign jobs were not collected by government, and national data were not required by students since their jobs have been guaranteed. The result is that few labor-demand data exist on either Somalia or the larger Gulf Region, thereby reducing ability to assess and improve the external efficiency of education.

Government's guarantee of employment to all secondary school graduates has served as an incentive to encourage students into post-primary education. However, the rapidly increasing enrollments have resulted in large numbers of graduates entering public sector employment. This has had several consequences. The public sector is overstaffed, and many recent graduates are underemployed. At the same time, this employment has posed a severe financial burden on government. Further, the guarantee of employment, while encouraging education, has also served to remove external market competition for

labor. National needs for particular skills and knowledge may not evoke student response because graduates are assured of jobs at approximately the same salary, with or without the desired skills. Over the last four years, the incentive value of the guaranteed employment has diminished as government salaries have not increased to keep up with inflation. This has led large numbers of secondary school graduates to seek better employment opportunities abroad.

While no firm data are available, estimates are that a large number of secondary school graduates emigrate to seek employment in Saudi Arabia and other Gulf States. Government has identified this loss of educated personnel as a major deterrent to economic and social development of the nation. However, this is subject to debate. On one hand, the emigration does deny the country some of its most able citizens. The emigration represents a loss of substantial government investment in human capital. On the other hand, the remittances from these workers abroad represent an important source of foreign exchange for the country. Further, it would be difficult for the country to absorb these workers were they to choose not to work abroad.

Currently, financial incentives to remain in the country are few. Graduates who work for the government earn about So.Sh. 1,500 per month; the same persons working in private industry might earn So.Sh. 3,000 to 5,000 per month. Graduates working in the Gulf Region are estimated to earn So.Sh. 20,000 to 30,000 per month. Not only are public salaries low, but the increment system is relatively flat. Years of service bring little increase in earnings. However, once

having entered public employment, workers must receive government approval to leave their jobs.

Over the last five years, educational quality has dropped as resources have been allocated to support rapid expansion of the educational system. While this point is more fully developed in the discussion of internal efficiency, it should be noted here that this lowered quality also has reduced the external efficiency of education. Students graduate without the prerequisite skills and knowledge to function at the technical and professional levels required for the development of the country. The lower quality also adversely affects graduates choosing to emigrate. If there is a drop in labor demand in the Gulf States (for example, as a response to a decline in oil prices), competition for the remaining jobs is likely to increase and the skill level required is likely to be raised. Somali workers could then be at a disadvantage when competing with workers from other countries who may have stronger academic backgrounds. If Somali workers are not competitive, emigration will drop, resulting in greater demand for domestic employment. Low quality education can result in an increased demand for public sector employment by those graduates least competitive in the Gulf Region labor market.

7.1.6 Internal Efficiency

Internal efficiency is indicated by student flow through the educational system, classroom environment, adequacy of teacher preparation, and facilities use.

Student progression rates, based on student movement from 1980-81 to 1981-82 reported in Table 7.2, are summarized below:

	Progression rate	Dropout rate
Ninth to tenth grade	.86	.14
Tenth to eleventh grade	.93	.07
Eleventh to twelfth grade	.98	.02
Percent graduated	.90	.10

The compound effect of these progression rates is that out of every 100 students who enter secondary school, 71 graduate. This represents a high progression rate relative to other African countries.

One reason for the high progression rate is that 93 percent of students who sit for the Secondary School Leaving Examination pass the test. Such a high pass rate suggests either that students are very well prepared, or that they are held to low standards of performance in the exams. However, the concern expressed by both government and private employers about the low quality of graduates' preparation suggests the high pass rate is more likely a function of the test characteristics than an accurate statement about student preparation. If the test is not discriminating among students who do and do not perform at an acceptable level, the test or testing procedure (e.g., choice of standard) contributes to an educational inefficiency, as students are graduated without having acquired the skills they need.

Direct measures of classroom environment and instructional efficiency are not available. However, a number of indicators can serve as proxies. The first is student/class ratio. The number of students per class represents a useful measure of classroom

environment because it indicates the number of students actually in front of a teacher at a given time. Since full-time teachers may work in administration or share responsibility for a single class, student/teacher ratios underestimate this number. During 1981-82, classes averaged 52 students each, at or near the limits for effective pedagogy.

A second proxy of classroom environment is the availability of instructional materials and supplies. One of the most persistent concerns of both MOE officials and teachers is the inadequate supply of textbooks and other instructional materials. This is due, in large part, to an inability to publish Somali language texts at a rate that keeps up with demand. This will be discussed in greater detail later.

If classes are large and materials are limited, then greater demands are placed on the teacher. Thus the adequacy of teacher preparation becomes particularly important. However, as described earlier, the recent history of secondary teacher training suggests there has been a drop in quality of preparation, so much so that the MOE now plans to extend the training program to three full years.

The other indicator of low quality, as mentioned earlier, is the large percentage of National Service instructors counted in the permanent teaching staff. These teachers are recent secondary school graduates completing an obligatory year of national service at the end of Grade Twelve. These individuals have not completed a teacher training program and have not had formal education much beyond the level at which they are teaching.

Another aspect of internal efficiency is that teachers appear to be underemployed. Class size averages 52 students, yet there is an average of only 24 students per teacher. This means there are slightly over two teachers per class. Teachers specialize by content area. If a school is small, there may be only a few classes in any particular content area, hence a full-time teacher may teach only two or three classes a day. On one hand, this serves as a hidden subsidy. Teachers' salaries are low, and the short work day allows teachers to hold outside employment. On the other hand, the underemployment is costly because the investment in teachers' training is underutilized.

The use of existing facilities represents an additional indicator of internal efficiency. The percent of usable classroom space dropped (89% to 84% from 1980-81 to 1981-82) even as new facilities were being constructed. Expenditures for facilities construction continued even as existing classrooms sat idle.

7.1.7 Access and Equity

The examination of access and equity focuses on the need to extend educational opportunity to three groups: (1) school-age youth in outlying rural areas and regions, (2) girls, and (3) refugees.

Government has made progress both in extending educational opportunity to rural areas and in creating the infrastructure necessary for future expansion of the educational system. In 1974, the 28 existing secondary schools were located in fewer than a dozen towns in only 10 of the country's 16 regions. In 1981-82, there were 51 schools in 39 different towns and villages with at least one school in

every region. The basis for future expansion has been strengthened through government's rural development program. As villages get water, electricity, and other services, teachers are more likely to be willing to stay in those villages to teach.

At the same time, there are still inequities in the urban/rural and regional distribution of general secondary education. The specific dimensions are difficult to determine because there are virtually no data on rural population by age group. This poses a serious problem in educational planning. Nevertheless, one estimate can be developed by comparing the regional distribution of enrollment in 1981-82 with a 1975 estimate of regional population. These data, presented in Table 7.6, are based on four assumptions: (1) the 1975 population estimates are accurate; (2) the distribution of population by region has not changed dramatically since 1975; (3) the age distribution of the population is roughly the same across regions; and (4) education quality is comparable across regions. While there is little basis from which to question the 1975 estimates, there are reasons the other assumptions may no longer hold: (1) there has been a substantial urban migration since 1975; (2) those moving to urban areas tend to be younger and are more likely to have school-age children; (3) the influx of refugees has changed regional population distribution; and (4) it is unlikely that educational quality is similar across regions. Given these cautions, Table 7.6 provides one basis for considering regional equity.

Data indicate that all regions of the country except Banaadir are

Table 7.6

DISTRIBUTION OF SCHOOL ENROLLMENT AND NATIONAL POPULATION

Region	1981-82 Enrollment	Percent of Enrollment	National Population (1975)
W/Galbeed	4,996	.11	19.5
Togdheer	1,431	.03	2.4
Sanaag	648	.01	1.2
Bari	730	.02	1.6
Nugaal	754	.02	.8
Mudug	446	.01	.7
Galgaduud	550	.01	1.2
Hiran	1,634	.04	9.0
M/Shabelle	1,302	.03	4.4
Banaadir	24,373	.54	25.4
Bakool	194	.01	.9
Bay	1,419	.03	3.6
L/Shabelle	4,232	.09	14.7
Gedo	365	.01	8.0
M/Juba	77	.00	2.7
L/Juba	1,709	.04	4.1
TOTAL	44,860	100	100

under-represented in educational enrollments relative to 1975 population estimates. Over fifty percent of all general secondary enrollment in the country is in the Mogadishu area (Banaadir Region) which in 1975 accounted for only about 25 percent of the national population.

Another dimension of urban/rural access is the extent to which boarding facilities are available at the schools. Lack of boarding facilities reduces access for potential students from rural areas who do not have relatives in town with whom they can live. In 1980-81, fifteen schools had boarding facilities. Four regions had no boarding facilities: Banaadir, Sanaag, Galgaduud, and Middle Juba. One consequence is that rural students cannot attend school in the capital area (Banaadir Region), where educational quality may be particularly high, unless they can arrange private accommodations. On the other hand, because of the very high expense of boarding facilities, government is faced with trading one form of access for another.

While female access to general secondary education has improved over the last decade, overall statistics mask substantial differences between the Mogadishu area and the rest of the country. Fully 69 percent of all 1981-82 female secondary enrollment was in the Mogadishu area, where girls accounted for 41 percent of all student enrollment. Outside the capital region, girls still have very limited secondary school opportunity. Female enrollment by grade for Banaadir and for other regions combined is reported in Table 7.7. While the increased percentage of female enrollment at each grade level suggests that

Table 7.7

DISTRIBUTION OF FEMALE ENROLLMENT BY GRADE FOR BANAADIR AND FOR ALL OTHER REGIONS COMBINED, 1981-82 DATA

Grade	Female enroll	Percent of total enroll	Female enroll	Percent of total enroll	Female enroll	Percent of total enroll
9	3,605	42%	2,083	24%	5,688	33%
10	3,977	43%	1,686	21%	5,663	33%
11	1,374	37%	434	18%	1,808	30%
12	908	33%	215	14%	1,123	26%
9-12	9,864	41%	4,418	22%	14,282	32%

access for female students is improving, a substantial gap between male and female educational opportunity still exists in most areas of the country.

Refugees have limited access to secondary education. Although there are good quality primary schools in the refugee camps, in 1982-83 there were no secondary schools there, and refugee students had to find boarding places elsewhere if they wished to continue after Grade Eight. There are plans to build secondary schools in refugee settlement areas with the World Bank Fourth Education Sector loan funding four of them.

There are also inequalities in the amount and quality of instructional materials available in different secondary schools. In general, the pattern seems to be that the longest established schools and former private schools may still have laboratory equipment, maps, wall charts, and library resources left from the early 1970s, while many schools built later are without any visual aids or libraries and lack adequate water and electricity, as well as equipment, for science laboratories.

7.1.8 Administration and Supervision

General secondary schools are administered by the MOE through essentially the same framework described earlier for primary education (see Chart 6.3 in Section 6.1.4). The MOE is divided into three general administrative units (Administration, Personnel, and Planning) and a series of specific functional units (Curriculum Development Center, Examination Services, Central Inspectorate, and Regional

Education Offices). Each of these is described in Section 6.1.4.

The units most directly concerned with the content of secondary school instruction is the Curriculum Development Center (CDC). It is responsible for the development of syllabi, texts, teachers' guides, and teaching aids for all academic areas in secondary schools. The organization and current status of the CDC is described in Section 6.1.5.1.

7.1.9 Costs and Financing

The average unit cost for general secondary education, as computed in Section 2.5.2, is So.Sh. 1,068. This is approximately 2.6 times the unit cost for primary education, which is not unusual for African countries. However, eighteen of the general secondary schools have boarding facilities. The unit cost for a boarding student, as indicated in Section 2.5.2.2, is considerably higher. For tuition, room, and board, the cost to the government for a student (net of student payments) is So.Sh. 3,353. This is equivalent to the cost of educating 12.4 primary students per year. As discussed in Section 2.0, this represents a significant expenditure by government which should be examined closely.

The examination of returns to education in Section 2.5.7 reveals some aspects of who bears the cost burden in general secondary education. The direct private costs estimated in Table 2.36 show that out-of-pocket expenses for families are about the same as for primary school, about So.Sh. 1,118. However, this is for a four-year cycle

instead of eight years. Further, it does not include food and board expenses which may exist if the student must live away from home. The secondary schools are concentrated in urban locations. Finally, the foregone earnings at this level are quite high compared to primary school.

The increased earnings due to a secondary education, on the other hand, are quite low. This may reflect the poor quality of secondary education, the low wages of government employees, or the lack of relevance between what is learned in school and what is required in the modern-sector labor markets. Thus, the rate of return to secondary education is much lower than for all other levels. The rate of total return (social and private combined) is 10.4 percent, implying that the social rate must be even lower.

Projections of government expenditures at the general secondary level (Table 2.20) show an actual decrease between 1984 and 1990. This decrease is quite substantial--from So.Sh. 54 million to So.Sh. 31 million, or nearly a 50 percent decline. This reflects both a natural enrollment decline from primary school and a shift in enrollments at the secondary level from general to vocational and technical education.

7.2 ANALYSIS

This section examines the principal needs of the subsector and current government plans, and gives an analysis of several major issues. Three conclusions summarize the discussion and serve as the

basis for the recommendations in the remainder of this assessment of secondary education.

7.2.1 Needs

The critical needs for general secondary education are to improve the quality of education, to make a closer link between what is taught and what is required in the labor market, and to improve planning based on current enrollments and future projected demand.

7.2.2 Plans

Government plans to build more general secondary schools, improve teacher training, and encourage a higher percentage of secondary school entrants into vocational or technical education. While school construction already exceeds 1986 targets, the remaining two plans have not yet been implemented. MOE anticipates extending the teacher training program to three years beginning in 1983-84. Because of the fiscal constraints, the final allocation of students between types of secondary education will be different than suggested in the Five Year Plan 1982-86. Exact specifications have not yet been determined.

7.2.3 Constraints

The primary constraints within general secondary education are inadequately trained teachers and the lack of instructional materials and equipment. However, the severity of these constraints is magnified by a series of historical circumstances. Over the next five years, students will enter secondary education with a considerably weaker

academic background than generally typifies Somali secondary students. Future educational development may not require increased levels of expenditure. Rather, the projected decline in enrollment offers the possibility of excess capacity in secondary education during the remainder of this decade.

7.2.4 Issues

The major issues are grouped under three categories--external efficiency, internal efficiency, and administration and supervision.

7.2.4.1 External Efficiency

The overriding constraint on the external efficiency of secondary education is the poor articulation between the knowledge and skills needed in the work force and the education students receive in school. Four aspects of this issue will be discussed: (1) the oversupply of graduates relative to available jobs, (2) the need for manpower demand data, (3) the impact of emigration, and (4) the return on government investment in education.

While there have been many advantages in guaranteeing employment to secondary school graduates, government recognizes that the need to absorb these workers has resulted in underemployment and misallocation of manpower. Even with the projections of declining enrollments in the next eight years (1983-84 to 1990-91), the number of students graduating from twelfth grade will be substantially greater than in the past. For example, the number of students expected to graduate in 1983-84 (13,973) exceeds the entire number of students who graduated in the preceding four years, 1979-1983 (12,543). If the percent of graduates

receiving government employment remained the same, the government work force, at the lower ranks, could nearly double in one year. This will only exacerbate the problem of underemployment.

One solution is that more graduates find employment outside the public sector, either in private industry in Somalia or abroad. However, this requires education and skills in areas of current labor demand and at levels of mastery necessary for successful job performance. Secondary school graduates may experience difficulty on both issues. The private sector in Somalia, while growing, still is not large enough to absorb graduates at a rate that will meaningfully reduce pressure on government to create excess public-sector employment. Moreover, there is little mechanism for the coordination of the specific educational needs of private industry with what is taught in secondary schools.

An alternative is for graduates to seek employment abroad, as a substantial number of graduates already do. Government's position has been to discourage emigration, viewing it as a drain on the educated work force. While emigration does result in a loss of educated personnel, it is not clear that those lost skills could be utilized effectively within the country, given existing levels of underemployment. Also, given massive increases in secondary school output in the next few years, the advantages of encouraging emigration need to be considered. If so, schools need to give attention to preparing students in the content areas and at the skill levels necessary for graduates to compete successfully for jobs abroad. However, there

are few data available on the demand for graduates in the Gulf Region. Without such information, it is difficult to make meaningful decisions about targeting curriculum and other resources.

Beyond the concern over losing the skills needed in national development, emigration represents a loss of government investment in human capital. The costs of twelve years of education are not recovered if graduates leave the country. Remittances are an important by-product of emigration, but while remittances contribute to foreign exchange, they do not represent a direct return on education investment. If government were to consider encouraging emigration, a mechanism would have to be developed for recapturing some proportion of return on the educational costs of emigrants.

7.2.4.2 Internal Efficiency

The analysis of internal efficiency centers on the low educational quality of the current general education system and the prospects for quality improvement. The discussion examines the prior academic preparation of students, adequacy of teacher training, and availability of instructional materials. Five specific points will be developed.

1. Quality of General Secondary Education. The quality of general secondary education is low. Although secondary education is characterized by high progression and completion rates, both private and public employers complain that secondary school graduates lack proficiency in academic basics. This results in inefficiency because

workers cannot perform their jobs well, and it is expensive because companies must further train their employees. Government recognizes the loss of quality, as evidenced by current plans to extend the length of teacher training.

One reason for the low academic quality has been the allocation of educational resources over the last five years to expansion rather than to quality enhancement of the secondary school system. Quality has eroded in several ways: class size has increased, the length of teacher training has decreased, the range of age distribution has increased, and the availability of textbooks has not kept up with demand. However, in 1983-84, secondary school enrollments will peak, and then decline for the remainder of the decade. This drop in enrollment provides an opportunity to reallocate resources to enhance educational quality.

Quality enhancement is most likely to be realized through careful reallocation of excess capacity rather than through direct fiscal savings. Fiscal savings will be limited because not enough of the educational costs are marginal costs. However, future educational expenditures may be maintained at their current level or, alternatively, increased at a level below the rate of inflation. In addition, as enrollments decline, general secondary education may be able to absorb students and functions now allocated to other educational subsectors. For example, if two-year vocational training were to be upgraded to a post-Grade Ten program or if technical education were to be offered as a post-secondary program, the additional academic programs required could be absorbed by the general

secondary system at little or no extra cost. (Both of these proposals are discussed in Section 8.0).

2. Prospects for Quality Improvement. While excess capacity may provide an opportunity to focus resources on improving educational quality, an effective quality improvement strategy needs to be designed for the long term. In the short-term, the quality of general secondary education is likely to decline further.

The combined consequences of educational planning decisions from the 1970s only now are being felt in secondary school. Four previous decisions dominate the present and short-term future: (1) the decision to use Somali as the language of instruction in 1972, (2) the closing of schools in 1974-75, (3) the extension of primary education to eight years in 1978-79, and (4) the shortening of the teacher training program in that same year. The heaviest consequences of these events tended to fall on the same grade cohorts of students (e.g., the same students who had to repeat first grade were the ones who were advanced one or more grades later in primary school.) The first of these classes entered secondary school in 1981-82; the last of this cohort group will not graduate until 1987-88. These students and their educational circumstances have five characteristics: (1) many of these students are younger, and consequently less mature, since many skipped one grade and some two grades; (2) most of these students have less content background than their grade level would suggest; (3) there is little differentiation of students' content background between some grade levels because students of similar content background were

advanced to different grades when classes were split; (4) their teachers are more poorly trained as a result of the shortened teacher training program; and (5) there is a lack of instructional material written in Somali.

The cumulative effect of these factors suggests that the quality of general secondary education over the next five years will continue to be low and that an investment in short-term quality improvement would not be cost effective. The educational problems that confront these particular cohort groups are too many and too serious. The time can be spent better planning and implementing a longer term strategy of academic improvement.

3. Standards of Performance. In implementing a long-term strategy, it will be important to insulate the long-term program from the possible negative effects of the short-term drop in quality. Specifically, if the combination of academically weak students, weak teachers, and poor materials results in low quality education, and this persists for five years while these students move through the system, their performance may become accepted as the norm. The quality of their work may become the implicit standard of secondary student achievement. If this occurs, longer term quality enhancement will be more difficult. One implication is that great caution should be used in standardizing any tests or piloting any instructional materials with these students. The performance of a particularly weak grade cohort should not become the normative standard for subsequent cohorts.

4. Teacher Training. Another consequence of the declining

enrollment and the earlier splitting of classes is that the enrollment by grade level is quite uneven and will continue to be through 1990. For example, in 1983-84 there will be 5,961 students in twelfth grade; a year later twelfth grade enrollment will be 15,612. This suggests an imminent need for a substantial reallocation of teachers across grade levels to align with student enrollment patterns. This, in turn, means that teachers may be expected to teach materials at different levels of difficulty (e.g., at a higher grade level) each year or may be asked to teach different subject areas to remain synchronized with the curriculum at different grade levels.

As previously described, many teachers are inadequately trained. Approximately one-third of the teachers are completing National Service. They have never received formal teacher training, and they are teaching close to the highest level of their own educational attainment. Some of the other teachers are graduates of the two-year accelerated teacher training program which is regarded as weaker than the previous three-year program. Future improvement in educational quality will require both improving the preparation of future teachers (a lengthened teacher training program is already planned) and upgrading the preparation of existing teachers.

5. Instructional Materials. Good instructional materials can help compensate for weak teachers. However, secondary schools are seriously short of textbooks and other supplies. Four reasons

explain the shortage. First, Somali is the language of instruction. Materials already developed in another language have to be translated before they can be used. This can be a slow process. On the other hand, developing original instructional material generally takes longer and tends to be more expensive. Second, compounding this delay, the Curriculum Development Center does not have adequate printing facilities. At present there is a substantial backlog of materials that have been translated and are awaiting printing. Third, the construction of the new Curriculum Development Center facility, intended to speed up production and distribution, is behind schedule. Fourth, government does not contract printing to private publishing companies, closing one option that might speed up the availability of materials.

7.2.4.3 Administration and Supervision

The analysis of secondary school administration focuses on two issues: the discrepancy between national planning and secondary school practice and the need for a teacher evaluation mechanism.

1. The Discrepancy Between Plans and Practices. The growth of general secondary education has gone well beyond the target levels set by government in the Five Year Development Plan, 1982-86. Despite the goal that only 24 percent of the Grade Eight graduates would go on to general secondary school, government has continued to accommodate nearly all students who want a general secondary education (69% of secondary school students in 1981-82). Maintaining this

distribution has had several advantages. Many students believe a general secondary education will provide them with more post-graduation career alternatives. General secondary education is more affordable to government because it is less expensive than its alternatives (vocational or technical education). While government's stated policy may need to be revised to reflect current economic, social, and political considerations, current expansion appears to operate without the benefit of a systematic plan or policy.

2. Teacher Evaluation. As the secondary school system develops excess capacity (described earlier), the MOE may have the opportunity to be more selective in the teachers it recruits and retains. The issues at that point will be, first, identifying particularly competent teachers and, second, developing an appropriate incentive system to encourage those teachers to remain in teaching. Initial steps are to develop concensus as to the criteria of effective teaching, agree on acceptable standards of teacher performance, and identify indicators that might be used by the Ministry in monitoring teacher performance.

7.2.5 Conclusions

The issues identified in the preceding analysis are grouped into three areas and form the basis for three primary conclusions. These conclusions lead to the specific recommendations advanced in the final portion of this chapter.

Conclusion 1. Emphasize the improvement of academic quality in general secondary education. Develop a quality improvement strategy as

a long-term program.

One of the government's educational priorities over the last five years has been to expand educational opportunity. To accommodate this emphasis on expansion, schools have sometimes found it necessary to trade off educational quality. However, the pressures for system expansion will soon be met since enrollments are predicted to decline over the next eight years. The prospect of declining enrollments provides an opportunity for renewed attention to improving education quality. Some of the resources previously used for capital expansion and increased numbers of teachers might now be redirected toward quality improvement. The prospect for quality improvement in the short-term future is limited, given the poor preparation of both the students and teachers who will be in secondary schools over the next five years, although provision of adequate instructional materials will certainly help. A longer term program of quality enhancement provides both an opportunity for better planning and stronger student/teacher capital with which to work.

Conclusion 2. Educational planning and curriculum development activities should link general secondary education to labor demand in both Somalia and the larger Gulf Region.

At present there is no mechanism for either identifying the specific educational needs of employees or coordinating those needs with what is taught in secondary schools. The guarantee of government employment distorts the normal incentive systems that encourage students to prepare for areas of high labor demand within Somalia.

Little or no information has been collected on labor demand abroad. However, the current and projected oversupply of graduates relative to available jobs suggests government may wish to encourage emigration of recent graduates. Effective policy must be based on careful assessment of both the specific demand for educated personnel within the country and on an assessment of what skills and educational background emigrating graduates must have to be competitive abroad.

Conclusion 3. Government should develop a revised plan for the continued development of secondary education.

The premise of the Five Year Development Plan, 1982-1986 is that the general secondary education system needs to be expanded and student enrollments diversified across other secondary education options. However, early achievement of school construction targets, more recent projections of declining enrollments and the possibility of excess capacity, and student preference for general secondary (over vocational or technical) education, suggest that the FYP should be updated. Revision of the FYP provides a means for collecting and analyzing manpower demand data in educational planning, determining specific steps to improve quality, and integrating the more recent educational data now available.

7.3 RECOMMENDATIONS

The recommendations for general secondary education are discussed in relation to the main conclusions presented above.

7.3.1 First Priority - Internal Efficiency: Recommendation 1.

Recommendation 1: Improve Educational Quality.

Possible action steps: The improvement of educational quality might focus on both the quality of instruction and instructional materials. However, quality improvement should be undertaken as a long-term strategy, for two reasons: (1) the proposed changes in teacher education will take several years to result in quality improvement, and (2) the particular grade cohorts entering secondary school between 1981-82 and 1983-84 have particularly weak academic backgrounds. Thus, due to students educational backgrounds, the next five years may not provide a fair test of improved instruction. Quality improvement activities must take place within a long term strategy. The following six specific action steps for improving instructional quality might also be considered:

a) Require all teachers to have formal teacher training. At present, one-third of the full-time teachers are recent secondary school graduates completing their National Service. These teachers have little training beyond the level at which they are teaching.

b) Extend teacher training programs to three years. The MOE should proceed with its plans to extend teacher training to three years.

c) Expand in-service teacher education opportunities. Quality improvement will require that teachers currently employed have an opportunity to upgrade their skills and knowledge, particularly if they work with newer teachers who are better trained.

d) Encourage the retention of particularly effective teachers. A program to identify particularly effective teachers might be combined with an incentive system designed to encourage effective teachers to remain in teaching. Such an incentive system needs to reduce the opportunity cost of teaching by lowering the disparity between teachers' compensation and what they might earn in the private sector.

e) Develop policies that encourage weak teachers to leave the system. Public employees sometimes encounter difficulty securing release from government employment. If indicators can be developed that identify weak teachers (perhaps a teacher evaluation system), policies should be developed that allow those teachers to leave teaching.

f) Provide texts and instructional materials in adequate supply for all general secondary classes.

7.3.2 Second Priority - External Efficiency:

Recommendations 2-4.

Recommendation 2: Link Educational Planning and Curriculum Development to Labor Demand in Both Somalia and the Gulf Region.

Possible action steps: The initial step is to collect labor demand data. This will require: (1) an update of government projections of manpower needs in the public sector, (2) a projection of labor needs in the growing private sector, and (3) a projection of manpower demand for the larger Gulf Region. To be useful, these projections will need to be updated on a regular basis. The manpower data that is collected should included both (1) the occupational areas of greatest demand and (2) the specific educational and skill requirements of those occupations. These suggestions can be summarized as a set of possible action steps:

a) Educational planning should incorporate manpower demand data from the larger Gulf Region.

b) Manpower demand data should be updated on a regular basis.

c) Manpower data should include both occupational areas of greatest demand and the educational proficiency required of a worker to be competitive for available jobs.

Recommendation 3: Consider Developing a Manpower Contracting System for Providing Somali Manpower to Foreign Countries.

Possible action steps: One strategy for recovering public investment in education is to require that graduates who wish to work abroad do so as employees of the Somali government for three years following their graduation. Government could then contract with specific Gulf States for a prespecified amount of labor over a defined period of time. Emigrants would be paid at a rate higher than domestic public employees, through not at the full contract rate. That difference (between contract rate and wage rate), over the three years of required service, would constitute government's share of a return on educational investment.

Recommendation 4: Review and Recast Government Policy Guaranteeing Employment to Secondary School Graduates.

Possible action steps: A policy review should examine: (1) the fiscal capacity of government to absorb the particularly large number of graduates projected for the next five years, (2) current procedures for assigning graduates to government jobs, and (3) alternatives to guaranteed employment. The review could consider the advantages of developing a policy supportive of emigration. Such a policy might create some mechanism whereby government can recover some portion of its educational investment for graduates who work abroad.

7.3.3 Third Priority - Administration and Supervision: Recommendations 5 - 6.

Recommendation 5: Revise and Update Education Projections and Plans in the Five Year Development Plan, 1982-1986.

Possible action steps: A revision of the plan should include more current projections of enrollment decline and develop estimates of the excess capacity that might result. The revised plan also could be a mechanism for articulating projected manpower demand with future curriculum development activities.

Recommendation 6: Increase the Research Capacity of the Ministry of Education.

Possible action steps: The opportunity to enhance education quality will depend, in part, on the ability of the MOE and other government agencies to have accurate data on the current status of the secondary education system on which to base their projections. Given the present development of the educational system, the data and supporting analysis currently provided by the MOE are very good. The MOE should build on its evident strength in this area.

8.0 VOCATIONAL AND TECHNICAL EDUCATION

This section examines current vocational and technical training activities offered through (a) the formal education system, (b) government ministries, and (c) business and industry, with particular attention to apprenticeship and occupational competency testing programs. The discussion of the formal system includes a consideration of student enrollment, faculty, curriculum, and teacher training.

Vocational education, as examined here, refers to two-year school programs primarily oriented toward craft skill development. Technical education refers to three-and four-year school programs involving both academic and occupational training aimed at higher order technical skills. Besides school programs, technical training comprises various organized activities and schemes sponsored by government and business and industry.

Instruction at most of the vocational and technical institutions in the country is aimed at basic rather than more advanced trade skills, and teaching tends to emphasize theory rather than practice, largely due to lack of equipment and supplies. While graduates are guaranteed government employment, many emigrate for job opportunities abroad. So far, there has been little articulation of school-based vocational and technical training with private business and industry.

Principal needs are for more effective links of vocational and technical training to national and regional manpower demand and improved coordination and cooperation across institutions and their sponsoring ministries. Students need more attractive incentives to prepare for and work in a skilled occupation. Additionally, the quality of instruction needs continued improvement, both by grounding training in systematic occupational analysis and by providing students with more practice at trade skills. Recommendations are advanced in the final part of the section to address each of these needs.

8.1 STATUS

This status review briefly describes the condition of vocational and technical training in Somalia and then discusses goals and strategies for the subsector. The subsector's structure with respect to formal secondary schooling is detailed next, as are special programs offered by government ministries and by business and industry. Finally, attention is given to the condition of vocational and technical education and training with respect to external and internal efficiency, access, administration, and cost.

8.1.1 Condition of Vocational and Technical Education and Training

Upon completion of Grade Eight, students have three options. They can enter the labor force, as one in every twelve chooses to do, or they can continue their education in one of two ways. If their

examination scores place them near the top of their class, they may enter one of the 19 three-or four-year technical secondary schools or one of the 12 two-year vocational schools. If they do not qualify for a vocational or technical education, they can continue in a four-year general secondary school. The distribution of students across post-primary options is depicted in Table 8.1. Those eligible for a vocational or technical education may opt to go to a general secondary school, but the reverse is not true. As was intended, vocational and technical schools receive the most talented students.

In 1981-82, 12,754 students were enrolled in vocational and technical programs in Somalia. Women account for 52 percent of the enrollees in vocational schools and 13 percent of those in technical schools. Per-student cost is at least 50 percent more than the cost for general secondary education. Most of the programs are conducted in English and considerable donor assistance is being directed to the subsector. Government aims to place high priority on vocational and technical education as detailed in the following paragraphs.

8.1.2 Goals and Strategies

In the Five Year Development Plan, 1982-1986, government specifically made vocational and technical education a national priority. The rationale was that the shortage of skilled labor with technical and managerial skills has been a constraint to national development in all sectors. Additionally, Somalia's overall absorptive capacity for capital funds has been limited by the shortage of trained manpower.

TABLE 8.1

STUDENT FLOW INTO VOCATIONAL AND TECHNICAL EDUCATION IN SOMALIA, 1980-81 to 1981-82

SOURCE	SUBTOTAL Number	SUBTOTAL Percent	TOTAL Number	TOTAL Percent
Eighth Grade Enrollment, 1980-1981			34,452	
Number Taking Examination			32,454	
Number Passing Examination			25,036	
Grade 9 Enrollment, 1981-1982				
Technical Secondary Schools (4 year)	1,042	25%		
Technical Secondary Schools (3 year)	2,014	49%		
Vocational Schools (2 year)	1,068	26%		
Subtotal	4,124	100%	4,124	16%
General Secondary Schools			17,310	69%
Primary Teacher Training			1,645	7%
Out of School/Did Not Continue Schooling			1,957	8%
Total			25,036	100%

Government's goal is to diversify post-primary education with emphasis on the expansion of technical and vocational education. To accomplish this, the FYP recommends that 42 percent of primary school graduates enroll in vocational education, 14 percent in technical secondary education, and 24 percent in general secondary education. Another 20 percent are expected to go immediately into the labor market. This distribution represents a massive shift from the current pattern of attendance, as summarized in Table 8.2. The percent continuing in vocational school would have to more than double the 1980-81 level while the percent going to general secondary school would be cut in half.

The national strategy calls for opening 10 new vocational and 16 new technical schools and upgrading existing ones. Specific targets are summarized below:

Establish 10 new technical schools (3-4 year) as follows:

- 2 commercial schools
- 2 marine and fisheries schools
- 2 agricultural schools
- 3 livestock schools
- 1 industrial school.

Establish 16 new vocational schools (2-year) as follows:

- 3 commercial schools
- 2 marine and fisheries schools
- 2 agricultural schools
- 2 livestock schools
- 2 industrial schools
- 1 tourism school
- 4 teacher training schools.

TABLE 8.2

DISTRIBUTION OF PRIMARY SCHOOL GRADUATES

ACTUAL AND INTENDED

Post-Primary School Choice	Actual 1980-81	Intended In Five Year Plan
Vocational School	16%	42%
Technical Secondary School	10%	14%
General Secondary School	50%	24%
Entry to Labor Market	34%	20%

These targets, if achieved, are estimated to require 1,479 new teachers, 74 administrators, and 93 other support staff as described in Table 8.3.

To assist in the transition to greater vocational and technical enrollments and the development and staffing of additional facilities, the FYP calls for 1) an immediate inventory of all vocational training facilities in the country (both institutional and in-plant facilities) which will include details of activities, utilization, etc.; 2) improved apprenticeship training; and 3) the development of mechanisms for evaluating training programs and following up on graduates.

8.1.3 Structure

The formal vocational and technical education subsector comprised 32 institutions in 1981-82, six of them new that year. The schools are of two types--technical secondary schools that have a three- or four-year course of study and vocational schools which have a two-year curriculum. The distinction is primarily one of duration and, to a lesser degree, one of emphasis. The technical schools offer more academic courses to supplement the technical studies, while the vocational schools are intended to be more skill oriented, with less attention to academic subjects. To attend either type of school, students must place in the upper part of the class on the examinations given at the end of Grade Eight.

TABLE 8.3
SUMMARY OF ESTIMATED SPACE AND MANPOWER REQUIREMENTS TO MEET GOALS OF FIVE YEAR PLAN (1982-1986)

Additional Space and Personnel Needed	Vocational Schools	Technical Schools	Total
New Schools	10	16	26
Teachers	993	486	1479
Administrative Staff	44	30	74
Other Support Staff	64	29	93

Table 8.4 reports the institutions and the programs of study offered at each. The curricula of the four-year technical schools are either general technical (2 schools), accounting (1 school), or marine and fisheries (1 school). Three of the four schools are located in the Mogadishu area. A four-year surveying institute also existed, but it closed at the end of the 1980-81 school year, and its curriculum was subsumed by the Polytechnic Institute in Mogadishu.

The 15 three-year technical secondary schools offer curricula in either general technical subjects (6 schools), agriculture (7 schools), fisheries (1 school), or sports (1 school). Only the Sports Institute is located in Mogadishu; the others are in outlying areas.

The 13 two-year vocational schools generally offer a single course of study in either Nursing/Health/Nutrition (4 schools), Livestock (3 schools), Forestry/Range Management (2 schools), Post and Telecommunications (1 school), General Technical Trades (1 school), or Business (1 school). Table 8.5 reports enrollments by area of study.

This remaining review of the subsector's structure includes recent and projected trends in student enrollment, teacher supply, and facilities use. Recent statistics show that vocational and technical education opportunities have expanded rapidly, but that overall increases sometimes mask important fluctuations within specific types of schools. In particular, vocational schools have experienced a different pattern of enrollment and staffing then have technical schools. Over the next ten years, the absolute number of students going on to secondary school is projected to drop. This poses

TABLE 8.4

PROGRAMS OF STUDY BY
VOCATIONAL AND TECHNICAL INSTITUTION, 1982-83

Institution	Programs of Study																					
	Construction	General Mechanics	Electrical	Auto Mechanics	Navigation	Fisheries	Ship Mechanics	Carpentry	Masonry	Plumbing	Agriculture	Agronomy	Farm Engineering	Clerical Training	Accounting	Banking Procesures	Telecommunications	Sports	Range Management	Nursing/Health	Teacher Training	Nutrition	Livestock	Primary Teacher Training
Mogadishu Technical Inst.	x	x	x	x																				
Maritime Institute					x	x	x																	
Accounting Institute															x	x								
Hargeisa Technical Inst.	x																							
CTC Hargeisa														x										
Burao Technical Inst.		x	x	x																				
Lafole Technical Inst.		x		x				x	x	x														
Luglow Technical Inst.	x			x																				
K/Waarey Institute		x	x	x				x																
Sablaale Technical Inst.		x	x					x																
Dujuma Technical Inst.		x	x					x																
Afgoye Agric. Inst.											x	x	x											
Telecommunication Inst.																	x							
Barawe Maritime and Fisheries Inst.					x	x	x																	
Halane Technical Inst.		x	x					x																
Amoud Agric. Inst.											x	x	x											
Agric. Inst.											x	x	x											
Jowhar Agric. Inst.											x	x	x											
K/Waarey Agric. Inst.											x													
S/Agricultural Inst.											x													
Dujuma Sports Inst.																	x							
Burao Range School																		x						
Hargeisa Nursing School																			x					
Mogadishu Nursing School																			x					
Midwife/labor School																			x					
Mogadishu Livestock																							x	
Agoye Forestry and Range																		x						
Primary & Teacher Training																								x
Womens Nutrition School																					x			
K/Waarey Livestock																							x	
Sablaale Livestock																							x	
Banadir Sports Inst.																	x							

TABLE 8.5
ENROLLMENT BY AREA OF STUDY, 1981-82

Area of Study	Male	Female	Total
Technical			
General Technical	3,294	162	3,456
Fisheries	848	23	871
Agriculture	2,009	173	2,182
Accounting	366	563	929
Sports	79	19	98
Subtotal	6,596	940	7,536
Vocational			
General Technical	15	0	15
Agricultural/Livestock/ Range Management/ Forestry	296	66	362
Nursing/Health/Nutrition	436	760	1,196
Post & Telecommunications	82	25	107
Business	94	159	253
Subtotal	923	1,010	1,933
Total	7,519	1,950	9,469

interesting opportunities and consequences for both vocational and technical education which will be discussed in Section 8.2, Analysis.

In most national education statistics, the Halane Primary Teacher Training School is included as a post-primary, two-year vocational school. That school has been excluded from this analysis since teacher training is commonly considered a form of professional rather than trade training. Teacher training institutions will be considered separately in Section 9.0.

8.1.3.1 Student Enrollment

Reflecting the increased priority being given to vocational and technical education, student enrollments increased dramatically over the last ten years (Table 8.6). The 1978-79 enrollment of 3,171 students in 17 schools grew to 9,053 students in 27 schools by 1980-81. Enrollments grew another 41 percent in the next year alone to 12,754 students in 32 schools for 1981-82 (these figures include the Primary Teacher Training Institute). However, a careful examination of the data by school and type of institution (Table 8.7) indicates marked differences in the enrollment patterns that characterize technical schools and vocational schools.

All but one of the technical schools showed an increase in enrollment from 1980-81 to 1981-82 averaging 20 percent. The only exception is K/Waarey Agricultural Institute, located in a

TABLE 8.6

GROWTH OF VOCATIONAL/TECHNICAL EDUCATION
IN SOMALIA, 1973-74 to 1981-82

Indicator	1973-74	1978-79	1980-81	1981-82
Number of Schools	17	15	27	31
Number of Classes	110	134	211	289
Student Enrollment	3,158	5,197	7,641	9,469
Number of Teachers	242	345	553	708
Student Teacher Ratio	13:1	15:1	14:1	13:1

TABLE 8.7

COMPARISON OF STUDENTS, TEACHERS, AND CLASSES IN VOCATIONAL AND TECHNICAL EDUCATION
1980-81 to 1981-82

Region	School	Total Students 1980-81 Male	Total Students 1980-81 Female	Total Students 1980-81 Total	Total Students 1981-82 Male	Total Students 1981-82 Female	Total Students 1981-82 Total	Total Classes 80-81	Total Classes 81-82	Total Teachers 1980-81 Male	Total Teachers 1980-81 Female	Total Teachers 1980-81 Total	Total Teachers 1981-82 Male	Total Teachers 1981-82 Female	Total Teachers 1981-82 Total	Change in Enrollment #	Change in Enrollment %	Change in Classes #	Change in Classes %	Change in Teachers #	Change in Teachers %	FTE Teachers 1981-82	FTE Teacher/ Student Ratio 1981-82
W/Galbeed	Hargeisa Tech. Inst.	389	0	389	390	0	390	9	8	15	0	15	26	0	26	1	0	-1	-11	11	73	25.5	1:15
Banaadir	Polytechnic	951	27	978	1,067	77	1,144	22	21	88	8	96	58	2	60	166	17	-1	-5	-36	-38	58.5	1:20
	Accounting Inst.	273	375	648	366	563	929	13	16	36	6	42	51	2	53	281	43	3	23	11	26	40.5	1:23
	Maritime Inst.	558	4	562	651	5	656	9	10	30	3	33	39	4	43	94	17	1	11	10	30	41.0	1:16
	Surveying Inst.	70	14	84	-	closed		2	-	-	-	-	-	closed		-	-	-	-	-	-	-	-
Four-Year Technical Institute Total		2,241	420	2,661	2,474	645	3,119	55	55	169	17	186	174	8	182	542	20	0	0	-4	-02	165.5	
Togdheer	Burao Tech. Inst.	160	0	160	196	7	203	5	7	24	0	24	25	0	25	43	27	2	40	1	4	25.0	1:8
Sh/Hoose	K/Waary Tech. Inst.	219	21	240	281	39	320	6	9	16	0	16	18	0	18	80	33	3	50	2	13	14.5	1:22
	Sablaale Tech. Inst.	155	5	160	284	30	314	4	6	9	0	9	21	0	21	154	96	2	50	12	133	20.0	1:16
	Lafoye Tech. Inst.	469	0	469	552	0	552	20	21	47	0	47	48	4	52	83	18	1	5	5	11	48.5	1:11
J/Hoose	Luglow Tech. Inst.	52	0	52	96	0	96	1	5	6	0	6	7	0	7	44	85	4	400	1	17	6.0	1:16
Boorama	Caamoud Agric. Inst.	84	1	85	150	3	153	2	3	5	0	5	8	0	8	68	80	1	50	3	6	6.5	1:24
Sanaag	Dayaxe Agric. Inst.	76	0	76	113	0	113	2	4	8	0	8	8	0	8	37	49	2	100	0	0	6.0	1:19
Sh/Dexe	Jawhare Agric. Inst.	92	4	96	133	0	133	3	4	6	0	6	15	2	17	21	22	1	33	11	183	12.5	1:9
Sh/Hoose	K/Waaty Agric. Inst.	610	140	750	700	17	717	15	17	35	0	35	29	0	29	-33	-4	2	13	-6	-17	17.5	1:41
	Sablaale Agric. Inst.	356	54	410	385	89	474	9	14	30	0	30	36	0	36	64	16	5	56	6	20	19.0	1:25
	Afgoyle Agric. Inst.	292	41	333	314	35	349	6	7	12	1	13	21	3	24	16	5	1	17	11	85	19.0	1:18
	Barawe Maritime & Fish.	141	8	149	197	18	215	3	5	9	0	9	20	0	20	66	44	2	33	11	122	18.0	1:12
Banaadir	Mogadishu Sports Inst.	66	23	89	79	19	98	3	4	11	1	12	9	1	10	9	10	1	33	-2	-17	7.0	1:13
Three-Year Technical Institute Total		2,772	297	3,069	3,480	257	3,737	79	106	218	2	220	265	10	275	652	-	27	-	55	-	219.5	-
W/Galbeed	Hargeisa, C.T.C.	102	152	254	94	159	253	4	4	13	0	13	13	0	13*	-1	0	0	0	0	0	11.5	1:22
	Hargeisa Nursing School	86	140	226	110	142	252	5	5	14	1	15	13	25	38	26	12	0	0	23	153	36.5	1:7
Banaadir	Mogadishu Nursing School	250	250	500	192	278	470	10	10	5	15	20	10	10	20	-30	-16	0	0	0	0	16.0	1:29
	Midwife School	220	217	437	134	249	383	9	8	22	2	24	10	0	10	-54	-12	-1	-11	-14	-58	8.5	1:45
Togdheer	Burao Range School	90	3	93	80	0	80	2	2	9	0	9	7	0	7	-13	-14	0	0	-2	-22	5.0	1:16
X/Xoohaha	Livestock School	180	5	185	114	27	141	4	3	11	2	13	25	2	27	-44	-24	-1	-25	14	108	16.5	1:9
Banaadir	Post & Telecommunications	153	48	201	82	25	107	8	6	34	1	35	41	0	41	-9	-47	-2	-25	6	17	35.0	1:3
F/Xlane	Halane Technical School	15	0	15*	15	0	15	1	1	17	1	18*	17	1	18	0	0	0	0	0	0	16.5	-
Two-Year Vocational Total		1,096	815	1,911	821	880	1,701	43	39	125	22	147	136	38	174	-125	-	-4	-	27	-	145.5	-
New Schools (81-82):																							
Sh/Hoose	Afgoyle Forest & Range	-	-	-	15	0	15	-	1	-	-	-	10	0	10	-	-	-	-	-	-	8.5	1:2
	Women's Nutrition School	-	-	-	0	91	91	-	3	-	-	-	1	16	17	-	-	-	-	-	-	16.0	1:6
	K/Waary Livestock	-	-	-	42	25	67	-	3	-	-	-	6	0	6	-	-	-	-	-	-	3.0	1:22
	Sablaale Livestock	-	-	-	45	14	59	-	2	-	-	-	8	0	8	-	-	-	-	-	-	5.0	1:12
D/Dhere	Dujuma Tech. Inst.	-	-	-	428	9	437	-	12	-	-	-	20	0	20	-	-	-	-	-	-	18.0	1:24
	Dujuma Agric. Inst.	-	-	-	234	29	263	-	8	-	-	-	16	0	16	-	-	-	-	-	-	11.5	1:23
New Schools 81-82 Total		-	-	-	764	168	932	-	29	-	-	-	61	16	77	-	-	-	-	-	-	-	-
Grand Total 1980-81	Technical	5,013	717	5,730	-	-	-	134	-	387	19	406	-	-	-	-	-	-	-	-	-	-	-
	Vocational	1,096	815	1,911	-	-	-	43	-	125	22	147	-	-	-	-	-	-	-	-	-	-	-
	Overall	6,109	1,532	7,641	-	-	-	177	-	512	41	553	-	-	-	-	-	-	-	-	-	-	-
Grand Total 1981-82	Technical **	-	-	-	6,596	940	7,556	-	181	-	-	-	475	18	493	1,806	32	27	35	87	21	412.5	1:18
	Vocational	-	-	-	923	1,010	1,933	-	48	-	-	-	161	54	215	22	1	-4	-9	68	46	178.0	1:11
	Overall	-	-	-	7,539	1,950	9,489	-	229	-	-	-	636	72	708	1,828	24	23	24	155	28	690.5	1:16

* Estimate

**Includes New School enrollments

resettlement area, and even there the decline in enrollment was small (4%).

While enrollment in two-year vocational schools has increased, nearly all of that increase can be attributed to the opening of four new institutions. Six of the eight existing schools (1980-81) showed a decline in enrollment going into 1981-1982, and a seventh reported no enrollment data. Overall, these eight vocational schools had a net loss of 210 students, or 11 percent of their 1980-81 enrollment. Despite the national priority assigned to vocational education, enrollment in most existing vocational schools declined.

Table 8.8 reports 1980-81 student enrollments by school, grade, and region. The data, which represent the most current estimate of enrollment available, support two observations. First, just over half of the vocational and technical enrollment in the country is located in the Mogadishu area (Banaadir Region), and over 80 percent of the enrollment is contained in only two regions--Banaadir and Sh/Hoose (Table 8.9). This observation is developed in greater detail in Section 8.1.7.

Second, while overall enrollments may be increasing, the number of new entrants to vocational and technical education has decreased. There were 6,026 students in tenth grade, only 5,389 in ninth grade. This runs counter to the expectation of increasing enrollments based on (1) national goals and (2) increasing numbers of primary school graduates. This is discussed more fully later.

TABLE 8.8

STUDENT ENROLLMENT IN VOCATIONAL/ TECHNICAL EDUCATION BY SCHOOLS, GRADE AND REGION, 1981-82

REGION/SCHOOL	Grade 9			Grade 10			Grade 11			Grade 12			TOTAL		
	Class	Total	F	Class	Total	F	Class	Total	F	Class	Total	F	Class	Total	F
N/WEST															
1. Halane Technical Institute	1	15	0	-	-	-	-	-	-	-	-	-	1	15	-
2. Hargeisa Technical School	2	101	-	2	110	-	2	90	-	2	89	-	8	390	-
3. C.T.C. Hargeisa	2	118	64	2	135	95	-	-	-	-	-	-	4	253	159
4. Amoud Agric. School	1	61	2	2	92	-	-	-	-	-	-	-	3	153	2
5. Har. Nursing School	2	130	55	3	122	87	-	-	-	-	-	-	5	252	142
TOTAL	9	425	121	9	459	182	2	90	-	2	89	-	21	1,063	303
TOGDHEER															
6. Tech. Inst. Burco	1	75	-	3	84	-	3	44	-	-	-	-	7	203	-
7. Range School Burco	1	43	-	1	37	-	-	-	-	-	-	-	2	80	-
TOTAL	2	118	-	4	121	-	3	44	-	-	-	-	9	283	-
SANAAG															
8. Agric. School Dayaxa	2	51	-	2	62	-	-	-	-	-	-	-	4	113	-
SH/DHEXE															
9. Agric. School Jowhar	2	51	2	2	82	3	-	-	-	-	-	-	4	133	-
BANADIR															
10. PolyTechnic.	5	350	25	8	433	25	4	132	9	4	229	18	21	1,144	77
11. Marine & Fisheries	2	220	1	3	170	2	2	125	2	3	141	-	10	656	5

TABLE 8.8 (page 2)

REGION/SCHOOL	Grade 9			Grade 10			Grade 11			Grade 12			TOTAL		
	Class	Total	F	Class	Total	F	Class	Total	F	Class	Total	F	Class	Total	F
12. Accounting	4	371	169	6	269	172	4	180	106	2	109	56	16	929	503
Total Tech. (A)	11	941	195	17	872	199	10	437	117	9	479	74	47	2,729	585
13. Nursing Training Sch.	5	270	183	5	200	95	–	–	–	–	–	–	10	470	278
14. Labor Perso.. Training	4	227	149	4	156	100	–	–	–	–	–	–	8	383	249
15. Postal & Telecommuni.	3	46	16	3	61	9	–	–	–	–	–	–	6	107	25
16. Livestock	1	65	12	2	76	15	–	–	–	–	–	–	3	141	27
17. Sports	1	23	3	2	51	13	1	24	3	–	–	–	4	98	19
TOTAL	14	631	363	16	544	232	1	24	3	–	–	–	31	1,199	598
18. Primary Teacher Tr.	22	1,394	628	38	1,891	544	–	–	–	–	–	–	60	3,285	1,172
19. Nutrition (Woman)	3	91	91	–	–	–	–	–	–	–	–	–	3	91	91
TOTAL (18 + 19)*	25	1,485	719	38	1,891	544	–	–	–	–	–	–	63	3,376	1,263
TOTAL Banadir	50	3,057	1,277	71	3,307	975	11	461	120	9	479	74	141	7,304	2,446
LOWER/SHABELE															
20. Tech. School K/Warey	3	104	17	6	216	22	–	–	–	–	–	–	9	320	39
21. Tech. School Sablaale	3	120	20	3	194	10	–	–	–	–	–	–	6	314	30
22. Marine Sch. Barawe	2	81	10	3	134	8	–	–	–	–	–	–	5	215	18
23. Tech. Sch. Lafole	6	184	–	8	179	–	7	189	–	–	–	–	21	552	–
24. Agric. Sch. Agoi	2	95	5	3	151	18	2	103	12	–	–	–	7	349	35
25. Agric. Sch. K/Waarey	2	89	35	15	628	103	–	–	–	–	–	–	17	717	138
26. Agric. Sch. Sablaale	3	135	36	11	339	53	–	–	–	–	–	–	14	474	89
27. Range & Forestry	–	–	–	1	15	–	–	–	–	–	–	–	1	15	–
28. Livestock & Forestry	1	41	18	2	26	7	–	–	–	–	–	–	3	67	25
29. Livestock Sablaale	1	37	10	1	22	4	–	–	–	–	–	–	2	59	14
TOTAL (20-29)	23	886	151	53	1,904	225	9	292	12	–	–	–	85	3,082	388

TABLE 8.8 (page 3)

REGION/SCHOOL	Grade 9			Grade 10			Grade 11			Grade 12			TOTAL		
	Class	Total	F	Class	Total	F	Class	Total	F	Class	Total	F	Class	Total	F
M/JUBA															
30. Tech. School Dujuma	12	437	9	-	-	-	-	-	-	-	-	-	12	437	9
31. Agric. Sch. Dujuma	8	263	29	-	-	-	-	-	-	-	-	-	8	263	29
TOTAL (30 + 31)	20	700	38	-	-	-	-	-	-	-	-	-	20	700	38
LOWER/JUBA															
32. Luglow	2	45	-	3	51	-	-	-	-	-	-	-	5	96	-
GRAND TOTAL*	110	5,333	1,589	144	5,986	1,385	25	887	132	11	568	74	260	12,744	2,003

*These totals do not include the Primary Teacher Training Institute.

TABLE 8.9

PROPORTION OF TOTAL ENROLLMENT IN BANAADIR AND SH/HOOSE REGIONS, 1981-82

Grade	Total Enrollment	Banaadir Enrollment	% Of Total	Banaadir and Sh/Hoose Enrollment	% Of Total
9	5,389	3,057	57	3,942	73
10	6,026	3,307	32	5,211	87
11	887	461	52	753	85
12	567	479	84	479	84
Total	12,869	7,304	57	10,386	81

8.1.3.2 Teachers

As student enrollments have grown, so has the number of teachers. The reported 242 vocational/technical teachers in 1973-74 increased to 657 in 1980-81, and to 778 in 1981-82, as shown in Table Table 8.10. These data may overestimate the number of teachers because the MOE reporting system pooled full-time and part-time teachers in the 1980-81 statistics. Assuming the mix of full-time and part-time teachers remained roughly comparable across the last two years (1980-81 to 1981-82), these figures can still provide some indication of system growth.

Detailing the increase in teachers by type of school, Table 8.7 reveals the smallest change (4%) at the four-year schools, some greater increase (21%) at the three-year schools, and a dramatic increase (46%) at the two-year schools. However, a longitudinal look at two-year vocational schools (excluding the new schools) shows that five of the eight vocational schools had either no change or a loss of teachers. This is consistent with the drop in student enrollment in these schools.

As mentioned earlier, the data on teachers reported in Table 8.7 represent total head count. For 1981-82, however, data are available that permit an analysis by full-time and part-time employment. Table 8.10 reports these data by school, region, and for the country overall. The 708 teachers reported for 1981-82 (Table 8.7) comprise 477 full-time teachers and 231 part-time teachers. The full-time teachers are drawn from three sources: (1) 88 percent are employed on

TABLE 8.10

DISTRIBUTION OF VOCATIONAL/TECHNICAL TEACHERS
BY SCHOOL, REGION, AND LEVEL OF EMPLOYMENT
1981-82

REGION/SCHOOL	Classes	Full Time: Perm MF	Full Time: Perm F	Full Time: National Service MF	Full Time: National Service F	Full Time: Expatriate MF	Full Time: Expatriate F	Part Time: Somali MF	Part Time: Somali F	Part Time: Expatriate MF	Part Time: Expatriate F	Total: Total	Total: Females	Classrooms: Occup.	Classrooms: Unoccup.	Total FTE Teacher
N/WEST																
1. Halane Tech. Inst.	3	14	-	-	-	1	-	3	1	-	-	18	1	4	1	16.5
2. Construction	8	22	-	1	-	2	-	1	-	-	-	26	-	10	-	25.5
3. CTC Hargeisa	4	9	-*	-	-	-	-	5	-*	-	-	13*	-	-	-	11.5
4. Agric. Sch. Amoud	3	5	-	-	-	-	-	3	-	-	-	8	-	3	2	6.5
5. Nursing Sch. Hargeisa	5	35	25	-	-	-	-	3	-	-	-	38	25	3	5	36.5
Subtotal (1-5)	23	85	25	1	-	3	-	15	1	-	-	103	26	20	8	96.5
TOGDHEER																
6. Tech. Inst. Burcao	7	25	-	-	-	-	-	-	-	-	-	25	4	4	-	25.0
7. Range School Burao	2	3	1	-	-	-	-	4	-	-	-	7	-	2	1	5.0
Subtotal (6-7)	9	28	1	-	-	-	-	4	-	-	-	32	4	6	1	30.0
SANAAG																
8. Agric. Sch. Dayaxa	4	4	-	-	-	-	-	4	-	-	-	8	-	4	4	6.0
SH/DHEXE																
9. Agric. Sch. Jowhar	4	8	2	-	-	-	-	9	-	-	-	17	2	4	1	12.5

TABLE 8.10 (page 2)

REGION/SCHOOL	Classes	Full Time: Term MF	Full Time: Term F	Full Time: National Service MF	Full Time: National Service F	Full Time: Expatriate MF	Full Time: Expatriate F	Part Time: Somali MF	Part Time: Somali F	Part Time: Expatriate MF	Part Time: Expatriate F	Total: Total	Total: Females	Classrooms: Occup.	Classrooms: Unoccup.	Total FTE Teacher
BANAADIR																
10. Polytech.	21	43	2	-	-	14	-	3	-	-	-	60	2	20	-	58.5
11. Marine Fishery	10	32	3	-	-	7	1	3	-	1	-	43	4	8	-	41.0
12. Accounting	16	26	2	-	-	2	-	25	-	-	-	53	2	13	-	40.5
Subtotal Technical	47	101	7	-	-	23	1	31	-	1	-	156	8	41	-	140.0
13. Nursing	10	12	10	-	-	-	-	8	-	-	-	20	10	8	-	16.0
14. Laboratory Training	8	4	-	-	-	3	-	3	-	-	-	10	-	7	-	8.5
15. Postal Telecommunication	6	29	-	-	-	-	-	12	-	-	-	41	-	6	-	35.5
16. Livestock	3	4	1	-	-	2	1	21	-	-	-	27	2	3	1	16.5
17. Sports	4	4	1	-	-	-	-	6	-	-	-	10	1	4	-	7.0
Subtotal Vocational	31	53	12	-	-	5	1	50	-	-	-	108	13	28	1	83.5
18. Primary Teacher Training	60	99	12	-	-	18	-	30	4	-	-	147	9	60	3	132.0
19. Nutrition (Women)	3	9	9	1	-	5	5	-	-	2	2	17	16	3	1	16.0
Subtotal (18-19)	63	108	21	1	-	23	5	30	4	2	2	164	25	63	4	148.0
TOTAL (10-19)**	81	153	21	1	-	33	7	81	-	3	2	281	37	72	2	239.5
LOWER/SHABELLE																
20. Tech. Sch. K/Waarey	9	11	-	-	-	-	-	7	-	-	-	18	-	7	-	14.5
21. Tech. Sch. Sablaale	6	19	-	-	-	-	-	2	-	-	-	21	-	5	-	20.0
22. Marine Sch. Barawe	5	14	-	2	-	-	-	4	-	-	-	20	-	5	6	18.0
23. Tech. Lafole	21	45	4	-	-	-	-	7	-	-	-	52	4	9	-	48.5

TABLE 8.10 (page 3)

REGION/SCHOOL	Classes	Full Time: Perm MF	Full Time: Perm F	Full Time: National Service MF	Full Time: National Service F	Full Time: Expatriate MF	Full Time: Expatriate F	Part Time: Somali MF	Part Time: Somali F	Part Time: Expatriate MF	Part Time: Expatriate F	Total: Total	Total: Females	Classrooms: Occup.	Classrooms: Unoccup.	Total FTE Teacher
24. Agric. Afgoi	7	9	3	-	-	5	-	10	-	-	-	24	3	6	-	19.0
25. Agric. K/Waarey	17	6	-	-	-	-	-	23	-	-	-	29	-	20	4	17.5
26. Agric. Sablaale	14	2	-	-	-	-	-	34	-	-	-	36	-	14	8	19.0
27. Range Forestry	1	4	-	-	-	3	-	3	-	-	-	10	-	1	1	8.5
28. Livestock	3	-	-	-	-	-	-	6	-	-	-	6	-	3	-	3.0
29. Livestock	2	2	-	-	-	-	-	6	-	-	-	8	-	2	-	5.0
TOTAL (20-29)	85	112	7	2	-	8	-	102	-	-	-	224	7	72	19	173.0
MIDDLE/JUBA																
30. Tech. Dujuma	12	10	-	6	-	-	-	4	-	-	-	20	-	12	10	18.0
31. Agric. Dujuma	8	7	-	-	-	-	-	9	-	-	-	16	-	8	6	11.5
TOTAL (30-31)	20	17	-	6	-	-	-	13	-	-	-	36	-	20	16	29.5
32. Lugow Technical	5	5	-	-	-	2	-	-	-	-	-	7	-	3	-	6.0
GRAND TOTAL**	291	422	56	9	-	46	7	228	1	3	2	708	73	201	51	593.0

* Estimate based on 1980-81 data

** These totals do not include the Primary Teacher Training Institute.

a permanent basis by the MOE, (2) less than 2 percent are secondary education graduates fulfilling their national service, and (3) 11 percent are expatriates, most of Sudanese or Indian nationality. The 261 part-time teachers are nearly all Somalis with only three listed as expatriates. The percent of time a part-time instructor teaches is not well documented, and probably varies by institution. If, for purposes of this analysis, "part-time" is assumed to be half-time employment, the full-time equivalent (FTE) number of teachers can be estimated at 725. A student/teacher ratio based on total teacher head count underestimates class size, while a ratio based on FTE teachers provides a more accurate estimate of true teaching load. This revised ratio is reported in Table 8.7. The number of students per teacher varies widely by school, ranging from 2:1 to 45:1, with most schools reporting between 16 and 23 students per FTE teacher.

The student/teacher ratio must be interpreted with caution. Classes may have more than one teacher who meets with the class at different times. Consequently, while the student/teacher ratio may underestimate the size of the instructional groups a teacher actually meets, it is useful in costing education. Student/class ratio, on the other hand, provides a better estimate of the actual classroom environment in which students and teachers operate.

8.1.3.3 Facilities

MOE data provide two measures of facilities use. First, the number of classes by school is reported in Table 8.7, and the same

data, reported by grade level for each school, is presented in Table 8.8. From 1980-81 to 1981-82, the number of classes increased from 177 to 220, an increase of 24 percent. However, the increase was not consistent across types of schools, with five of the nine vocational schools (excluding the new schools) showing either no increase or a decline in classes. This is consistent with the earlier enrollment figures.

A second measure of facilities use is reported in Table 8.11 as the number of classrooms occupied and unoccupied. The number of classes may exceed the number of occupied classrooms, since two classes will occasionally use a single room. Classrooms are generally not listed as unoccupied due to lack of a teacher. Most of the reportedly unoccupied classrooms are so because furniture is lacking or in disrepair or because equipment in the room is nonfunctional. While there was a dramatic increase in the number of available classrooms from 1980-81 to 1981-82, the utilization rate remained constant, at 83 percent. This was somewhat below that for general secondary schools.

8.1.3.4 Curriculum and Materials

The Curriculum Development Center (CDC) of the MOE does not develop curricula or instructional materials for vocational and technical education. Rather, each school proposes its own curriculum and submits it to the MOE for approval. Individual instructors are responsible for developing their own lectures and support material.

TABLE 8.11

UTILIZATION OF AVAILABLE CLASSROOM SPACE

1980-1981 to 1981-82

Sector	1980-81 Occ	1980-81 Unocc	1980-81 % Utilized	1981-82 Occ	1981-82 Unocc	1981-82 % Utilized
Vocational/ Technical Ed	149	30	83%	261	54	83%
General Secondary Education	508	64	89%	607	116	84%
Combined Total	657	94	87%	868	170	84%

There is presently no means of assuring that what appear to be similar programs of study across several vocational schools have any similarity in content or emphasis. Instructors within the school operate at a further disadvantage since the MOE does not provide them with reference materials (though in some content areas, materials are still available from a former UNESCO project).

The current practice of giving responsibility to the school for the curriculum has three consequences: (1) vocational and technical instruction is not based on any systematic occupational or task analysis; (2) almost none of the people developing curriculum and instruction (i.e., the teachers) have earned a living in their trade (most went into teaching directly out of school); and (3) programs of the same name vary widely in content. While some materials are now being developed by the Technical Teacher Training College, they have not yet been distributed for use.

Beyond the issue of instructional materials, a pervasive and continuing concern is that the vocational and technical schools do not have enough machines and equipment. What they do have is often in poor repair. The problem is aggravated by having shops equipped with machines from three to five different countries, making procurement of spare and replacement parts all the more difficult. Students generally do not have adequate opportunity to practice skills of their trade.

Schools also differ in defining performance criteria and standards for graduation. There is no unified examination for

vocational or technical education, nor is there use of the Trade Tests employed by the Ministry of Labor. Each school develops its own examination (usually through a committee of teachers and administrators) which must then be approved by the MOE. A supervisor from the MOE or the Central Examination Board administers the examinations in the schools.

8.1.3.5 Technical Teacher Training

There are currently two routes by which to become a vocational or technical education teacher. The most common way is to enroll in the Technical Teacher Training College (TTTC) in Mogadishu. However, in relatively rare instances, a recognized master in a trade can be hired regardless of his or her prior educational experience. Only a few people (about 10) entered teaching using this second pattern, and they are employed in vocational schools in resettlements. While there are vocational and technical teachers currently employed who were hired directly upon graduation from a technical secondary school (before the TTTC was available), this pattern of entry to teaching is no longer accepted. The MOE has undertaken a program of upgrading teachers already employed at technical institutes through correspondence courses and annual refresher courses targeted at a college level.

In 1971, UNESCO and the ILO began a cooperative program to assist Somalia in the development of technical training programs. UNESCO continued that support in 1976 by funding technical teacher training. This led to the creation of the TTTC in 1978. At present,

it offers six programs of study: Auto Mechanics, General Mechanics, Electrical Trades, Civil Construction, Marine Engineering, and Commercial Studies. While Commercial Studies are offered as a three-year program, the other programs have, until this year, been offered as two-year programs. The Ministry of Education, with the encouragement of UNESCO, has now extended all programs to three years, beginning with 1982-83 entrants. While the long-term effect will be to provide graduates with better preparation, one short-term consequence will be a sharp reduction in graduates during 1984, as second-year students remain for an additional year (Table 8.12).

To compensate in part for the lengthened program and to respond to the overall demand for vocational/technical teachers, the college has increased the size of entering classes. In 1985, the college expects to graduate 140 students, an increase of nearly 60 percent over 1983, and then to maintain roughly that annual level of graduates. Entering students are drawn from top graduates of three- and four-year technical secondary schools.

To accommodate the growth, the college has a new campus currently under construction in Mogadishu. Once completed, the new facility will have an enrollment capacity of 600-800 students. Plans call for occupancy of the new campus for the 1984-85 school year. Because the workshops are not yet complete, the ILO (via UNESCO) intends to provide two buses to shuttle students between the new campus and the workshops at the old campus (about 5 km). The source

TABLE 8.12
NUMBERS OF GRADUATES FROM THE
TECHNICAL TEACHER TRAINING COLLEGE, 1978 - 1986

Year	Number	Cumulative Total
1978-1981	303	303
1982	71	374
1983	83	457
1984	25*	482
1985	140	622
1986	140	762

* In 1984, the number of graduates drops as a result of the academic program being extended to three years. Only those enrolled in the commercial program will graduate since their program is already three years.

Source: Interviews with the Dean of the Teacher Training College and the Chief Technical Advisor, UNESCO Teacher Training Project.

of funds to supply the necessary equipment and tools for the new workshops has not yet been clarified.

The TTTC recruits its instructors from several sources. Most are recent graduates of the TTTC who ranked in the upper portion of their class. Some of these have received further training abroad through UNESCO fellowships or other auspices. Thirteen expatriate instructors (comprising one UNESCO expert, seven UN Volunteers, two volunteers through the Arab League, and three through the Mennonite Missionary organization) complement instruction given by the Somali staff.

The college is responsible for developing its own curriculum and examinations through a Technical Board composed of the Dean, the Vice Dean, Department Heads, and UNESCO experts. In 1982, the TTTC began developing instructional materials for use in the vocational and technical schools. When these materials are prepared, they will be submitted to the Curriculum Development Center of the MOE for approval and subsequent distribution.

When students graduate from the TTTC, they are obligated to serve as vocational or technical teachers for at least five years, a term that can be extended if the MOE believes it necessary. In practice, not all graduates follow this pattern. In the last two years, there has been an increasing tendency for staff from other ministries to enroll at the TTTC and return to their respective ministries after graduation. A few graduates seek higher wages in other Gulf States. Of the 71 graduates in 1981-82, nine (13%) could

not be located and are presumed to be out of the country. Consequently, estimates of numbers of vocational and technical teachers based on output from the TTTC must be adjusted for this attrition.

A rough estimate, based on 1981-82 data, is presented below:

Source	Number	Percent
1981-82 graduates	71	100
Went to other Ministries	2 (est)	3.0%
Unaccounted for; presumed to have left country	9	12.5%
Available to enter teaching	60	85.5%

Approximately 85 percent of those graduating from TTTC might be expected to enter vocational or technical teaching.

While much of the occupational and trade training in the country is delivered through the formal education system, some is provided through other government agencies and through the place of employment. These types of training are described briefly below.

8.1.4 Programs

Two types of programs are described here, those offered through government ministries and those available through business and industry.

8.1.4.1 Training Programs through Government Ministries

Many of government's 22 ministries are involved in some type of training activity. This involvement tends to take three forms: (1) co-sponsorship (usually with the MOE) of vocational/technical schools in the formal educational system, (2) in-service training programs within the ministries themselves, and (3) training that occurs through parastatal companies under the direction of a ministry.

Examples of the first pattern include the MOE's co-sponsorship of the nursing schools with the Ministry of Health, some of the agricultural schools with the Ministry of Agriculture, and the Post and Telecommunications Institute with the Ministry of Post and Telecommunications. Typically, the Ministry of Education oversees curriculum and examinations and provides teachers for general academic subjects. The co-sponsoring ministry provides a substantial portion of the operating budget of the school, and graduates typically go to the co-sponsoring ministry for employment. A list of institutions and their sponsorship is presented in Table 8.13. In-service training programs conducted directly by the ministries are usually intended to train personnel for specialized jobs within the particular ministry. Illustrative training activities of various ministries include:

TABLE 8.13

MINISTRIES CO-SPONSORING VOCATIONAL AND TECHNICAL SCHOOLS

SCHOOL	CO-SPONSORING MINISTRIES	BOARDING(B) DAY(D) SCHOOL
Hargeisa Technical Institute	Education	B (BOYS ONLY)
Panaadir Polytech	Education	D
Accounting Institute	Education	D
Maritime Institute	Education	D
Burao Technical Institute	Education	B
K/Waaray Technical Institute	Education	D
Sablaale Technical Institute	Education	D
Lafole Technical Institute	Custodial Corp	B
Luglow Technical Institute	Custodial Corp	B
Caamud Agricultural Institute	Agriculture	B
Dayaxe Agricultural Institute	Agriculture	B
Jawhare Agricultural Institute	Agriculture	B
K/Waaray Agricul ural Institute	Resettlement Agency/ Agriculture	D
Sablaale Agricultural Institute	Resettlement Agency/ Agriculture	D
Afgoyle Agricultural Institute	Agriculture	B
Barawe Maritime and Fisheries	Education	D
Mogadishu Sprots Institute	Sports	D
Hargeisa C.T.C.	Education	B (BOYS ONLY)
Hargeisa Nursing Institute	Health	B
Mogadishu Nursing Institute	Health	B
Health Personnel Institute	Health	D
Burao Range Institute	National Range Agency (Livestock)	B
Banaadir Animal Husbandry Institute	Livestock	B
Post and Telecommunications Institute	Post and Telecommun-unications	D
Halane Technical Institute	Education	B
Afgoye Forest and Range Institute	National Range Agency/Livestock	B
Women's Nutrition Institute	Education	B
K/Waaray Livestock Institute	Resettlement Agency/ Agriculture	D
Sablaale Livestock Institute	Resettlement Agency/ Agriculture	D
Dujuma Technical Institute	Resettlement Agency/ Agriculture	B
Dujuma Agricultural Institute	Resettlement Agency/ Agriculture	B

Ministry	Program	Enrollment	No. of Completers 1982-83
Foreign Affairs	International Organization	1 month	20
	International Relations	1 month	16
	English Language Program	1 month	7
National Planning	National Institute of Statistics and Applied Economics	2 years	18
	Development Planning	1 year	28
Labor and Social Affairs	Somali Institute for Development Administration and Management (SIDAM) (management, administration, clerical, and secretarial skills)	2 years	n.a.

The training activities of parastatal organizations generally follow the apprenticeship program, described in Section 8.1.4.2 below, which is coordinated by the Ministry of Labor.

8.1.4.2 Training through Business and Industry

Under Somali law, larger firms (depending on the number of employees) are required to enlist apprentices. While the Ministry of Labor deals with the selection and allocation of apprentices, the apprenticeship is, in practice, "on-the-job" training. Inspectors from the MOL monitor compliance with regulations concerned with labor laws.

Larger companies often provide some general education for the apprentices (reading, writing, arithmetic) since most apprentices have little or no formal schooling. After two years of on-the-job training, most apprentices only reach the employment status of "helper" (about 350 So.Sh./month wage). Helpers can become "permanent workers" only by successfully completing a test and with the consent of the MOL. The National Manpower Resources and Requirements Survey (1979) estimated the total number of apprentices at 1,283 (2.3% of the number of employees). However, this number includes both those apprentices who are officially dispatched by the MOL and all other workers who are participating in an on-the-job training program. Sixty-four percent (823) of these apprentices were located in Mogadishu; of these, half were concentrated in maintenance services and a quarter in production industries (e.g., manufacturing, welding, furniture making).

In 1977, the MOL, with assistance of the ILO, developed a series of Trade Tests (about 50) and related trade standards as a means of certifying: 1) the skills of people informally trained for their trades, and 2) the skills attained through further training. The wage level of skilled workers is linked with their classification as determined by these tests, as shown below using 1981 data.

Grade	Wage Range
I	So.Sh./Month 800-1200
II	So.Sh./Month 600- 800
III	So.Sh./Month 450- 800

To move from one grade to the next, a worker must successfully pass the appropriate Trade Test. To discourage the emigration of skilled workers, government also requires that employees must work for at least two years at each grade level before sitting for the next higher test. This means that workers must remain in Somalia for a number of years in order to receive formal certification as a skilled worker.

To accommodate the need for testing, a Trade Test Center was established in Mogadishu. All ministries, national organizations, and other firms are obligated to send their employees to the appropriate examinations. Between 1977 and 1981, over 20,000 skilled workers in 108 trades were tested at the center or in their firms. Successful completion of the test leads to a certificate from the Department of Training in the MOL.

The employing firm pays the cost of the test, about So.Sh. 40-50 per candidate. However, unemployed people can also register themselves for the test. After they enroll for the exam, a preliminary screening by the examination center determines the appropriate grade level of examination.

Persons failing a test may repeat it up to three times at six-month intervals. The tests last one day for grade III and two days each for grades II and I. Test administration is handled largely by teaching staff of the technical secondary schools who are paid an additional stipend for their work.

The Trade Testing system is not highly regarded because a breakdown tends to occur in the application of standards during test administration. While the Trade Tests and related standards, as written, meet international standards, a very large percentage of workers taking the test tend to pass, yet demonstrate low level of skill attainment in their job. One problem is that a single test administrator may administer many different tests, some of them well outside his personal trade expertise.

8.1.5 External Efficiency

Many of the vocational and technical graduates leave Somalia to find work in Saudi Arabia and other Gulf countries. It is estimated that there may be 100,000 or more Somalis working abroad. The incentives are powerful. A graduate who goes to work for the government can expect to earn about So.Sh. 1,500 per month; the same person working in private industry might earn So.Sh. 3,000 to 5,000 per month. Graduates who go to the Gulf States can earn So.Sh. 20,000 to 30,000 per month. While this loss of skilled labor is regarded by most as a major impediment to economic development, the remittances of these workers amount to over 40 percent of recorded commodity exports during the 1977-1980 period. Moreover, the capacity of the Somali economy to absorb these graduates may be questioned. The economic aspects of this out-migration of workers are discussed in more detail in Section 2.0 of this report.

Despite the national need for skilled manpower, those graduates remaining in Somalia may experience difficulty finding employment in private industry. Vocational and technical training is not tied to industrial demand for skills being taught. Potential employers in private industry cite two concerns about hiring vocational and technical graduates. First, industry has little experience with these graduates. The increased output of graduates has occurred only in the last two to three years, and many of the best graduates have been immediately reabsorbed by the educational system to serve as teachers. Second, the limited experience which employers have had with graduates has been somewhat negative. Graduates demand a high salary, frequently twice that of an unschooled worker. Employers find that most graduates have little practical experience in their trade and may need as much on-the-job training as any other worker. Given this situation, employers express a preference to hire unskilled workers and train them in the specific job for which they were hired.

Although they may not be able to secure private employment, graduates are guaranteed government employment. While this has served as a strong incentive for students to pursue secondary education, there has been little articulation of training or levels of output with national demand. This has resulted in some redundancies in government operations. Additionally, guaranteed employment has placed heavy financial demands on government. Should it become necessary to curtail or end the guarantee of employment, government hopes that graduates would then be absorbed into the private sector. This,

however, will depend first upon the capacity and then the willingness of the private sector to absorb these graduates.

8.1.6 Internal Efficiency

The internal efficiency of the vocational/technical subsector is influenced by student entry into and flow through the vocational/technical institutions, availability of competent teachers, utilization of available facilities and equipment, adequacy of instruction, and coordination among the various formal and nonformal training opportunities. While these factors are discussed in this section, a more complete analysis of each will be presented in Section 8.2.4.2.

Overall, student enrollment in vocational/technical education has increased. Yet, enrollments in most two-year vocational schools declined, even as new vocational schools were being opened. Moreover, 24 percent of the available vocational school classroom space sits unused (1981-82 data) due to lack of furniture, equipment, and/or supplies (up from 20% in 1980-81). As the number of vocational classrooms increased from 1980-81 to 1981-82, the amount of unusable classroom space increased at an even faster rate. Both of these indicators--declines in enrollment and empty classrooms--suggest excess capacity, at least at present, in the vocational schools.

Once enrolled, however, students tend to have a low rate of attrition. Table 8.14 reports student attrition by school and grade level. Results are summarized as follow:

TABLE 8.14

STUDENT ATTRITION BY YEAR, BY SCHOOL,
BY REGION FOR VOCATIONAL AND TECHNICAL SCHOOLS
1981-82

Region / School	9th 80-81 MF	9th 80-81 F	10th 81-82 MF	10th 81-82 F	Total Attrit.	Female Attrit.	10th 80-81 MF	10th 80-81 F	11th 81-82 MF	11th 81-82 F	Total Attrit.	Female Attrit.	11th 80-81 MF	11th 80-81 F	12th 81-82 MF	12th 81-82 F	Total Attrit.	Female Attrit.
W/GALBEED																		
Tech. Inst.	131	0	110	0	21	0	96	0	90	0	6	0	90	0	89	0	1	
C.T.C. Harg.	141	90	135	95	6	5												
Amoud Agric.	85	1	92	0	(7)*													
Nursing Sch. Harg.	130	96	122	87	8	9												
TOGDHEER																		
Tech. Inst. Burcao	60	0	75	0	(15)	0	51	0	44	0	7							
Range Sch. Burcao	40	0	37	0	3	0												
SANAAG																		
Agric. Sch. Dayaxa	76	0	62	0	14	0												
SH/DHEXE																		
Agric. Sch. Johwar	96	4																
BANAADIR																		
Polytechnic	452	0	433	25	19	0	159	6	132	9	27	(3)	241	19	229	18	12	1
Marine & Fishing	183	2	170	2	13	0	152	2	125	2	27	0	153	0	141	0	12	
Accounting	254	150	269	172	(15)	(22)	189	105	180	106	9	1	117	54	109	56	8	(2)
Nursing Sch. Mog.	220	110	200	95	20	20												
Labor Person. Nurs.	181	89	156	100	25	(11)												
Post. & Telecomm.	54	25	61	9	(7)	16												
Livestock	67	4	76	15	(9)	(11)												
Sports Inst.	60	20	51	13	9	7												
Primary Teach. Tra.	2,051	590	1,891	544	160	46												
SH/HOOSE																		
Tech. K/Waarey	240	21	216	22	24	1												
Fishery Barawe	149	8	134	8	15	0												
Tech. Sablaale	160	5	194	10														
Tech. Lafole	201	-	179	-	22	-	159	-	189	-	(30)							
Agric. K/Waarey	750	140	628	103	122	37												
Agric. Sablaale	410	54	339	53	71	1												
Agric. Afgoye	140	20	151	18	(11)	2												
J/Hoose																		
Loglow	52	-	51	-	1													
TOTAL	6,383	1,429	5,832	1,371	489	100	806	113	760	117	46	(2)	601	73	568	74	33	(1)

*Parentheses indicates an increase in enrollment.

Grade	Average Attrition Rate
9th to 10th	8%
10th to 11th	6%
11th to 12th	6%

These figures may underestimate actual attrition because the rate at which students are required to repeat a grade has not been taken into account. While the repetition rate is thought to be low, specific data were not available.

Closely related to retention is the extent to which students can pass the examination given at the end of their training program. Examination results from 1979-80 and 1980-81 are reported in Table 8.15. In 1980-81, essentially all students who took the examination received a passing grade. This suggests either skilled students, easy tests, and/or the application of low standards for passing. The most prevalent interpretation is that student skill levels are low, and that the high pass rate reflects inadequate concern about appropriate content and standards for the tests.

The availability of qualified teachers depends on both the capability and output of the Technical Teacher Training College and the rate at which experienced teachers leave teaching. There has been a substantial effort to improve the quality of teacher training, reflected by: a) construction of a new Technical Teacher Training College, b) extension of the TTTC curriculum to three years, and c) a requirement that all new vocational and technical teachers be graduates of the TTTC. While the overall supply of qualified teachers

TABLE 8.15
EXAMINATION PASS RATES
VOCATIONAL/TECHNICAL EDUCATION

Year	% males		% females		% Total	
	pass	fail	pass	fail	pass	fail
1979 - 80	86	14	79	21	84	16
1980 - 81	97	3	96	4	97	3

is improving, the attrition of experienced teachers from teaching continues to be a problem. When their government obligation to teach expires, many teachers (estimated at 15-20% annually) choose to emigrate or work in the private sector.

While the correspondence of instruction to the actual skill demands of the occupation is an issue of external efficiency, students' ability to understand instruction is an issue of internal efficiency. A major problem here is posed by the language of instruction. Specifically, students' limited fluency with English reduces the efficiency and effectiveness of the vocational training they receive. Through primary and general secondary school, children study in Somali. If they continue beyond the eighth grade to vocational and technical training, the language of instruction changes to English. This is because much of the occupational and trade literature (e.g., assembly and operating instructions and repair manuals) which students will need to understand is in English. However, it means that much of the early portion of vocational and technical training is committed to language training which seldom reaches a level that allows students to read and understand technical manuals. Because the problem is exacerbated by a lack of instructional materials, students gain little competence with written English.

Coordination among the various formal and nonformal training and certification programs has to yet developed. For example, vocational and technical schools do not use the trade tests administered by the Ministry of Labor. Further, there is no unified plan at any

higher level of oversight for the development of vocational and technical education. These issues will be developed in more detail in Section 8.2.

8.1.7 Access and Equity

Tables 8.7 and 8.8 permit several observations concerning the regional distribution of opportunities for vocational and technical education, and the degree to which women have enrolled in this subsector. In terms of regional access:

- vocational and technical schools are located in 6 of the country's 16 regions;
- 57 percent of all vocational and technical enrollments are in the Mogadishu area which accounts for roughly 25-30 percent of the country's population;
- three of the four technical secondary schools of four years duration are in Mogadishu; and
- most vocational and technical schools outside the Mogadishu area offer only one or two programs of study (Table 8.4). Some of these schools do not have boarding facilities for students. This means that for some potential students, access to vocational and technical education is limited to the particular field of study offered by the school closest to them.

Regarding participation by gender:

- the percentage of female enrollment in vocational schools has increased notably from 43 percent in 1980-81 to 52 percent in 1981-82; the corresponding figures in technical schools have remained a constant 12.5 percent (Table 8.16);
- one of every three women enrolled in vocational and technical education is in the Mogadishu area;
- 48 percent of the women enrolled are in technical schools; 52 percent are in two-year vocational schools;

TABLE 8.16

FEMALE ENROLLMENT IN VOCATIONAL AND TECHNICAL EDUCATION

	Total Students	Number of Women	Percent Of Women
Vocational Schools			
1980-81	1,911	815	43
1981-82	1,933	1,010	52
Technical Schools			
1980-81	5,730	717	12.5
1981-82	7,556	940	12.4

- 60 percent of the women enrolled in technical schools are in secretarial or accounting programs, 18 percent are in agriculture, and 17 percent are in general technical programs; and

- 75 percent of the women enrolled in vocational schools are in health-related programs, and another 16 percent are in business/secretarial programs. Only 7 percent are in agriculture. Few are enrolled in a trade or industrial course of study.

8.1.8 Administration and Supervision

While the MOE sponsors the four-year technical schools, many of the three-year technical schools and two-year vocational schools are sponsored by other ministries (Table 8.13). Operating budgets for these schools are paid by the sponsoring ministries, and graduates who enter government employment generally are hired by the sponsoring ministry. However, across all schools, the MOE has responsibility for hiring teachers, approving curriculum, and approving and administering leaving examinations. Within the MOE, vocational and technical schools are overseen by the Vocational/Technical School Services Unit within the Secondary and Technical Education Department. There is also a special inspectorate for vocational and technical education.

Nonetheless, the actual administration of vocational and technical education is highly decentralized. Individual institutions have the responsibility for developing their own curriculum and examinations, though both must be approved by the MOE. Consequently, programs in the same occupational area may differ in content and emphasis, and students may be evaluated on different criteria and standards.

The multiple sponsorship at the institutional level and the decentralization of curriculum development responsibilities have tended to make the planning and coordination of vocational and technical education quite difficult. There is little communication at either the inter-institutional or inter-ministerial level. Recognizing this, government appointed a National Commission for Vocational and Technical Education in 1977. This inter-ministerial commission was charged with advising and coordinating the continued development of this subsector. The Commission was not very effective, however.

This lack of coordination remains a problem for the systematic planning and growth of this subsector. Recognizing this, money was allocated in the IDA Fourth Education Project for a "pre-investment study" to develop a unified plan for the development of vocational and technical education. The money remains available, but the study has not yet been initiated.

8.1.9 Cost and Financing

The per-student unit cost for vocational and technical education, computed in Section 2.0, is So.Sh. 1,805 and So.Sh. 1,562 per year, respectively, as compared to So.Sh. 1,068 per year for general secondary education. These levels of cost are largely a function of teachers' wages and the student/teacher ratio. However, this unit cost is a conservative estimate; the unit cost will increase as educational quality improves.

Vocational and technical education are free to students, with the costs borne primarily by the sponsoring ministry. However, the Ministry of Education pays the salaries of the instructional staff who teach the academic subjects.

A projection of government costs for vocational and technical education can be developed by multiplying the unit cost of the enrollments projected though 1990-91. Table 8.17 reports projected enrollments while Table 8.18 presents the resulting cost projections. The relatively moderate cost increases (in 1981 prices) reflect the rather conservative assumptions about enrollment growth. A more complete discussion of these cost estimates and the fiscal capacity of government to meet these costs is presented in Section 2.0.

8.1.10 Donor Support

The primary donor support for vocational and technical education has come from the World Bank, the Federal Republic of Germany, North Korea, UNESCO, and the ILO. USAID has provided some training, usually in support of particular development projects. On a smaller scale, several private foreign companies have operated as private donors for on-the-job training tied to their particular businesses. For example, a Swedish fiberglass boat factory in Mogadishu operates an on-the-job training program, and a German company conducts training associated with the fisheries industry.

There are several major donor efforts which assist the vocational/technical subsector.

TABLE 8.17

PROJECTION OF VOCATIONAL AND TECHNICAL ENROLLMENTS,

1982-83 to 1990-91

Year	Vocational (2 years) Total Enrollment	Number of Graduates	Technical (3 years) Total Enrollment	Number of Graduates	Technical (4 years) Total Enrollment	Number of Graduates
1980-81	1,911	962	3,069	153	2,577	349
1981-82	1,933	389	4,637	349	3,119	551
1982-83	2,105	975	5,859	1,868	3,419	483
1983-84	2,135	1,004	5,571	1,513	3,768	796
1984-85	2,135	1,004	5,637	1,577	3,793	813
1985-86	2,135	1,004	5,937	1,577	4,050	819
1986-87	2,335	1,004	6,210	1,577	4,291	819
1987-88	2,523	1,186	6,443	1,803	4,504	819
1988-89	2,523	1 186	6,443	1,803	4,705	1,015
1989-90	2,723	1,186	6,443	1,803	4,705	1,015
1990-91	2,912	1,370	6,443	1,803	4,705	1,015

TABLE 8.18

PROJECTION OF GOVERNMENT EXPENDITURES FOR VOCATIONAL AND TECHNICAL EDUCATION, 1983-1990

(So. Sh. Thousand)

	1983	1984	1985	1986	1987	1988	1989	1990
Two Year Vocational	4781	4814	4814	5040	5477	5689	5915	6353
Three Year Technical	12887	12637	13050	13696	14266	14529	14529	14529
Four Year Technical	8104	8526	8846	9409	9917	10384	10610	10610
Total	25772	25977	26710	28145	29660	30602	31054	31492

Federal Republic of Germany

Establishment of a Vocational Training Center, Mogadishu.

Under a 1979 agreement with Somalia, the German Agency for Technical Cooperation (GTZ) is beginning construction of a Vocational/Training Center designed to accommodate 544 students per year. The training program differs from existing ones in three ways. First, the program will be organized in a modular fashion, incorporating a period of in-service training and subsequent courses to upgrade skills to the standard of a Grade I skilled worker. Hence, trainees will actually work in a company during portions of their training program. Second, instruction will be in Somali. Third, emphasis will be on the practical development of vocational skills, with less emphasis on theory than is typical of other Somali vocational schools. Training will be offered in metal work (general machinist, fitter, welder, plumber and pipe fitter), electrical trades (electrician, electrical fitter, refrigeration and air conditioning), and automotive mechanics (auto mechanic, diesel mechanic, auto electrician). Total cost of the project is estimated to be So.Sh. 12,800,000.

2. UNDP/UNESCO

There are four projects sponsored by UNDP/UNESCO to assist the subsector.

a) Technical and Vocational Teacher Training.

Started in 1972, this program sought to strengthen the Mogadishu and Hargeisa technical secondary schools and to introduce industrial vocational training and trade testing. The project helped established and staff the TTTC. In the current phase (1982-1984), the project is preparing teacher trainers and upgrading the skills of practicing technical teachers and vocational instructors. UNDP assistance for this project, executed by UNESCO, is US $2.5 million during 1982-1984 for personnel, individual fellowships, group training, and equipment.

b) National Telecommunication Training Institute.

UNDP assistance to the Institute is for training personnel required to maintain (at acceptable standards) sophisticated equipment in telecommunications, civil aviation, and marine and port communications. The project provides for the training of individuals with secondary schooling to become skilled technicians, and those at a post-primary level to become semi-skilled technicians. It also includes the training of instructors and the purchase of equipment. The project received US $770,594 for 1982-83, with US $1 million expected for continuation.

c) Hotel and Catering Training Institute.

This project is establishing a national institute for training in hotel and catering operations. The project also will prepare individuals to operate the institute. Assistance for this project is US $1.4 million for 1985-86.

d) Development of a Civil Aviation Training School.

This project is assisting the government in converting and

developing existing facilities into a Civil Aviation Training School. The school will train specialized personnel and technicians in such areas as air traffic control, electro/mechanical maintenance, communications, and fire and rescue. While the project will be executed by ICAO, UNDP funds are about U.S. $1 million (1982-1984) for personnel, equipment, and fellowships.

3. Republic of Korea (North Korea)

Polytechnic Institute, Mogadishu.

The Polytechnic Institute was built by The Republic of North Korea as a demonstration technical secondary school. The Polytechnic continues to receive assistance from North Korea in the form of Korean expatriate instructors.

4. World Bank

The World Bank is assisting a Fourth Education Project with the Third Education Project ongoing. All four bank projects have given attention to the continued development of vocational and technical education. One focus of both the First and Second Projects (1971-1976 and 1974-1980, respectively) was the development of pre-vocational workshops associated with existing secondary schools. These met with limited success and were subsequently discontinued. During the Third Education Project, new schools for livestock, forestry, nursing, and health were developed. Additionally, the project helped support the development of the National Trade Testing and Training Center.

The Fourth Education Project includes a pre-investment study of vocational/technical and management/commercial education. The study, which has not yet been conducted, is expected to help shape the vocational/technical component of a Fifth Education Project, when that is eventually developed.

8.2 ANALYSIS

This section builds on the previous review of vocational and technical education to examine a series of issues that confront government's effort to improve the internal and external efficiency and administration and supervision of vocational and technical education. These issues are addressed within the discussion of needs, plans, and constraints.

8.2.1 Needs

The principal needs in vocational and technical education are to link training of skilled workers with labor demand, to improve the quality of the trade and skill training that students receive, and to develop a unified plan for the continued development of this subsector of education.

8.2.2 Plans

Government's plan is to increase the percent of post-primary students who enroll in vocational and technical education while reducing the percent continuing in general secondary education. Government expects to support this plan with the construction and staffing of additional vocational and technical schools.

8.2.3 Constraints

Primary constraints to optimal development of vocational and technical education include: (1) lack of an effective reward system to encourage students into trade areas of high need, (2) the under-employment of many skilled workers, and (3) the current low quality of the trade skill training students receive.

8.2.4 Issues

This section draws on the earlier discussion to identify a series of issues government will face in the expansion of the vocational and technical education subsector and the continued development of a skilled work force. The discussion concludes with a set of recommendations.

8.2.4.1 External Efficiency

The main issues of external efficiency concern linking manpower supply to demand, creating appropriate incentive systems to retain skilled workers in the country, and involving the business and industrial community in formal vocational and technical education.

1. Use of Demand Data. The current vocational/technical education subsector is supply driven. There are few data available and little attention given to actual demand for graduates in either Somalia or the larger region. This poses a serious problem for educational planning since, lacking such information,

meaningful decisions about where current resources should be targeted or how future expansion of the educational system should occur are guesswork. The need for labor demand data is particularly acute, since all secondary school graduates are currently guaranteed work with the government. Normal incentive systems to entice students into particular trades do not operate effectively. This has resulted in redundancies and underemployment in some areas and in manpower shortages in others.

To use demand data effectively in educational planning, the data should exhibit at least two characteristics. First, the data should identify both the skill and occupation areas that are needed and the level of skill attainment necessary for workers to effectively respond to the shortage. Second, the demand data must be regional (Gulf States) as well as national. A large number of the vocational and technical graduates emigrate abroad. Government has identified this as a primary constraint to economic and social development. However, the severity of this emigration for the Somali economy are points of debate. The remittances of Somali workers abroad constitute a substantial and needed source of foreign exchange. Further, it is not clear that the Somali economy can absorb these workers if they choose not to leave the country. Government may benefit most by being able to anticipate more accurately Gulf States' labor demand and prepare workers to meet those needs. In particular, a slowdown in Gulf States labor demand, triggered by reduced oil revenues in the region, could have two effects. First, needing fewer workers, the Gulf States

may become more selective in whom they admit and require a higher skill level for entering workers. To compete effectively, Somali workers may need more extensive educational preparation, both in secondary academic fundamentals (mathematics, sciences, language) and in trade skill preparation. Second, a slowdown in emigration could hold serious consequences for the rate at which government would have to absorb vocational and technical graduates into the Somali economy.

2. Incentives to Work in Somalia. The real problem in the current emigration pattern is that the most highly trained workers tend to be the ones who leave. The attractiveness of the incentives abroad are accentuated by the lack of incentives for workers to stay in Somalia. Government employees frequently are misallocated and underemployed. Their jobs may not be well aligned with their training and skills. Salaries are low and years of service bring little, if any, increase. Yet once in government service, graduates can be released from employment only with permission of the government, and sometimes government does not readily give this permission. Government service lacks a well-developed mechanism for advancement and reward of competent people. This accentuates the loss of skilled manpower.

3. Articulation with Business and Industry. The business and industrial community in Somalia has little familiarity with the formal vocational/technical system. Three factors help to explain this. First, the rapid growth of this education subsector has been relatively recent. Second, many of the graduates who did not

emigrate have been reabsorbed by the education system itself as teachers. Many others went directly into government employment. Third, for those who did enter the Somali work force, the comparative advantage of hiring a vocational or technical graduate over a less expensive, unskilled worker (that the company would train) is still to be demonstrated.

The lack of coordination with industry goes beyond the issue of labor demand. There is currently little articulation with industry in the actual conduct of vocational and technical training. Two typical forms of involvement which have proved useful in many countries are trade advisory committees to guide curriculum selection and design, and internship and cooperative education programs in which vocational/technical students work in an industrial setting as a part of their formal studies. The latter activities are some that will be incorporated into the new Vocational Training Center.

4. Career Alternatives for Vocational School Graduates. Government policy to increase the percent of students going into vocational education while, at the same time, recruiting vocational students from among the better primary school graduates poses a paradox in manpower planning. To the degree that government policies are successful, many of the better students would be channeled into essentially terminal courses and low-level career options. Graduates of two-year vocational schools cannot go directly to the University, and the quality of the training they receive is so low that they do not have a comparative advantage with respect to other secondary

school graduates in getting better employment. Successful implementation of government policies may result in a less-than-optimum use of talented manpower.

8.2.4.2 Internal Efficiency

The issues of internal efficiency center on incentives for attracting students to this educational sector, the quality of the education students receive, and teacher supply and demand. Eight specific points are developed.

1. Incentives for Attracting Students. The incentive system for attracting students into two-year vocational schools is seriously distorted. Despite government's goal that 42 percent of the primary school graduates begin vocational education, enrollment in most existing schools declined between 1980-81 and 1981-82. One reason, as previously described, is that students reduce their long-term options by attending a two-year school. Government salaries, job allocation procedures, and promotion schedules operate as further disincentives. Even though vocational and technical graduates are paid at a higher pay scale than secondary school graduates, their salaries are still low relative to what graduates might earn abroad.

2. Quality of Vocational and Technical Education. The quality of the vocational and technical education which students receive is generally low. One reason is that curriculum and instruction are not based on systematic occupational or task analysis.

This has two consequences: 1) graduates may not possess essential job skills since training is not necessarily geared to the skill requirements of the occupation, and 2) ostensibly similar training programs across different schools may vary widely in content and emphasis; there is no concensus as to what constitutes "core" content across programs in the same occupation.

A second reason for the low quality is that instruction is developed by persons who may never have practiced their trade skills under actual work conditions; many never have earned a living at their trade. Additionally, most instructors have not had training or experience in systematic instructional design. Finally, instructors have very few resource materials (reference books, textbooks, demonstration kits) available to them during lesson preparation.

3. Constraints of Language Fluency. Vocational and technical students are faced with multiple competing demands for language fluency. Primary school is taught in Somali. If students begin vocational or technical education, they have to learn English. Further, many of the graduates work in countries where fluency in Arabic also is an advantage. Students often do not achieve sufficient fluency to function effectively in English (e.g., read technical instruction and repair manuals), and there is very little technical and trade material published in Somali. The multiple language requirements may impede students' efforts to learn their trade.

The language issue constrains pedagogical alternatives. Many

countries (including Saudi Arabia) have developed competency-based, self-instructional materials for vocational/technical education. While vocational/technical education should be competency based, it is unlikely that the use of individualized, self-instructional materials would work in Somali at this time because this system shifts much of the delivery of instruction from the teacher to written materials. Students with marginal fluency in the language of the self-instructional materials have considerable difficulty.

4. Quality of Instructional Materials. Good instructional materials can help compensate for otherwise weak instructors. Government currently has no mechanism for the development and distribution of instructional materials. The materials being developed by the Technical Teacher Training College, when available, offer some solution, but are not sufficient since they are being developed in only a few subject areas.

5. Availability of Supplies. Schools lack necessary equipment and instructional supplies. As a result, the quality of instruction suffers, and students do not get the practical trade experience they need. The problem has two dimensions. There is not enough equipment for students to gain sufficient experience in operation and maintenance of the machines and tools. Furthermore, what is available is frequently old or not calibrated to current international standards. This results in poor training for students who may be expected to operate newer, more sophisticated equipment in subsequent employment, particularly in private industry.

6. Teacher Supply and Demand. The National Resources and Requirement Survey, 1978-1983 projected a need for 594 additional technical teachers and 3,223 vocational teachers between 1978 and 1983. Even assuming high levels of teacher attrition each year, this is an overestimate of demand. In 1981-82, government employed only 193 technical and 362 vocational teachers. More recently, the Five Year Development Plan, 1982-86 projected a need for 4,662 new vocational/technical teachers by 1982, 5,776 by 1986, and 12,953 by 1990. Again, these figures appear to overestimate the need, given current available space, planned construction during these time frames, and projected enrollments. Table 8.19 develops an estimate of teacher demand based on: 1) the construction of new schools, as identified in the Five Year Development Plan; 2) replacement of new teachers due to teacher attrition (assuming 20% annually); and 3) increased enrollments in existing schools (assuming a student/teacher ratio of 20:1). This table may underestimate demand if actual attrition is higher, or overestimate it if the student/teacher ratio can be increased.

Teacher supply is easier to estimate since, in the future, all vocational and technical teachers must graduate from the TTTC. The projected output through 1986 (reported earlier in Table 8.12) is only 760. This yields an estimated shortfall in 1986 of 1,960 teachers. At maximum capacity, the TTTC will be able to enroll around 800 students in this three-year program. This yields an approximate

TABLE 8.19

PROJECTED DEMAND FOR VOCATIONAL/TECHNICAL TEACHERS, 1986

	Vocational	Technical	Total
Existing Teachers (1981-82)	215	493	708
Source of Demand for New Teachers			
1. Construction of new schools identified in Five Year Development Plan	933	468	1,401
2. Replacement of existing teachers due to teacher attrition (assumes 20% teacher attrition; in five years, 100%)	215	493	708
3. Increased enrollments in existing schools (assumes a 40% increase per year; yields 48,997 students in 1985-86; assumes 1:20 teacher student ratio; corrected for teachers already accounted for in points (1) and (2) above; divided between voc and tech according to ratio of projected teachers from (1) and (2) above	111	83	194
Total Projected Demand, 1986	1,259	1,044	2,303

yearly output of 267 graduates between 1986 and 1990, about 10 percent of whom will probably not enter teaching. This means that the output of the TTTC will be only about 10 percent of the number of currently employed teachers in those years. If attrition from teaching operates at 15-20 percent per year, the TTTC will be unable to replace teachers leaving the system, much less keep up with the demands of increasing student enrollments.

Given the low quality of instruction already characterizing many vocational and technical schools, it will be important not to reduce teacher training standards further in an effort to produce more technical teacher training graduates. At the same time, additional teachers are needed. One approach is to reduce teacher attrition. This might be accomplished by improving the incentives to stay in teaching (e.g., salary, work conditions). However, to compete successfully with available alternatives (e.g., employment in Saudi Arabia) would be quite expensive and would draw resources away from other important uses. Another approach would be to develop another teacher training program, possibly by upgrading and expanding an existing vocational school facility. The expansion of technical teacher training should be considered as a target project for donor assistance, particularly as that training is closely tied to private sector demand.

7. Inservice Teacher Training. Teachers already employed have few opportunities to refresh and update their training.

Currently there is little in-service education available. This has two consequences. First, if teachers are out of date in their own training, the quality of the instruction they deliver will suffer. Their students will learn inappropriate techniques. The problem is particularly severe since the design of curriculum and instruction rests so heavily on the teacher. Second, friction and conflict may develop between teachers recently graduated from the TTTC with more current training and older teachers who may feel threatened by procedures and equipment with which they are not familiar. Opportunities for the continued education of vocational and technical teachers can help improve the quality of instruction by keeping teachers appraised of new developments and new instructional materials and methods.

8.2.4.3 Administration and Supervision

The issues of administration center on inter-institutional and inter-ministerial coordination of vocational/technical education. Vocational/technical education lacks coordination at several levels. First, there is little communication among the schools themselves, exacerbated further by the lack of a common curriculum and examination program. Second, there is a lack of coordination among the various ministries involved in the operation of different schools. Third, there is an uncoordinated, piecemeal approach to training by a number of international donor agencies. Coordination and planning within and across these levels is made difficult because government has no unified plan for the development of vocational and technical education.

8.2.5 Conclusions

The preceding analysis has identified twelve issues that confront the continued development of vocational and technical education. In this section, these issues form the basis for four primary conclusions. These conclusions relate to specific recommendations advanced in the final portion of this chapter.

Conclusion 1: Future expansion and curriculum development activities should link vocational and technical training to the demand for skilled labor in Somalia and the Gulf Region.

Vocational/technical education has expanded rapidly over the last five years. Initially, the emphasis was simply on expanding supply, that is, on providing educational opportunity to an increasing proportion of post-primary students. However, as the preceding analysis suggests, that growth has not always been aligned with the demand for skilled labor. Government now is encouraged to focus expansion and curriculum development activities on training in occupations that will best serve continued national development and which will assure that Somali workers remain competitive for jobs in the larger Gulf regional labor market.

Conclusion 2: Both the internal and external efficiency of vocational and technical education may be enhanced by a renewed emphasis on educational quality.

As Somalia continues to meet the challenge of rapid economic and social development, the need for higher levels of trade skill in the work force will also continue to grow. Similarly, the prospect of

declining demand for skilled labor in the Gulf States means that immigration and hiring in that region may become more selective, favoring workers with higher skill levels. However, to accommodate the recent rapid expansion of vocational and technical education, schools have frequently found it necessary to trade educational quality for growth. Students do not always receive the practical trade skills they need to function effectively in the work force. Having successfully expanded trade training, government now has the opportunity to redirect the emphasis toward enhancing quality. Such a shift would be particularly timely. The projected decline in secondary school enrollment (Section 2.0) will reduce somewhat the pressure for expansion over the next five years and thus allow an opportunity to emphasize quality.

Conclusion 3: A unified plan for the continued development of vocational and technical education would greatly improve the allocation and use of resources in this educational sector.

The rapid growth of the vocational/technical education subsector has been made possible, in large part, by the combined effort and financial support from a variety of ministries and external donors. One outcome of such diverse participation is that expansion of the system has occurred without the benefit of a unified plan or a consistent strategy. At times, this has resulted in inefficiencies and redundant effort.

Conclusion 4: If improved educational quality does not result in increased demand for vocational/technical graduates, government

should consider reducing the extent of formal vocational and technical schooling.

The analysis of internal and external efficiency suggests both that there currently is little demand for graduates of vocational technical training and that the quality of that training is low. However, it is not clear which problem, low quality or low demand, is primarily responsible for the declining enrollments in vocational education. Specifically, it is uncertain whether improved quality will lead to increased demand or whether the absorptive capacity of domestic and foreign labor markets for vocational and technical education should be cut back to a level more consistent with the demand for skilled workers. Resources currently used for vocational technical education could be directed to improving general secondary education. If, on the other hand, the issue is the low quality (e.g., demand for trainees would increase if quality were improved), then quality enhancement should be emphasized. An emphasis on educational quality in the absence of demand for the skills developed would represent a waste of resources that might better be used in quality enhancement in other subsectors of education.

8.3 RECOMMENDATIONS

The recommendations for vocational and technical education are discussed in relation to the main conclusions presented above.

8.3.1 First Priority - Improve External Efficiency: Recommendations 1-2.

Recommendation 1: Link Training to the Demand for Skills in Somalia and the Gulf Region.

Possible action steps: Because little information is available on the demand for skilled labor, a comprehensive study of labor demand in Somalia and the larger Gulf Region could be undertaken to identify both the occupational areas and the skill levels within those areas at which demand is expected. This analysis would provide a basis for expansion and modification of the present trade-training system.

Recommendation 2: Increase Involvement of Employers.

Possible action steps: (a) Trade advisory committees, composed of skilled tradesmen and leaders in business and industry, could assist (in an advisory role) in curriculum development and review. This serves both to further reflect employer needs in curriculum development and to inform private sector leaders of the current status of occupational and trade education. (b) Opportunities for students to gain work experience associated with their trade as a part of their formal schooling could be developed. These opportunities may develop s work-study programs, modified apprentice programs, or, at a less complicated level, the sharing of facilities and equipment by industry for certain portions of a training program.

8.3.2 Second Priority - Improve Internal Efficiency: Recommendations 3-5.

The following three recommendations follow from the second conclusion that both internal and external efficiency of vocational/technical training will be enhanced by an emphasis on increasing educational quality relative to increasing quantity.

Recommendation 3: Reallocate Resources to Emphasize Educational Quality.

Possible action steps: A renewed emphasis on quality might take several forms. One strategy would be to identify those schools that have the greatest potential for quality improvement and target them for a special program of quality enhancement. Programs in schools which are found to have inadequate academic or financial resources may need to be modernized.

Within the target schools, quality enhancement may be accomplished through activities addressing teacher preparation, curriculum development, and facilities improvement. For example, a program of in-service teacher education would help ensure that instructors are familiar with new equipment, procedures, and trade standards. Target schools might also become curriculum and instructional materials development centers. Once developed, materials could be pilot tested at the school and, if successful, distributed across other schools with the same program. The integration of the in-service teacher training and materials

development activities would provide a foundation for implementing competency-based on-skill training. Competency-based instruction also provides a clear basis for subsequent skill testing. To keep materials-development costs down, it would be important to adapt materials from existing sources whenever possible.

A persistent problem in vocational and technical education is the lack of equipment and limited opportunity for students to practice their trade skills. Target schools would need special funding to update and modernize their workshops with enough equipment to provide students with meaningful practice opportunities.

An effective strategy for quality enhancement is likely to be one that integrates improvement in all three areas--teacher preparation, instructional materials development, and facilities improvement. An important associated strategy would be to find donor support for individual institutions. This, in turn, ties closely to a later recommendation regarding administration and supervision of vocational and technical education.

The preceding suggestions can be summarized as a series of possible action steps:

a) Develop in-service teacher-improvement programs in target schools. These programs could provide instruction in such areas as the use of competency based education, operation and repair of new machines, and pedagogical skills (e.g., how to demonstrate equipment,

safety procedures in the workshop, etc.).

b) Adjust policies regulating government employment to make it easier for teachers to leave and return to teaching in order to gain work experience in their trade. Many teachers did not have much opportunity to practice their trade skills during their own training program. Few teachers have earned a living at their trade. One way to upgrade teachers' practical trade experience is for them to work in business or industry at various times during their teaching career. Policies to allow this would have to be developed in conjunction with incentives to encourage people to return to teaching.

c) Give target schools adequate resources to undertake systematic instructional materials development.

d) Base instructional materials on systematic occupational and task analysis.

e) Develop instructional materials which are competency based. Competency-based instruction is particularly appropriate when the focus of instruction is on skill training. The competency-based approach allows for the organization and sequencing of instruction. It also provides a clear basis for subsequent skill testing.

f) Adapt instructional materials from existing sources whenever possible. Good competency-based instructional materials for vocational and technical training are widely available. Their advantages are that other groups have already borne the development costs and the materials are immediately available.

g) Begin or expand programs only when there is adequate equipment and appropriately trained staff to teach at the level necessary.

Recommendation 4: Begin Offering Selected Technical Education Programs as Two-Year, Post-Secondary Training Programs.

Possible action steps: One strategy for enhancing quality would be to provide technical students with a stronger academic base in math, science, and language. This might be accomplished by having technical students complete a full general secondary curriculum before specializing in a technical area. In particular, students who anticipate pursuing post-secondary technical training could be given a special intensive English language training program to better prepare them for the technical curriculum.

Recommendation 5: Begin Offering Vocational Training as Two-Year Programs Following Grade Ten.

Possible action steps: One strategy for enhancing the quality of vocational education would be to provide students with a set of basic "core" courses in mathematics, science, and language before they begin their vocational training. Students may be able to acquire this academic background through the existing general secondary school curriculum. Particular attention might be given to intensive English language training to better prepare vocational students for the language of vocational instruction.

8.3.3 Third Priority - Adminstration and Supervision: Recommendations 6-7.

Recommendation 6: Prepare a Unified Plan for the Continued Development of Vocational/Technical Education.

Possible action steps: Funding for the preparation of such a plan is available under the IDA Fourth Education Project. One immediate action step is to initiate the IDA study. A unified plan might identify a mechanism that would: (1) link responsibility for budget, curriculum, and administration within and across vocational and technical schools; (2) coordinate educational resources with projected labor demand; (3) oversee the target school concept suggested earlier; and (4) advise and help coordinate donor assistance. Previous efforts to develop an inter-ministerial coordinating group have met with limited success. An alternative strategy might be to consolidate responsibility for vocational technical education within a single ministry. This office or agency might be the coordinating mechanism for donor assistance.

Recommendation 7: If Improved Educational Quality Does Not Result in Increased Demand for Vocational or Technical Education Graduates, Government Should Consider Reducing the Size of the Vocational and Technical Education Program.

Possible action steps: One means of determining whether declining enrollments are more strongly linked to demand or quality would be to enter into a quality enhancement program (as described in Recommendation 3), and carefully monitor the effects of enhanced quality on graduates' employment. If labor demand is responsive to quality improvement, the quality enhancement strategy should be continued. If demand is not responsive to quality, government should consider cutting back on the availability of vocational and technical education until demand can be generated through an invigorated economy or major development projects.

9.0 TEACHER EDUCATION AND TRAINING

Most primary and secondary teachers in Somalia are graduates of one of the three government-sponsored teacher training institutions--Halane Primary Teacher Training Institute (PTTI), Lafole College of Education, or the Technical Teacher Training College (TTTC). Of the 10,021 primary and secondary teachers in 1981-82, 18 percent were recent secondary school graduates completing their year of National Service. These teachers receive only a month of teacher training before being assigned to a school. An additional one percent of the primary and secondary teachers in Somalia are expatriates teaching at the secondary level (Table 9.1).

This section focuses on the structure and quality of the formal teacher training system. It should be noted that the quality of instruction in the schools depends, in part, on the competence of many teachers who have not participated in this teacher training system. The section then describes the state of pre-service and in-service teacher training, examines the adequacy of teachers' performance in the schools, and assesses the extent to which current teacher training meets the needs of the educational system.

9.1 STATUS

This part of the review describes the condition of the teaching environment, government strategies for improving teacher training, and the three teacher training institutions in the country. In-service

TABLE 9.1

NUMBER OF TEACHERS BY SOURCE OF EMPLOYMENT, 1981-82

Source of Teachers	Secondary Level		Primary Level	
Full-time	Number	Percent	Number	Percent
Permanent	928	59%	7,199	86%
National Service	600	35%	1,172	14%
Expatriate	102	6%	0	0%
Subtotal	1,630	100%	8,371	100%
Part-time*				
Somali	388	-	0	-
Expatriate	0	-	0	-
Subtotal	388	-	0	-
Total Headcount	2,018	-	8,321	
FTE Total	1,894	-	8,321	

*Part-time computed as 2/3 FTE

Source: Ministry of Education

training opportunities are discussed briefly. The section then examines existing programs in terms of their external efficiency, internal efficiency, administration and supervision, and costs and financing.

9.1.1 Conditions of the Teaching Environment

As detailed in Section 2.0, for the next few years Somalia is not faced with pressure to provide a large number of new teachers to meet an expanding formal education system as is the case in many countries. In 1981-82, there were 8,371 primary teachers (see Tables 6.4 and 6.6) serving 239,916 students for a student/teacher ratio of 29:1. The 1,894 FTE general secondary teachers (2,018 individuals) served 44,860 students for a student/teacher ratio of 24:1, although class size averaged 52 students because of teachers without full class schedules and problems in distribution (as discussed in Section 7.0). As a result of system expansion which has already taken place at the primary levels (see Sections 2.0, 6.0, and 7.0), the major issue is not teacher supply but teacher preparation and performance. This is now the focus of government's training efforts.

All three teacher training institutions must deal with students who do not have adequate prerequisite skills. For those programs instructing in English (i.e., Lafole College and the Technical Teacher Training College), lack of English fluency is the most serious deficit. However, students also lack sufficient content background. This is not surprising considering that teachers often instruct at a level very

close to their own highest level of educational attainment. For example, eighth grade teachers have only two years of education beyond the eighth grade; twelfth grade teachers only have two years of education beyond that of their students. This is a serious limitation on education quality because teachers do not have the necessary additional knowledge to provide depth and challenge in the educational experiences they provide as teachers.

The consequences of having teachers with little education beyond that of their students are compounded by three factors in the school system environment. First, some teachers are assigned to small and/or remote schools where there may be less of a support structure for a new teacher, as well as less opportunity to gain help from more experienced and knowledgeable teachers. This is particularly true for primary teachers because primary schools are more widely distributed in smaller towns. Second, the student/class ratio is generally high, particularly at the secondary level (e.g., 52:1). While secondary teachers may not teach a full school day (they typically teach about 20 out of 36 class periods per week) or may be assigned to other duties, when they do teach, they are responsible for a very large class. This places extra demands on a teacher's competence as the requirements of classroom management compete with instructional time.

Both of these environmental constraints could be minimized if teachers had high quality instructional materials and teaching aids in sufficient quantity for their classes. Good instructional material

often can help compensate for the weak content background of the teacher. Materials provide an opportunity for students to engage in learning even when the teacher's attention is on classroom logistics. The third environmental constraint, however, is the acute shortage of textbooks and other instructional materials. At both primary and secondary levels, the Curriculum Development Center has been unable to keep up with the demand. The essential problem is a backlog of manuscripts waiting to be printed at the government printing press. For vocational and technical education the problem is different, but equally severe. Government does not provide centralized development of curricula or instructional materials; each school develops its own.

The net impact of these larger environmental constraints is that content-weak teachers are often confronted with large classes in the absence of adequate instructional support, in the form of textbooks and instructional materials or a strong framework of mentorship from more senior teachers. Teacher education must necessarily consider these contextual demands on new teachers and prepare teacher trainees to cope.

A related consideration in the teaching environment is posed by the enrollment projections presented in Sections 2.0., 5.0, and 6.0. Specifically, these projections suggest year-to-year enrollment variation by region, by school, and by grade level such that a proper allocation of teachers for one year is inappropriate for the next year. The implication for teacher training is that future teachers may need to have the content background, pedagogical skill, and personal flexibility to vary the subject matter they teach from year to year. Equally

important, teachers must have sufficient subject matter background to be able to vary the degree of content difficulty from one year to the next if they are teaching the same subject area at a more advanced grade level. Again, teachers must be able to do this with very little support from instructional materials and within the context of large class sizes.

A unique and temporary problem facing secondary teachers over the next five years will be the particularly poor preparation of the grade cohorts entering the secondary system between 1981-82 and 1984-85. The history of their weak academic background is presented in Section 6.0. In brief, the cohort entering Grade Nine in 1981-82 had previously skipped two grades; those cohorts entering in 1982-83 and those who will enter in 1983-84 have skipped one grade level each. The cohort entering in 1984-85 will be composed of students judged too weak academically to have skipped a grade. Thus, secondary teachers over the next five years will be confronted with many students who have less subject preparation than their grade levels might indicate.

9.1.2 Goals and Strategies

Government recognizes that improved teacher training is a precondition for improved educational quality. Indeed, the Five Year Development Plan, 1982-1986 identifies improved teacher training as a national goal for education. As an immediate step, government plans to extend the secondary teacher training at Lafole College of Education to a three-year program, and ultimately to four years. Beyond that,

government proposes to strengthen primary and secondary teacher training programs by expanding facilities and improving teaching methods. Specifically, government plans to establish five regional primary teacher training centers. Additional goals, closely related to teacher training and the support of practicing teachers, are to establish a curriculum development center to produce audio-visual and other instructional materials and to provide for local production of textbooks for primary and secondary education and supplemental books for secondary education.

To begin to accomplish these goals, government has identified a series of specific projects for which it hopes to find funding. These include: (1) developing a reference library at Halane Teacher Training Institute, (2) improving the library collection and textbook production center at Lafole College of Education, and (3) improving the facilities at Lafole, particularly the science laboratories and audio-visual room.

9.1.3 Structure

Presently, there are three institutions for teacher training: (1) Halane Primary Teacher Training Institute; (2) Lafole College of Education, responsible for secondary school teacher training; and (3) the Technical Teacher Training College (TTTC) which prepares teachers for vocational and technical education. All three institutions are operated by the government. Halane and the TTTC are located in Mogadishu, and Lafole is located in Afgoi district, about 23 kilometers from the capital. A description of each institution is given in the

following section.

The three teacher training institutions operate independently of one another. They are sponsored by different ministries, and overall, they cannot be characterized as a single teacher education system.

Halane is administered by the Ministries of Education and Defense. The Ministry of Defense pays a major portion of the costs and is responsible for logistics, student discipline, and housing. The Ministry of Education is responsible for teacher selection and curriculum.

Lafole is headed by the Dean of the College who reports to the President of the University. The President, in turn, reports to the Minister of Culture and Higher Education. Curriculum issues (e.g., adding or dropping of courses from the curriculum), while initiated by the Dean, are under the jurisdiction of the Senate Academic Committee of the University. One consequence of this arrangement is that the Ministry of Education, which employs the teachers and is responsible for the quality of their job performance, does not control the admission or training of new teachers.

Administration of the TTTC rests with the Ministry of Education. However, the TTTC is responsible for developing its own curriculum and examinations.

9.1.4 Programs

Following is a description of the three teacher training programs operating in the country.

9.1.4.1 Halane Primary Teacher Training Institute (PTTI)

Opened in 1976, Halane offers a two-year primary teacher training program sponsored by the MOE with logistical assistance (room, board, school uniforms) from the army. Student admission is based on a regional admissions quota and, within that, students' eighth grade leaving examination scores. Specifically, Halane entrants are drawn from students scoring in the middle range of the National School Examination. Since some of the primary schools are in small villages and outlying regions, the regional admissions plan helps ensure that there are graduates who want to return to these more remote areas. Student enrollment in 1981-82 was 3,285, up from 1,412 the year before. This 133 percent increase reflects government's commitment to provide an increase in the number of teachers available to the primary school system. Enrollment in 1982-83 totalled 2,609 students, 1,415 (54%) of these females. Acceptance into primary teacher training is projected at approximately 1,500 annually.

To accommodate this enrollment increase, the faculty grew 41 percent between 1980-81 and 1981-82 (from 104 to 147 instructors). With both enrollment and faculty increases, the student/faculty ratio rose from 14:1 to 22:1, indicating a substantial increase in the instructional efficiency of the Institute.

Students attend six 50-minute classes a day, six days a week. The school year runs from November 1 to July 30, for a total of approximately 210 instructional days. The curriculum consists of ten subjects in addition to education: English, biology, chemistry,

physics, mathematics, geography, history, Arabic language and religion, Somali language, and physical education. The language of instruction for most subjects is Somali. A few expatriate instructors, available through the Arab League Education, Culture, and Scientific Organization (ALECSO), teach their courses (e.g., geography, history) in Arabic. Students study educational theory for four of the 36 periods per week. At the conclusion of their training, students participate in a three-week practice teaching experience in the Mogadishu schools.

9.1.4.2 Lafole College of Education

Lafole College is a part of the National University. Started in 1963 as a general teacher training institution, Lafole College began to specialize in secondary teacher training in 1968. Students enter Lafole via three routes. Approximately half of the entrants are recent graduates of general or technical secondary education who have just completed their year of National Service and have passed the University Entrance Examination. Another fifty percent are selected from primary teachers who have (a) graduated from Halane PTTI, (b) taught primary school for at least three years, and (c) passed a Teacher's Evaluation Examination. A third group, accounting for a very small percent of entrants, are civil servants sent to the College of Education by their respective ministries to study subjects relating to their work.

During 1982-83, 1,014 students were enrolled in the two-year program, although only 234 students graduated. The disproportionately small number of graduates (given the enrollment) stems from the recent

history of curriculum change at the College. Lafole operated as a three-year training program until 1975-76, when government projected a shortfall of trained teachers to meet escalating student enrollments. To increase the teacher training output, the Lafole program was accelerated to offer six semesters over two years. Students studied through the summer so that they would receive the same amount of instruction in two years that had formerly been given in three years.

The change in schedule did not produce the intended results. First, students had difficulty completing the three years of work in two years. About half of the students in the 1981-82 entering class were unable to finish on schedule and extended their studies another year. Consequently, instead of increasing the output of trained teachers, the shortened program actually resulted in a reduced output. Second, the teachers who did graduate in two years are said to be experiencing difficulty in their subsequent teaching positions. The shortened program is cited by teachers and Ministry of Education officials as contributing to a drop in quality of general secondary education. As a result, Lafole will revert to a three-year training program in 1983-84.

The faculty at Lafole is composed of 90 Somali and 21 expatriate full-time teachers with another 42 employed on a part-time basis. This yields an estimated full-time equivalent (FTE) faculty size of 132 which gives a student/faculty ratio of 8:1. While high relative to other Colleges in the University, the student/faculty ratio is exceedingly low by international standards. As pointed out in Section 2.0, the University, purposefully or not, appears to be compensating

instructional staff for their low salaries by reducing the student contact obligation to very low levels.

Instruction at Lafole is in English. However, most entrants have just completed their primary and secondary studies in Somali. To accommodate the language shift, the formal two- (and eventually three-) year program does not begin until the middle of the academic year (January). Students participate in a one-semester intensive English language course in the semester preceding their matriculation. A graduate who completes the program on schedule does so in midyear. This provides an opportunity for limited student teaching during the second half of the academic year.

9.1.4.3 Technical Teacher Training College (TTTC)

To be a vocational or technical school teacher, a person must either attend the TTTC or be a recognized master at one's trade. However, only about ten people have entered teaching using this second pattern. Students are admitted into one of six programs of study: auto mechanics, general mechanics, electrical trade, civil construction, marine engineering, and commercial studies.

In 1982-83 the TTTC graduated 83 students, up from 71 the year before. However, two factors are influencing future enrollments. First, while commercial studies has been a three-year program, the other programs have been offered as two-year programs. With encouragement from UNESCO, the MOE has now extended all programs to three years beginning with 1982-83 entrants. One immediate consequence will be a

drop in the number of graduates in 1983-84, as second-year students stay for a third year. Second, a new TTTC campus is under construction and is expected to be in use by the 1984-85 year. Once completed, the new facility will have an enrollment capacity of 600-800 students. This will allow expanded class sizes, and eventually, the number of graduates will increase to 260 per year.

The TTTC faculty is composed mostly of recent graduates of the TTTC who ranked in the upper portion of their class, some of whom have received further training abroad. The 36 Somali faculty are supplemented by five UNESCO experts and 12 additional expatriate instructors.

The College is responsible for developing its own curriculum and examinations. Additionally, in 1982, the TTTC began developing, on a very limited scale, instructional materials for use in vocational and technical schools. When completed, these materials will be submitted to the MOE for approval and subsequent distribution. (Further detail on the Technical Teacher Training College is presented in Section 8.0, Vocational and Technical Education.)

9.1.4.4 In-service Teacher Training

In-service teacher training opportunities that do exist tend to require large blocks of time. In-service training is sponsored by the Teacher Training and Curriculum Development Department (TCDD) of the MOE. Two-month training programs for primary teachers and administrators are conducted during school vacations (July to November) by the TCDD with financial assistance from UNICEF. During August and

September, 1983, over 600 Headmasters and Regional Inspectors will attend Management, Planning and Training Programs at 16 Regional Centers. Additionally, in 1983, over 200 teachers in Mogadishu received an eight-month training program in Arabic and social science sponsored by ALESCO. Teachers attended classes for two hours daily after their normal school day to complete the program.

9.1.4.5 Demand for Teachers

Teacher supply appears to be more than adequate for all kinds of schooling through the end of this decade. Table 9.2 shows projections of teacher demand which are based on the enrollment projections from Chapter 2.0. The assumed student/teacher ratios are listed in the table. They are the ratios which pertained in 1980-81 before the increase in teachers during 1981-82. This may be somewhat generous, since in outlying rural areas such ratios may not pertain, particularly at the elementary level. However, if steps are taken to increase enrollments and ensure that existing teachers are fully employed, these assumptions may be reasonable.

When examining the existing teacher force and enrollments at teacher training institutes, it appears that there will be an oversupply of primary teachers in the short run. The demand in 1982-83, given likely enrollment at the primary level, is for 6,921 teachers. Assuming a 10 percent annual attrition rate for current teachers (rather high) and that only 70 percent of the graduates of PTTI will choose to teach, there will be roughly 7,680 teachers in supply. That is an 11 percent

excess supply. However, if the enrollments at PTTI continue at the projected rate of a slight decline (as shown in Table 2.19 in Section 2.0), the supply of teachers should be in balance with demand by about 1985.

Vocational and technical teachers appear to be in adequate supply at present. The existing force in 1981-82 is 708 teachers, and the projected total demand for 1982-83 is 569. If enrollment projections for vocational and technical schools are assumed to increase at a rate less than envisioned in the FYP (Table 2.18), there will be a marked over-supply of teachers for the whole period. However, if school expansion is undertaken as expected in the FYP, the supply may not be enough. This is described more fully in Section 8.2.4.2. Obviously, there is a need for careful planning so that there is a balance between the enrollment changes and intake into the teacher training institutes. This is most important within subject areas.

The projections of general secondary teacher supply show that the number is about equal to demand. However, since general secondary student enrollments are expected to decrease (Table 2.17) in the next twenty years, graduates of Lafole College must also decrease if there is not to be an oversupply.

Since teacher supply appears to be ample, there is no reason to expand teacher education facilities. Instead, the emphasis should be on improving the quality of teacher training and the quality of teaching conditions in the schools. Finally, plans should be made for reducing the number of National Service teachers and replacing them with regular teachers or retaining them as aides, especially at the secondary level.

TABLE 9.2
PROJECTIONS OF PRIMARY AND SECONDARY
TEACHER DEMAND
1982-83 through 1990-91

	Primary Teachers	Secondary Teachers	Voc/Tech Teachers
1982-83	6,921	2,079	569
1983-84	6,890	2,145	574
1984-85	7,144	1,696	579
1985-86	7,191	1,488	607
1986-87	7,219	1,444	643
1987-88	7,422	1,366	673
1988-89	7,681	1,380	683
1989-90	8.003	1,278	693
1990-91	8,259	1,194	703

Source: Based on enrollment projections from Tables 2.16, 2.17, 2.18 and the following student/teacher ratios: Elementary - 40:1, Intermediate - 27:1, General Secondary - 24:1, and Vocational/Technical - 20:1.

9.1.5 External Efficiency

Trained teachers are the primary instructional input into the schools. Hence, the external efficiency of teacher education is gauged largely by the internal efficiency of the other educational subsectors. To examine whether teacher training is meeting the human resource needs of Somalia, it is necessary to review the performance of teachers in the schools as presented in earlier subsectors.

Analyses across all three subsectors (primary, general secondary, vocational and technical) identified low educational quality as a primary constraint on the internal efficiency of those subsectors. In every case, although the specific reasons varied, poor teacher preparation was a major contributing factor.

The external efficiency of the teacher training institutions can also be evaluated on the basis of the number of teachers trained relative to the manpower need for teachers. As explained in Section 9.1.4.5, teachers are being trained in adequate numbers for primary and general secondary school as well as for the vocational and technical schools. As earlier noted, the problem is teacher quality rather than supply. The problem of teacher attrition can then be addressed with appropriate salary or other compensations.

9.1.6 Internal Efficiency

There are four major issues affecting the internal efficiency of teacher training programs: 1) the length of training required for teachers, 2) the language of instruction in training programs, 3) the

lack of practice, and 4) the selection and promotion of primary teachers.

The length of training required for teachers has two aspects. First, primary teachers, as stated previously, receive only an eighth grade education before entering a two-year teacher training program. Primary teachers would possess a better content background if primary teacher training were at least a post grade ten course of study. Second, secondary and vocational/technical teacher training programs are too short to provide adequate instruction. The Ministry of Education has already recognized this; the TTTC curriculum was extended to three years as of the 1982-83 academic year, and Lafole expects to lengthen its program to three years with the entering class of 1983-84.

Another constraint on the internal efficiency of teacher training, identified across all three subsectors of formal education, is the language of instruction. All students entering Halane and most entering Lafole completed their prior education in Somali. However, secondary teacher training is offered in English. Graduates then enter the teaching force to teach in Somali. This series of language changes poses three problems. First, students do not acquire a sufficient level of English fluency. They consequently miss much of the content of the teacher training program. Second, the opportunity cost of language training is severe. Language training absorbs substantial amounts of instructional time and, in that respect, detracts from instructional time devoted to content more directly relevant to the subsequent teaching experience. Third, language training is expensive, as special teachers and instructional materials must be provided.

The language issue at the TTTC is different because the language of subsequent instruction is English and because much of the technical and trade literature that students will encounter is in English. However, the amount of English training provided to TTTC students often leaves them with only marginal English fluency. This poses a continuing difficulty since, as teachers, TTTC students will be giving instruction in a second language to students who are only beginning to study that language.

Lack of practice teaching is a further constraint on teacher training effectiveness. This has two aspects. First, at primary and academic secondary levels, practice teaching experience is limited. At the vocational and technical level at the TTTC, programs are developed and delivered by people who generally have never practiced their trade skills under actual work conditions. Instruction is not based on systematic occupational or task analysis. Second, most instructors have had little or no training or experience in systematic instructional design. Given limited equipment and workshop space, instruction tends to be more theoretical than practical; students have little opportunity to gain actual trade skill experience.

The final issue in internal efficiency is the selection and promotion scheme that tends to systematically remove the best teachers from the primary school system. There are two points regarding selection. First, PTTI is often not the student's first choice and is chosen only after the individual fails to qualify for the general secondary or vocational and technical alternatives. This means that

primary teachers are often less academically able. Second, after teaching three years, primary teachers can take the Teacher Evaluation Examination. High scorers can go directly to Lafole to prepare as secondary school teachers, removing the most academically able teachers from the primary ranks. A point which further reduces morale among teachers is that, despite the efforts of government, teachers are not always assigned to the location that they request.

9.1.7 Administration and Supervision

There are three major areas identified in the administration and supervision of education which reduce teacher training effectiveness. First, because the three institutions operate independently, they cannot be considered as comprising a single system. A resulting difficulty is that the Ministry of Education which hires teachers does not control the selection and training of new teachers. This disjunction can sometimes slow the responsiveness of the training process to problems of practice. This may be evident in students' subsequent job performance.

The second administrative issue is the variability of vocational and technical school curriculum. Administration of the TTTC rests with the Ministry of Education. However, the TTTC is responsible for developing its own curriculum and examinations. Curriculum planning at the TTTC is made difficult by the lack of a common curriculum across vocational and technical schools. Since every vocational and technical school develops its own curriculum and instructional materials with very little inter-institutional communication, programs of the same name

across schools may have very different content and emphasis. This institutional variability in curriculum poses limits on the responsiveness of the TTTC curriculum to the instructional needs of future teachers. In addition, the variability in instruction across schools means that graduating teachers must have sufficient content depth and instructional development experience to be able to carry primary responsibility for course development as soon as they are assigned to a teaching position.

The third issue is that the supervisory system, incorporated in the Central School Inspectorate, does not have the resources to monitor classroom behavior adequately, or even verify the presence or absence of teachers. Since many teachers do not earn what they consider an adequate income, they are frequently absent from the classroom in pursuit of other income-earning activities. Until the compensation is adequate, and the Inspectorate can monitor their activities, the quality of classroom teaching will suffer.

9.1.8 Cost and Financing

Government pays the total cost of teacher training, including students' boarding expenses. At Halane, these costs are shared by the Ministry of Education and the Ministry of Defense. The analysis of teacher training costs at Halane, reported in Section 2.0, indicates that the annual cost per student is So.Sh. 3,559. Only So.Sh. 934 represents instructional cost; the remainder is boarding cost. Hence, 73.76 out of every 100 shillings spent for teacher education go for

boarding expenses. From one perspective, this enhances regional access and equity as applicants from remote regions have the opportunity to attend Halane. However, from another perspective, access and equity are limited by such high boarding costs; nearly four day-students could attend Halane for the expenditure on one boarding student.

Total expenditure per student at Lafole is So.Sh. 15,351, of which So.Sh. 6,286 represents instructional costs. However, since many students extend their program beyond two years, the actual cost of producing a graduate is considerably higher than the cost per year would suggest. Cost per graduate was estimated in Section 2.0 to be So.Sh. 66,521, of which So.Sh. 27,239, or 41 percent, was for direct instructional cost.

While the costs of technical teacher training were not computed, they are expected to be higher than Halane or Lafole due to the need for specialized equipment and supplies. However, the TTTC has received substantial contributions of facilities and equipment as well as funding for expatriate instructors from international donors, most notably UNESCO. These contributions are discussed in greater detail in Section 8.0.

9.2 ANALYSIS

This section discusses the needs and plans for teacher education in terms of the government's goal to improve the quality of teacher training. It then considers several issues in light of the major constraints of the subsector. Finally, a set of conclusions is drawn as

a basis for the recommendations that close this section.

9.2.1 Needs

The greatest need for the three training institutions is to improve the quality of education provided. Subsequent needs include retraining primary teachers in the system and improving inter-institution coordination.

9.2.2 Plans

As noted, the government has expanded training at TTTC to three years. Beginning the 1983-84 school year, Lafole College of Education will also return to a three-year program.

9.2.3 Constraints

The major constraint of the primary and secondary education system in regard to teachers is their inadequate preparation for the teaching task. This is particularly true of primary teachers, and no plans to address this constraint have been developed. Government is addressing the preparation of secondary teachers by lengthening their training to three years.

9.2.4 Issues

The following discussion addresses issues grouped under the general categories of external efficiency, internal efficiency, and administration and supervision.

9.2.4.1 External Efficiency

Learning is a function of environment, instruction, and student characteristics. Of these three, the quality of instruction is frequently regarded as the easiest variable to manipulate in a formal school setting. Government and the educational system exercise more direct control over teachers than over student background or even over the larger educational environment (materials, facilities, etc.). Consequently, manipulation of the teacher education system is often considered the most effective way to improve educational quality. Following this approach, the external efficiency of the teacher training system can be evaluated in part by the educational quality of the primary and secondary subsectors. As stated previously, this validation criterion indicates that Somali teachers are inadequately prepared to meet the needs of students.

In examining the teacher education system, it is important to keep separate those educational problems that can be attributed to teacher quality and/or performance versus those problems that even the best teacher cannot affect. Within this framework it is clear that teachers currently graduate without sufficient pedagogical or content skills. Those shortcomings are exacerbated by the conditions under which teachers are expected to teach--large classes, inadequate instructional materials, little formal in-service training or support, and, at times, students who lack adequate prior preparation. Instructional quality can be improved by addressing any of these issues. Nonetheless, this analysis concentrates on those improvements in instructional quality

that can be affected by improving teacher training. These instructional quality improvements are all aspects of the internal efficiency of the teacher training program.

9.2.4.2 Internal Efficiency

The issues identified in the earlier discussions of the conditions of the teaching environment (9.1.1) and the internal efficiency of teacher education suggest that improved teacher training requires three areas of attention. The first priority is that student teachers must acquire stronger content background. This is particularly crucial since teachers (a) are often assigned to schools with limited instructional or reference materials, (b) need to be able to teach at several grade levels and possibly in several subject areas to accommodate the shifting pattern of enrollment by grade and region, and (c) often have little training beyond their students. The second priority is to provide future teachers with instructional development and design skills. Without adequate texts and resource materials, teachers are largely on their own to select and organize their subject-area content. The third priority is to provide teachers with the pedagogical and other classroom management skills they will need, given class size and level of students' prior preparation.

Improved teacher education as outlined above can be affected by lengthening the training programs, which is already in progress for secondary and vocational and technical teachers, and requiring more content background prior to entering teacher training, which is a

consideration for primary teachers. In many countries, primary teacher preparation is a post-Grade Ten or a post-secondary course. Instituting such programs would provide primary teachers with stronger content skills.

The inefficiencies introduced into the teacher education system by the language shift must be addressed and reduced. One way would be to use Somali as the language of instruction at Lafole. One consequence, however, is that student teachers who did not acquire good English skills on their own would be cut off from a substantial amount of internationally produced reference material that could be made available to them. Further, the use of Somali might reduce the ability of Lafole to utilize expatriate instructors. Nonetheless, there is increased efficiency in providing teacher training in the language teachers will eventually use in teaching, particularly if the student teachers have limited fluency in English.

Another approach to resolving the inefficiency of the language switch is to provide more adequate English language training. This remains important for TTTC students, regardless of the language decision at Lafole, because the rationale for instruction in English is more strongly developed (see Section 8.0). Improvement in English language skills would be accomplished, in part, if students entered teacher training with more academic background. They would then have studied English for a longer period of time. Additionally, the intensive English-language program students receive at the beginning of teacher training should be upgraded.

The positive impact of improving the content background and teacher training curriculum for work in primary schools is limited by the negative impact of the quality drain among primary teachers. The best students tend not to apply to Halane, and the best of its graduates are able eventually to switch to secondary school teaching. Two approaches might be considered for reducing the quality drain. First, policies should be revised to minimize the current quality drain. Second, incentives (salary and work conditions) need to be improved to attract and retain higher quality teachers. This reallocation of resources may become feasible as student enrollments drop over the next few years (see Section 2.0).

At the secondary level, the problem is less one of quality drain and more one of quality dilution. The high percentage of National Service teachers results in substantial amounts of instruction being designed and delivered by instructors who have themselves never had adequate teacher training. This serves to further undermine the quality of students' academic preparation, which, in turn, serves to compound the problems faced by the trained teachers who subsequently receive these students.

9.2.4.3 Administration and Supervision

The major issue in administration of the teacher education system is the division of responsibility for the various programs, resulting in inefficiencies in the responsiveness of parts of the system to each other. A secondary issue is the lack of a common curriculum across

vocational and technical schools, an issue addressed further in Section 8.0 of this assessment. Finally, there is an issue of adequate teacher compensation to attract and retain good teachers in the profession.

9.2.5 Conclusions

In this section, the issues identified in the preceding discussion and analysis are used as the basis for three principal conclusions. These conclusions relate to the specific recommendations advanced in the final portion of this chapter.

Conclusion 1. Teacher education facilities do not need to be expanded. Instead, the emphasis should be on quality. The provision of high quality training for both pre-service and in-service teachers is a principal means to enhance educational quality in schools. Earlier chapters describing the specific education and training subsectors identified enhanced educational quality as the primary need of the education system. The discussion in this section has emphasized the role of the teacher in improving educational quality. Success of that strategy depends, however, on the quality of the teacher training and the effectiveness of policies to ensure that all student teachers receive such training.

Conclusion 2. Teacher recruitment, selection, and training should be designed to enhance, rather than deplete, the quality of entering teachers at all levels of teacher training. Current policies tend to deflect better quality candidates away from primary education. This holds consequences for primary teacher morale and the quality of

their educational preparation. The use of untrained National Service teachers also depletes the quality of teachers in the system.

Conclusion 3. Policies concerning the primary language of instruction and related language training should be reviewed with the intention of improving the internal efficiency of teacher training programs. At both Lafole College of Education and TTTC, the efficiency of instruction is impeded by students' limited English fluency. Improved quality of teacher training presupposes students' ability to understand the instruction they receive.

Conclusion 4. The administrative structure for teacher training institutions results in inefficiencies in the system. A process for coordinating among responsible agencies is needed, as well as a reconsideration of compensation, with careful attention to overall budgetary implications.

9.3 RECOMMENDATIONS

The recommendations for teacher training are discussed in relation to the preceding analysis and conclusions.

9.3.1 First Priority - Internal Efficiency: Recommendations 1-6

Recommendation 1: Extend Secondary Teacher Training Programs to Three Years. TTTC has already extended its program to three years and Lafole soon will. This recommendation serves to underscore the importance of these decisions. The supply of teachers appears to be more than adequate.

Recommendation 2: Make Primary Teacher Training a Post-Grade Ten Program. Instituting primary education as a two-year program at the end of Grade Ten offers two advantages: (a) students would enter with more content background, and (b) selection could be based on students' Grade Nine and Grade Ten performance as a further indicator of potential ability. Deferring selection until Grade Ten also serves to keep the applicant pool broad as students who might not have considered primary school teaching at the end of Grade Eight will still have the opportunity through Grade Ten.

Recommendation 3: Revise Teacher Selection Procedures to Avoid Depleting the Ranks of High-Quality Primary Teachers. A possible strategy would be to reduce the extent to which primary school teaching is perceived as a conduit to secondary school teaching. This will involve a different recruiting pattern for primary school teachers and may necessitate developing an incentive system which gives them better compensation.

Recommendation 4: Require All Teachers to Have Formal Teacher Training. One consideration would be to redirect National Service activities to other areas of social and economic development. If continued use of National Service students as teachers is necessary, they should not teach at the secondary level. Rather, their services should be used at the lower grades as teachers' aides.

Recommendation 5: Develop a More Effective Policy on English Language Use and Training. Consideration should be given to changing the medium of instruction for secondary school teacher training to

Somali or, alternatively, developing more effective English language preparation for entering students. This might be combined with a longer program to improve English language instruction in the secondary schools so that entrants to teacher training would come to Lafole and the TTTC with stronger language skills.

Recommendation 6. Prepare Teachers to Teach at Several Grade Levels. With the predicted variability in enrollments by grade over the next eight years, teachers may need to be able to shift across grades, and possibly even across subject areas. The challenge in alternating among grade levels is that teachers need to have a sufficient content background to be able to teach in the same content area at different levels of difficulty. Preparation for teaching at several grade levels would emphasize content depth and instructional development and design skills.

9.3.2 Second Priority - Administration and Supervision: Recommendation 7.

Recommendation 7: Improve Inter-institutional and Inter-ministerial Coordination of Teacher Training. A teacher training coordinating council should help improve the inter-institutional coordination, particularly where decisions require agreement and action by several ministries. Possible ways to increase teacher compensation within the means available of the current budget should be devised.

10.0 HIGHER EDUCATION

Higher education consists chiefly of the National University of Somalia (NUS). Three additional institutions also offer post-secondary education. The Technical Teacher Training College (TTTC) in Mogadishu offers a two-year training course to prepare teachers for technical secondary education. The Somali Institute of Development Administration and Management (SIDAM) offers middle-level management courses primarily for government personnel. Two of the courses, Accountancy and Industrial Management, are worthy of consideration as formal post-secondary educational activities. Finally, the Institute of Statistical and Applied Economics (ISAE) of the Ministry of National Planning offers a two-year, part-time course of study that requires secondary education as a prerequisite.

Although the NUS is under the purview of the Ministry of Culture and Higher Education, the other three institutions are not. The TTTC is operated by the Ministry of Education, SIDAM operates under the auspices of the Ministry of Labor, and as noted, ISAE is a unit of the Ministry of National Planning. The unit of the TTTC which is responsible for agricultural technical teacher training is located on the same site as NUS's Faculty of Education (Lafole) and operates, in effect, as a part of the NUS.

This section concentrates exclusively on the activities, characteristics, and effects of NUS. The need for improved coordination of NUS with the other post-secondary education institutions remains an issue which requires separate study. The TTTC is discussed in the chapter on teacher training, and the activities of SIDAM and ISAE are reviewed in the chapter on management.

10.1 STATUS

The status review of higher education focuses on the development of the National University of Somalia and its goals, structure, and composition in terms of students, staff, facilities, and curricula. This section then notes the situation of the University regarding external and internal efficiency, access and equity, administration, and financing.

10.1.1 Origins and Present Condition

The National University of Somalia had its origins in the Institute of Economics and Law established in 1954. The institution formally began operations as the National University of Somalia in 1968 with undergraduate programs in the Faculties of Law, Economics, and Education. The NUS currently has twelve faculties as indicated in Table 10.1. All Faculties operate under a four-year undergraduate program with the exception of Education, Journalism, and Political Science, which have two-year sequences. The Education and Journalism courses are actually three-year programs run on a three-semester per-year accelerated schedule.

Table 10.1

PROGRAMS OF STUDY BY FACULTY
NATIONAL UNIVERSITY OF SOMALIA
1983

Faculty	Program of Study
Agriculture	4 years of 2 semesters each
Economics	4 years of 2 semesters each
Education	2 years of 3 semesters each
Engineering	4 years of 2 semesters each
Geology	4 years of 2 semesters each
Industrial Chemistry	4 years of 2 semesters each
Journalism	2 years of 3 semesters each
Languages	4 years of 2 semesters each
Law	4 years of 2 semesters each
Medicine	4 years of 2 semesters each
Politicial Science	2 years of 2 semesters each
Veterinary	4 years of 2 semesters each

On December 1, 1971, government granted the National University permission to offer its first degrees. Table 10.2 summarizes the number of degree graduates in each of the faculties in the University's history. More than one-half (59.4%) of the 5,769 total graduates from NUS through 1982 have been from the Faculty of Education which trains teachers for secondary schools. The next largest faculty in terms of graduates is Political Science with a total of 394 since 1978. Both Medicine and Veterinary Science have the next largest numbers of graduates with 340 and 390, respectively.

A joint program between Somalia and Italy for higher education was first initiated in 1963. This program operated under the title of the University Institute and involved two years of study in Somalia followed by two final years in Italy. The Government of Italy currently is providing the largest donor support for the NUS. The Italian assistance takes the primary form of provision of teaching staff for six of the Faculties: Industrial Chemistry, Agriculture, Medicine, Veterinary Science, Engineering, and Geology. The medium of instruction used in each of these programs is Italian. The Italian assistance program also provides scholarship funds to allow Somali students to study in Italy and subsidizes research activity by the Italian staff members and their Somali counterparts.

10.1.2 Goals and Strategies

The 1977 legislation to define the objectives of the National University makes it clear that the primary purpose of NUS is to

Table 10.2

TOTAL GRADUATES OF THE NATIONAL UNIVERSITY OF SOMALIA

Faculty	Male	Female	Total	First Year in Which Degrees Granted
Law	228	42	270	1971
Economics	211	55	266	1972
Education	3,105	320	3,425	1973
Industrial Chemistry	155	15	170	1975
Agriculture	201	30	231	1975
Medicine	298	42	340	1977
Veterinary	258	22	390	1978
Engineering	165	5	170	1978
Geology	68	6	74	1978
Journalism	32	7	39	1980
Political Science	381	13	394	1978
Language	-	-	-	1983*
TOTAL	5,102	557	5,769	

* First graduating class July, 1983.

provide the professional manpower needed for the nation's development. Since its inception, the University has concentrated on the promotion of its undergraduate programs. There are now plans to offer a joint Master's degree program with the University of Saskatchewan in Canada. Four faculties (Medicine, Veterinary Science, Agriculture, and Education) propose to participate in the joint program. Separate plans are being considered for the establishment of a Master of Science program in Industrial Chemistry.

The Five Year Plan, 1982-1986 (FYP) lists two major goals for higher education. The first is to extend facilities for higher education into the regions, with one institution in the North and one in the South. The second goal is to expand intake to 25 percent of the secondary school graduates. These goals will not be achieved in the FYP because of limited resources and competing activities which merit higher priority. Also, the next few years will see the number of secondary school graduates increase from an estimated 5,335 in 1983 to 13,973 in 1984 and 12,161 in 1985. The total will be less thereafter but still will amount to 7,902 in 1990.

The FYP includes a proposed project for expansion of the National University. The four main activities of the project are:

(1) To expand the enrollment from 700 at the beginning of the FYP to 1,330 in the six science faculties and to 1,612 in the five non-science faculties;

(2) To expand the Language Faculty so that there will be an annual intake of 30 students each in English and Arabic and 20 students each in Italian and French;

(3) To establish a four-year program in Marine Science with an intake of 60 students; and

(4) To organize post-graduate programs at the Master's degree level in Education, Agriculture, Veterinary Science, and Economics and a post-graduate diploma course in Medicine.

Activities number 2 and 4 are on schedule, but numbers 1 and 3 are unlikely to be realized fully within the FYP period.

The short-term objective of the University is to incorporate most of its programs within the new University campus in Mogadishu. It now appears that all faculties except Agriculture, Education, and Medicine will be located together at the new campus.

10.1.3 Structure

The National University of Somalia is one of two semi-autonomous units within the Ministry of Culture and Higher Education. Figure 10.1 presents the organizational chart for the Ministry. The other semi-autonomous unit is the National Academy of Science and Art. These units report directly to the Assistant Minister. The Director General of the Ministry supervises the National Library, the National Museum, and six other departments. The main function of the Department of Higher Education is the management of the overseas scholarship program and research activities.

Figure 10.2 presents the organizational chart of the National University. The twelve faculties are managed through the offices of the two Vice Rectors. Each faculty is headed by a Dean who is appointed by the Rector.

Figure 10.1

ORGANIZATIONAL CHART
MINISTRY OF CULTURE AND HIGHER EDUCATION

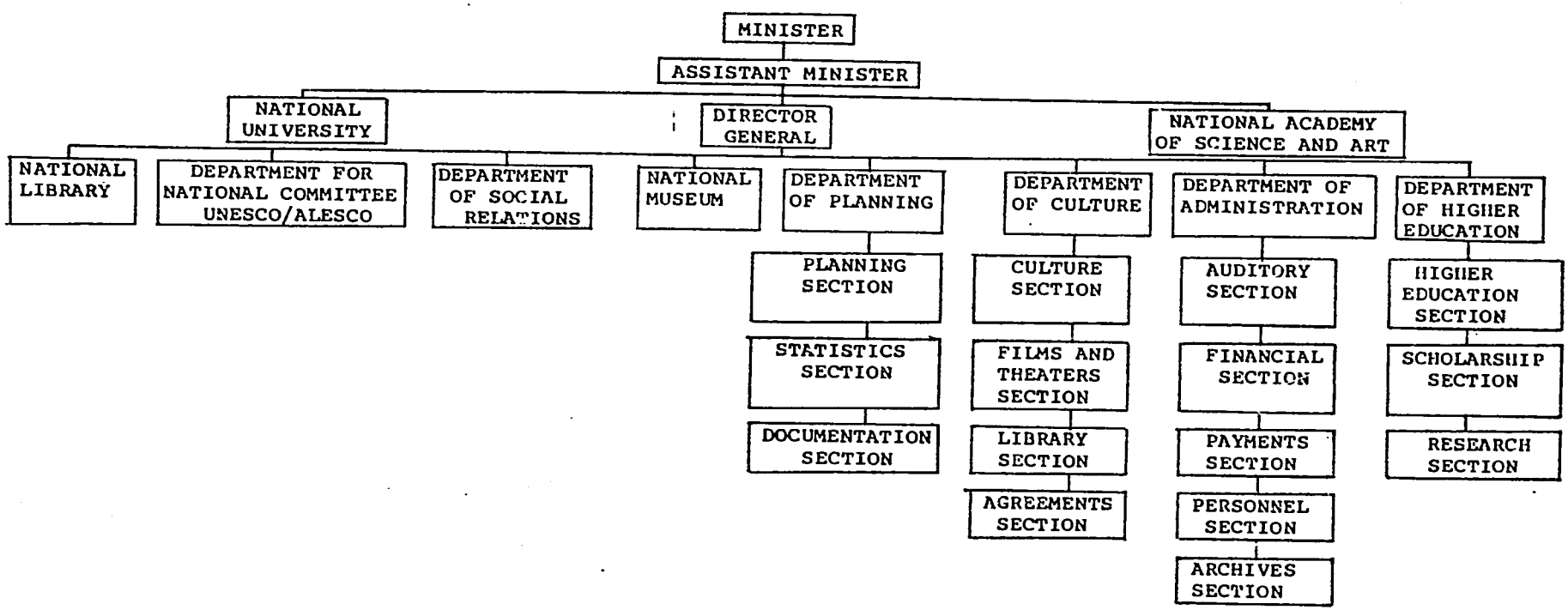
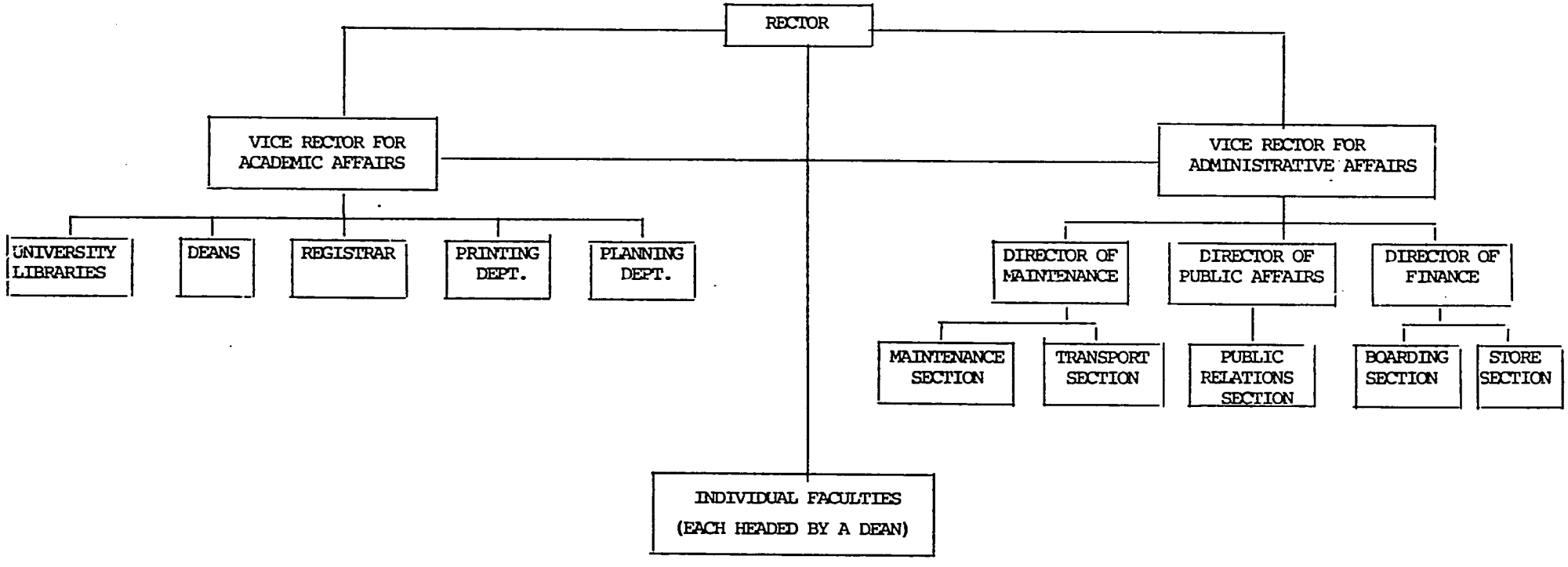


Figure 10.2

ORGANIZATION CHART

NATIONAL UNIVERSITY OF SOMALIA



The major administrative committee of the University is the Senate Academic Committee (SAC). The Committee is chaired by the Rector and includes two instructional staff members from each faculty. These staff members are selected by their Deans. The SAC has responsibility for the development of University policy.

New programs and courses are instituted at the level of the individual faculty in almost all cases. All changes in curriculum must be approved by the Dean of the Faculty and the Vice Rector for Academic Affairs and reviewed by the SAC for their concurrence.

Employment and termination of personnel are decisions reserved for the Rector and are reviewed by the Ministry of Culture and Higher Education. In most faculties, there is an annual review of graduates to identify prospective candidates for the instructional staff. All other personnel matters (except salaries which are established by statute) are left to the individual faculties.

The University prepares its own budget for submission to the Ministry of Finance via the Ministry of Culture and Higher Education. Internal budget control is the responsibility of the Rector and the Vice Rector for Administrative Affairs. Internal resource allocation is made among and within the faculties on the basis of an item-by-item request.

Donor support of the University normally is administered through the Ministry of National Planning. However, Italian aid is managed

through the Italo-Somali Commission for University Cooperation. The Commission develops, funds, and implements programs on the basis of three-year planning cycles.

The following sections on enrollment, staff, facilities and equipment, and curriculum refer to the National University of Somalia.

10.1.3.1 Enrollments

Table 10.3 presents the current enrollments and graduates for each of the twelve faculties. The largest faculty is Education with 1,014 students, and the smallest is Journalism with 64. Intake of new students is governed by quotas set by the Ministry of Higher Education based upon national manpower needs and the available space within a faculty.

Students are able to select their faculty if they have achieved a sufficiently high score on the University Entrance Examination. The instructional staff participates in this process by assessing the appropriateness of student selections. Students with low examination scores may be assigned to faculties that are not their first choice. In some cases, students are assigned to faculties that were not among their choices at all. The top-scoring students normally select Medicine and Engineering. Education is the least favored faculty in terms of student preferences.

The University Entrance Examination is given each year at the same time as the Secondary School Twelfth Grade Examination. Both examinations are achievement tests and are based on the subject matter

Table 10.3

NUS ENROLLMENT AND GRADUATES
1982

Faculty	Enrollments*	Graduates**
Law	152	42
Economics	216	53
Education	1,014	204
Industrial Chemistry	80	27
Agriculture	173	68
Medicine	273	86
Veterinary Science	223	54
Engineering	222	41
Geology	74	18
Journalism	64	19
Political Science	250	124
Languages	138	-
TOTAL	2,879	736

* As of second Semester 1982
** Total for year

content of the secondary education syllabi. It is worth noting that graduates of the technical secondary schools are eligible to take the University examination, but they are at a disadvantage because of their schools' different curricular structure.

The separate Twelfth Grade and University examinations are used because all secondary school graduates must do a year of National Service work after graduation. This most commonly consists of primary school teaching. The separate University examination allows for a more proximate estimation of student achievement levels and also serves to maintain the incentive for National Service. If secondary school graduates already knew they were not admitable to the University, their morale in the National Service year would be much lower. In the most recent year, 3,600 candidates took the examination, and 1,540 were admitted to one of the faculties of the University.

10.1.3.2 Staff

Table 10.4 presents data on the number of full-time and part-time NUS instructional staff, by faculty, in 1983. The full-time equivalent estimate is based on an assumption of half-time employment by all part-time staff. For the eleven faculties for which data are available, 73.9 percent of the full-time instructors are Somali, and 78.7 percent of the total FTE is provided by Somali staff. Currently, the Italian staff are concentrated in the Faculties of Medicine, Industrial Chemistry, Veterinary Science, Engineering, and Agriculture.

Table 10.4

INSTRUCTIONAL PERSONNEL
NATIONAL UNIVERSITY OF SOMALIA

(By Faculty, Full Time Status, and Nationality)
1983

Faculty	Full Time			Part Time		Total
	Somali	Italian	Other Expatriate	Somali	Expatriate	(FTE Estimate)
Education	90	-	21	42	-	132
Languages	15	-	-	6	3	19
Geology	22	-	-	2	-	23
Medicine	40	21	-	34	-	78
Industrial Chemistry	29	10	-	2	-	40
Law	18	-	-	17	-	26
Economics	33	-	-	16	-	41
Veterinary Science	4	20	-	28	-	38
Journalism	6	-	-	-	-	6
Engineering	14	20	-	-	-	34
Agriculture	26	13	-	6	-	42
Political Science			(Data not Available)			
TOTAL	297	84	21	153	3	479

Table 10.5 provides further detail on staff by identifying the academic rank of instructional personnel by nationality and faculty as well as by full- and part-time status. No Somali presently holds the position of Professor. The minimum requirement for this rank is a Ph.D. or equivalent degree, five years employment at the University, and scholarly publications. Alternatively, a staff member may qualify for this senior rank with a degree of M.A. or M.Sc. with seven years University service and a significant record of academic publishing. To be promoted to the Lecturer rank, a staff member must have a Master's degree and three years teaching experience.

The data in Tables 10.4 and 10.5 were collected for the first semester of 1983. More recent data are available on the Somali teaching staff only. Table 10.6 presents details of Somali instructional personnel, by rank, sex, and faculty, as of July 1983. The largest concentration of staff is at the Assistant Lecturer rank. Only three full-time and six part-time Senior Lecturers are presently serving at the University. Six faculties--Journalism, Political Science, Languages, Industrial Chemistry, Law and Economics--have no Senior Lecturers at all. Education and Medicine again are shown to be the largest faculties in terms of total staff numbers.

Medicine has the smallest proportion (42.9%) of full-time staff. Industrial Chemistry, in contrast, has no part-time instructional staff. For the total University, 72.0 percent of all instructional staff are full time, and 84.0 percent of FTE numbers are represented by full-time personnel.

Table 10.5

UNIVERSITY INSTRUCTIONAL STAFF
By Faculty, Rank, and Citizenship

(A) FULL TIME STAFF

Faculty	Somali				Expatriate Italian	Expatriate Other
	Probation	Assistant Lecturer	Lecturer	Assistant Professor	Professor	Assistant Professor
Education	15	31	44	0	0	21
Languages	0	14	1	0	0	0
Geology	5	12	4	1	0	0
Medicine	10	22	5	3	21	0
Industrial Chemistry	3	16	10	0	10	0
Law	4	2	9	3	0	0
Economics	0	20	13	0	0	0
Veterinary Science	0	3	1	0	20	0
Journalism	0	5	1	0	0	0
Engineering		(14)	(detail not available)		20	0
Agriculture	2	8	16	0	13	0
Political Science	(data not available)					
	39	147	104	7	84	21

(B) PART TIME STAFF

Education		19	21	2		0
Languages		6	0	0		3
Geology		0	2	0		0
Medicine		0	34	0		0
Industrial Chemistry		0	2	0		0
Law		0	17	0		0
Economics		0	16	0		0
Veterinary Science		0	28	0		0
Journalism		3	0	0		0
Engineering		(data not available)				
Agriculture		3	2	1		0
Political Science		(data not available)				
		31	122	3		3

Table 10.6

SOMALI UNIVERSITY INSTRUCTORS
July 1983

Faculty	Assistant Lecturers				Lecturer				Senior Lecturers				Total			
	Full Time Male	Full Time Female	Part Time Male	Part Time Female	Full Time Male	Full Time Female	Part Time Male	Part Time Female	Full Time Male	Full Time Female	Part Time Male	Part Time Female	Full Time Male	Full Time Female	Part Time Male	Part Time Female
Education	43	5	0	0	44	3	21	1	0	0	2	0	87	8	23	1
Journalism	3	1	0	0	1	0	3	0	0	0	0	0	4	1	3	0
Political Science	11	0	0	0	4	0	9	0	0	0	0	0	15	0	9	0
Agriculture	7	3	3	0	15	1	2	0	0	0	1	0	22	4	6	0
Medicine	30	7	17	1	4	1	33	2	0	0	3	0	34	8	53	3
Languages	3	0	17	0	0	1	0	0	0	0	0	0	3	1	17	0
Veterinary Science	6	1	4	0	12	0	0	0	1	0	0	0	19	1	4	0
Industrial Chemistry	15	1	0	0	10	0	0	0	0	0	0	0	25	1	0	0
Engineering	8	0	4	0	4	1	0	0	1	0	0	0	13	1	4	0
Geology	16	0	4	0	4	1	1	0	1	0	0	0	21	1	5	0
Law	5	1	12	1	11	1	5	0	0	0	0	0	16	2	17	1
Economics	6	2	16	2	10	1	1	0	0	0	0	0	16	3	17	2
TOTAL	153	21	77	4	119	10	75	3	3	0	6	0	275	31	158	7

Women make up 9.8 percent of the Assistant Lecturers and 6.3 percent of the Lecturers. There are no women Senior Lecturers at the present time. Women represent 10.1 percent of the full-time instructional staff and 4.2 percent of the part-time personnel.

The pay structure for the full-time instructional staff is divided into base salary, a housing allowance, and a responsibility allowance. The monthly figures for 1983 (in So.Sh.) are as indicated below:

		Allowances		Total
Position	Salary	Housing	Responsibility	Income
Assistant Instructor	1,100	300	400	1,800
Lecturer	1,300	500	500	2,300
Senior Lecturer	1,500	500	700	2,700
Professor	2,200	500	800	3,500

The part-time faculty receive salary only. Their monthly rate is So. Sh. 800 for Assistant Instructors, So.Sh. 1,100 for Lecturers, So.Sh. 1,500 for Assistant Professors, and So.Sh. 1,700 for Professors. None of the salaries for full- or part-time staff vary by length of service or by any supplementary meritocratic or other basis.

10.1.3.3 Facilities and Equipment

At present the physical facilities of the National University are dispersed within the Banaadir region. The main campus is located in

central Mogadishu in the Geher area. The Faculties of Law, Economics, Language, Industrial Chemistry, Engineering, Geology, and Veterinary Science are located at the Geher campus. Lafole College of Education is located 25 kilometers outside of Mogadishu in the town of Afgoi. The Faculty of Journalism currently shares facilities with the Education Faculty. The College of Agriculture also is located in Afgoi, but in a separate campus from that of the College of Education.

The Faculty of Medicine is located in its own campus complex in the Dickfare area of Mogadishu. The Faculty of Political Science is located in facilities near the new University Campus site at Kilometer 7 in Mogadishu. This new campus will bring most of the faculties into one physical complex of buildings. However, the major advantage of the new campus is the quantity and quality of instructional facilities. More lecture, laboratory, and seminar rooms will be available. In addition, two hundred staff houses will be ready for occupancy in late 1983. This will greatly improve living conditions for the instructional staff.

A major area of need throughout the University, but especially in the scientific and technical faculties, is for increased quantity and quality of equipment. The University staff and students do an admirable job of maintenance with the limited financial resources available to them. In recent years, unfortunately, finances have not been adequate to replace equipment at the required rate. The equipment provided at the new campus site will represent a significant improvement for certain faculties, but the overall problem of equipment maintenance and replacement will remain.

10.1.3.4 Curriculum

The instructional staff in each faculty are responsible for the design and implementation of the curriculum for their students. Inter-faculty curricular issues are resolved under the auspices of the Vice Rector for Academic Affairs.

The two primary differentiating characteristics of the faculty curricula are the length of study and the language of instruction. As noted in the discussion of Table 10.1, nine of the faculties are presently on a four-year cycle. Beginning with the students entering in 1983, the Faculty of Education will convert its six-semester, two-year program to a six-semester, three-year program. It is anticipated that the program will be further extended to an eight-semester, four-year program for the entry class of 1984. The first of these changes is primarily structural: the content of the six semesters will not change substantially. However, doing away with the accelerated schedule and allowing students three years to complete the six semesters of coursework should increase retention and graduation rates while allowing for improvement in instructional quality. It is important to remember that a majority of the Lafole students are former primary school teachers with only ten years of previous formal schooling and two years of teacher training. The accelerated schedule has placed a special burden on this group.

Beginning with the entry class of 1983, the Journalism and Political Science Faculties have extended their programs from two to four years. This will add two semesters to the Journalism program and four to the Political Science program. Also beginning in 1983, the Faculty of Medicine will extend its program to five years with a further extension to six years beginning with the entry class of 1984.

A major characteristic of the University's curricula is the use of Italian as the language of instruction in nine of the faculties (all except Education, Political Science, and Language). English is the language of instruction in Education, while Somali is the predominant medium in Political Science and Language. The Language Faculty offers course work in English, Italian, French, and Arabic. Within the Italian-language faculties, Economics and Law represent exceptions in that Somali is used extensively as a supplementary language of instruction.

Because most students graduating from secondary education do not have an adequate level of competency in the Italian language, the University, with Italian donor support, has operated a "zero semester" program. The academic year of the University operates from January to December. Students accepted for one of the Italian language faculties are required to take language instruction from July to December in the year preceding their formal entry into the University. Thus, students accepted for January 1984, will take Italian language instruction from July to December 1983.

Because of dissatisfaction with the level of language skills achieved in the "zero semester" and the perceived inadequacy of certain functional mathematical and science skills of the secondary school graduates, the University has now proposed an extension of the pre-academic program. The "zero semester" would be retained in its present general format, and the first regular semester would be transformed into a "refresher semester". During this semester students would spend one-half of their time studying language (with an emphasis on the terminology relevant to their specialization) and the other one-half on skill work in science, mathematics, mechanical drawing, etc. This refresher semester will be in addition to the eight normal semesters of instruction required by most programs.

It may be seen that the use of two foreign languages (English and Italian) as the media of instruction in the University has major costs in terms of money as well as time. The advantages of using these languages lie in two main directions. The first is the immediate benefit of accessibility to a larger pool of resource materials in terms of textbooks, reference sources, workbooks, etc. The second is the longer term advantage to students (and to the nation) in developing multilingual capabilities. The international nature of Somalia's political and economic environment has always placed a premium on language skills. This will continue to be the case in the future.

The issue here is for the National University to decide on a long-term language policy. As Somali-language materials increase and the foreign languages are adapted to second-language use in the

University, it may be that Somali-language instruction can extend to all of the faculties. It is important that competency in one or more of the foreign languages be maintained because Somali-language materials will not be able to replace totally the use of foreign language materials; this is especially true in the scientific and technical faculties. The question of choice, then, is which foreign languages are best able to link students to other advanced literature and resources in their fields of study and to international networks for employment and technical exchange. The present language policy of the University appears to favor more intensive preparation for foreign language use. There needs to be clarification as to what part the "zero" and "refresher" semester structures will play in the National University's long-range curricular plans.

A special curricular issue exists in regard to the Arabic language. Because of the employment and trade opportunities that exist for Somalis in the Gulf States, there is a substantial demand for Arabic language proficiency (as there is for English). Government's policy decision to support or to continue to deter migration of college graduates to the Gulf Region will have a determining influence on the future role of the Arabic language in the overall University curriculum.

10.1.4 External Efficiency

The Five Year Plan makes explicit the role that government sees for higher education in the provision of adequate manpower for the

national development program. This involves the provision of staff for government as well as for parastatal and private sector employment.

Unfortunately, no statistical basis exists for the evaluation of the efficiency with which the National University is meeting these external requirements. Because of government's guarantee of employment to all University graduates, the lack of unemployment among graduates is not a significant indicator. The enrollment within the University is controlled by quotas on admissions set by the Ministry of National Planning (and implemented through the auspices of the Ministry of Culture and Higher Education). These quotas are based both on the projected demand for students and the available places in each faculty. However, no evaluation exists of the accuracy of the demand projections. It would be necessary to assess the utilization of graduates two to four years later to evaluate how well this control on enrollments has worked.

Currently, the University operates under two influences related to strong social demand for higher education. First, a faculty rarely has its student quota reduced from earlier years. The need to justify and to use its existing instructional staff acts as a bureaucratic force to keep enrollments at least at previous levels. Second, the recent increase in the number of secondary school graduates has placed additional pressure on government to expand access to higher education to deal with student aspirations and the limited employment opportunities for secondary school graduates. This pressure is reflected as a rationale for the Five Year Plan's proposed program of enrollment expansion at the University.

Less controversial in terms of manpower demand are the University programs for upgrading the skills of civil servants. Approximately one-half of all students admitted to the Faculty of Education are former primary school teachers. In other faculties, and especially in Political Science, a proportion of the students are civil servants from central or local governmental agencies.

Also, in faculties such as Veterinary Science and Medicine, there is little doubt of the absorptive capacity of the current labor market for graduates with these skills. This is not the case for social science and humanities faculties, however. There is a need for tracer studies to determine the types of jobs that University graduates find and to assess the relationship between their acquired skills and the demands of their occupations.

10.1.5 Internal Efficiency

In terms of internal efficiency, the evidence which exists on the University's programs is more indicative than conclusive. The data presented earlier in Section 2.0 on cost per student and student/staff ratios are suggestive of potential internal inefficiencies. In addition, the aforementioned expenses incurred in foreign language instruction may be viewed as a potential internal efficiency issue.

For those faculties for which comparable cost and enrollment data were available, the instructional cost per student was shown to vary from So.Sh. 1,743 (for Veterinary Science) to So.Sh. 7,383 (for Industrial Chemistry) in terms of Somali government payments. When

Italian donor subsidies are included in the instructional costs, the per-student cost varied from So.Sh. 2,475 (Journalism) to So.Sh. 36,730 (Industrial Chemistry). Costs per graduate (for government funds only) ranged from a low of So.Sh. 7,276 (Veterinary Science) to a high of So. Sh. 61,745 (Industrial Chemistry). Total costs per graduate (government plus donor funds) ranged from So.Sh. 16,537 (Law) to So.Sh. 307,200 (Industrial Chemistry).

Variations, even of the dimensions noted here, are not proof of internal inefficiency. However, all differentials in the cost-per-student and cost-per-graduate dimensions should be examined and justified. Where adequate justification for cost differentials cannot be made, remedial steps in policy or practice should be taken.

A dramatic characteristic of staffing at the National University is the very low ratio of students to instructional staff members. Excluding Political Science for which first-semester, 1983 statistics were not available, the student/staff ratios ranged from 2.3 to 1 in Industrial Chemistry to 10.7 to 1 in Journalism. Seven of the eleven faculties for which statistics were available had fewer than six students per staff member. The average for the eleven faculties was 5.7 students per staff member.

Based upon comparisons with student/teacher ratios in higher education elsewhere in Africa, there is an apparent under-utilization of staff. The stage of development of the University is such that the present student/staff ratios could be defended if they represented only a transitional phenomenon. However, enrollment and staffing

projections available at this time do not indicate that a significant increase in the student/staff ratio may be anticipated even after the move of the University to its new campus site.

Another indicator of internal efficiency is the attrition rate among students. Table 10.7 presents data on the original intake numbers and graduation numbers among the various faculties. The Language Faculty is excluded because it has not yet graduated its first class. The intake of new students for the three two-year programs (Education, Journalism, and Political Science) is given for 1980. The intake for the four-year programs is for 1978. All graduation rates are for 1982.

Only five of the eleven faculties graduate, on time, 70 percent or more of their original intake. These are Journalism, Political Science, Medicine, Veterinary Science, and Law. The lowest graduation rates are in Education, Engineering, Agriculture, and Economics. The pattern of graduation rates does not appear related to quality of students (as indicated by average score on the University Entrance Examination). The four Faculties with the highest entry scores are Medicine, Engineering, Economics, and Agriculture; all but Medicine have among the lowest graduation rates. The four Faculties with the lowest entry scores are Education, Geology, Veterinary Science, and Law; the latter two are among faculties with the highest graduation rates.

A less anomalous pattern exists at the extremes of the distribution, however. Medicine has the highest average entry exam score and

Table 10.7

GRADUATION RATES, NATIONAL UNIVERSITY OF SOMALIA

By Faculty and Sex

Faculty	University Intake (1978 or 1980)			University Graduates (1982)			Graduation Rates		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
I. Two Year Programs									
Education	303	55	358	168	36	204	.55	.65	.57
Journalism	23	3	26	17	2	19	.74	.67	.73
Political Science	115	15	130	110	14	124	.96	.93	.95
II. Four Year Programs									
Medicine	88	32	120	64	22	86	.73	.69	.72
Veterinary Science	64	6	70	50	4	54	.78	.67	.77
Industrial Chemistry	35	5	40	24	3	27	.69	.60	.68
Engineering	75	4	79	38	3	41	.51	.75	.52
Agriculture	106	15	121	57	11	68	.54	.73	.56
Geology	39	0	39	18	0	18	.46	-	.46
Law	35	17	52	33	9	42	.94	.53	.81
Economics	63	35	98	28	25	53	.44	.71	.54
UNIVERSITY TOTAL	946	187	1133	607	129	736	.64	.69	.65

one of the higher graduation rates. Education has the lowest average entry exam score and one of the lower graduation rates. However, it should be noted that for the 1980-82 period, the Faculty of Education operated under an accelerated program wherein students were required to complete six semesters of study in two academic years. Some of the 1980 entrants to Lafole College of Education will be included in the 1983 graduation figures. Still, it is appropriate to note also that the Journalism Faculty had a similarly accelerated program and managed higher graduation rates than did Education.

The intellectual rigor of a program and a myriad of other factors interact with student ability to influence the rates of attrition and graduation. Thus, no simple determination of causality can be made from this rudimentary data. However, a major area of concern can be identified in that the National University normally does not allow students to change their faculty after they enter the University. This is a questionable policy when one considers that competent students may not succeed in Medicine or one of the other highly demanding programs. Their only choice is to leave the institution; they do not have the alternative of transferring within the institution to a faculty more closely matched to their interests or aptitudes.

This possible waste of human as well as fiscal resources should be a topic for further research. The research should determine which students do not graduate, why, and whether a change in counseling, instruction, or some other aspect of policy or practice is required. It is not inappropriate to use the University as a screening device,

but it is expensive to do so. An alternative testing, counseling, and faculty assignment program might do as well with less costs.

Available data do not allow for examination of potential internal efficiencies in management, instruction, or materials and equipment use. The University should consider creation of an institution-wide research unit to gather data on these topics and to assist the individual faculties in improvement in their programs.

10.1.6 Access and Equity

Access to the National University of Somalia is open to any Somali citizen who has completed secondary school and competes successfully on the University Entrance Examination. In addition, the Faculty of Education annually admits approximately 300 students selected from among primary school teachers. These teachers must have graduated from the Halane Primary Teacher Training Institute and have had three years teaching experience. Selection is on the basis of a competitive examination. A third group of University entrants are the experienced civil servants who are identified for further academic training.

Table 10.8 lists the July, 1983 intake of students by faculty. Because of the large number of graduating secondary school students in July, 1982, the intake of certain faculties has been increased temporarily. The normal intake is listed in the table for comparison purposes.

Table 10.8

NEW STUDENT INTAKE, BY FACULTY
NATIONAL UNIVERSITY OF SOMALIA

July 1983

Faculty	New Student Intake	
	July 1983	Normal
Law	55	40
Economics	60	40
Education	600	500
Industrial Chemistry	50	40
Agriculture	70	60
Medicine	75	75
Veterinary Science	70	60
Engineering	70	60
Geology	50	40
Journalism	35	30
Language	75	70
Political Science	70	70
TOTAL	1,280	1,085

The largest absolute increase in 1983 is for Education, which will accept 600, rather than its normal number of 500, first-year students. Coinciding as this does with the extension of Education to a three-year program, the eventual effect will be to increase the total number of Education students in school at any one time to 50 percent more than the present rate.

Other faculties have increased their intake by 5 to 20 students. Medicine and Political Science are the only faculties with no increase in 1983. The total increased intake of new students is 195.

Because of the recent increases in the size of the Grade Twelve graduating class, the proportion of secondary school graduates who can find a place in the University has declined. To calculate this proportion, the Political Science Faculty (which does not recruit students from the secondary school graduating class) must be excluded as well as the 300 Education students who are selected from the experienced teachers category. This leaves 910 student places available in July, 1983 for the estimated 3,840 secondary school graduates from July, 1982 (the National Service year requirement necessitates the use of this one-year difference in graduating and entry years).

Thus, 23.7 percent of all July, 1982 secondary school graduates could be placed at the University. This compares with a proportion of 33.6 percent for the July, 1981 secondary school graduates. Even though the 195 new places were added in 1983, the rate of acceptance fell from approximately one-third to less than one-fourth. Assuming the 1983 levels of intake are maintained, the intake proportions for

the next two cohorts will fall even further--to 17.1 percent in 1984 and to 6.5 percent in 1985.

The 1984 secondary school graduating class is the highest for the decade in the current estimates. The present projections would point to an average NUS access rate for secondary graduates of about 13 percent over the 1986-91 period. These access rates pose two issues. First, what number of new students can be absorbed by the University without significant quality costs and, once educated, be absorbed by the economy without resort to guaranteed government employment? Second, what other education, training, and employment alternatives can be generated to absorb the large number of secondary school graduates who will not be able to continue their schooling in the National University?

Within this overall pattern of constrained aggregate access, the issues of access and retention equity are even more important. The two major issues of equity in Somali are gender and regional equity. As was noted in the analysis of primary and secondary education, the regional imbalances that exist in education appear to be a result of underlying differences in rural/urban concentrations in the regions. The most dramatic imbalance has been shown to be between Banaadir region and the other regions of Somalia. The combination of the educational advantages of urban location, the greater number of more highly educated parents, and the greater supply of teachers and facilities has created a special advantage for the Banaadir population. This advantage will be reduced as government continues its programs to

extend social and economic services throughout the nation. In 1983, however, the educational advantage of Banaadir is one of the most significant characteristics of the Somali EHR system.

Table 10.9 presents the University Entrance Examination results for the July, 1983 entry class. The range of scores and the average is presented for each faculty. The number of admissions and average scores are disaggregated for females. Detail is also provided on the number of students admitted to each faculty from secondary schools located in the Banaadir region.

The average test score varies from a high of 271.7 (out of a maximum score of 600) for the Faculty of Medicine to a low of 182.7 for the Faculty of Education. Students are allowed to express their first and second preferences for faculty of study. Those students with low scores may be assigned to a faculty that is not one of their choices. A study conducted for the University in 1982 indicated that the Faculty of Medicine was the first choice of 30.1 percent of all applicants; the Language Faculty was second, with 24.4 percent of the first choices, and Engineering was third with 11.5 percent. The most popular second preferences were, in order, Economics, Language, and Engineering. Medicine does not appear as popular as a second preference because most students realize that all of the places will be filled in this faculty on the basis of first preferences.

These student preferences are reflected in the rank of average scores in Table 10.9. The five highest-scoring faculties are, in order, Medicine, Engineering, Economics, Agriculture, and Language. All of these were in the top three of first and second choices except

Table 10.9

UNIVERSITY ENTRANCE EXAMINATION SCORES

By Faculty and Sex

Faculty	Number Admitted	Range of Scores	Average	Median	No of Females Admitted	Proportion	Females Average Score	Banaadir Students Admitted	Proportion
Law	55	179-288	206.3	199	7	12.7%	202.4	39	70.9%
Economics	60	208-324	235.3	228	14	23.3	229.6	41	68.3
Education	300	162-266	182.7	178	56	18.7	180.5	178	59.3
Industrial Chemistry	50	182-385	212.2	197	4	8.0	214.3	33	66.0
Agriculture	70	202-294	226.6	223	3	4.3	218.0	24	34.3
Medicine	75	237-358	271.7	265	19	25.3	275.6	49	65.3
Veterinary Science	70	178-263	200.8	196	12	17.1	196.3	30	42.9
Engineering	70	214-344	246.3	240	1	1.4	223.0	41	58.6
Geology	50	176-282	202.1	194	4	8.0	192.8	31	62.0
Journalism	35	186-276	212.0	203	9	25.7	207.2	20	57.1
Language	75	194-336	221.9	214	36	48.0	231.7	53	70.7
TOTAL	910		211.7		165	18.1%	212.4	539	59.2

Agriculture. In the 1982 study of preferences, Agriculture ranked fifth among the faculties in number of first preferences and was tied for fourth in number of second preferences.

The least popular faculties in terms of preferences of students in 1981 were shown to be Education, Journalism, Geology, and Veterinary Science. These also are the four faculties with the lowest average scores in 1983. The convergence of average scores and preferences is important because it allows the use of the exam score average as a proxy for student preference.

For example, the fact that female students are most highly represented in the Faculties of Language, Journalism, Medicine, and Economics indicates that the meritocratic admissions process is assuring that capable women may gain access to the preferred programs. A more serious problem exists in terms of total female access to the University. Female students represented approximately 30 percent of the Grade Twelve class from which the July, 1983 entrants were drawn but only 18.1 percent of the University admissions. The difference in these amounts may be due to voluntary choices made by female students or to poorer educational performance as measured by the entrance examination. There are not adequate data to resolve this issue for the 1983 cohort.

However, in 1981, 26.2 percent of the students not admitted on the basis of the entrance examination were females, while only 18.7 percent of those admitted were female. Interestingly, the high motivation of female students is shown by the fact that only 8.1

percent of students who were admitted in 1981 but did not matriculate were female. In aggregate, 170 women were admitted to the University in 1981; this is five more than were admitted in 1983. The 1982 total was 160 with 97 of the women (60.6%) in the Faculty of Education.

Several earlier tables also included data relevant to the issue of sex equity. Table 10.2 indicated that through the end of 1982, of 5,769 students who had graduated from the University, only 557 (9.7%) were women. If the Faculty of Education is excluded, the proportion increases slightly to 10.1 percent.

Another sex equity issue concerns female employment at the University. As shown earlier in Table 10.6, no Senior Lecturers are women and only 10.1 percent of all full-time staff are women. The proportion is even less (4.2%) for part-time staff.

These data on sex equity, even though crude and incomplete, indicate the special nature of the sex-equity issue in Somali higher education. The government has protected women students against overt discrimination at the entry level of the University through the use of meritocratic selection measures. Even the employment of women at the University is similar in proportion to the number of women relative to men who have graduated from the University. The visible inequity that exists in higher education is a product of inequities faced by female students in access and continuance in primary and secondary education. Among the preferred specializations in the University, negative self-selection appears to operate only in the Faculty of Engineering. There also are few women in the Faculties of Agriculture, Geology, and

Industrial Chemistry, but women in other programs could have selected these programs if they had so desired.

The final two columns in Table 10.9 present the number of students admitted to each faculty from Banaadir and the proportion these numbers represent of all students admitted. University-wide, 59.2 percent of all students were from Banaadir secondary schools. This is slightly higher than the 53.2 percent of all Grade Twelve students represented by those who were in Banaadir schools. The only faculties where a majority of students do not come from Banaadir are Agriculture and Veterinary Science, both with rurally oriented curricula. The highest proportions of Banaadir students are in the Law and Language Faculties. In the highly preferred Faculties of Medicine and Economics, Banaadir students are disproportionately represented; there is a slight under-representation in Engineering, the second most-preferred faculty.

From the data here, the conclusion appears to be that the University has had little success in offsetting the existing Banaadir/non-Banaadir inequity in achievement. Under a meritocratic selection system, there is little else that could be expected. The longer term alternatives to deal with this problem will require changes in the quality of primary and secondary education throughout Somalia. The government's priority on aid for rural and isolated schools will help to redress this inequity over time. An immediate alternative would be for the government to consider using part of the National Service year to provide enrichment opportunities for graduates from outside the

Banaadir region. This would have the result of promoting greater success on the University Entrance Examination and thus more equitable access to the preferred faculties for these students.

10.1.7 Administration and Supervision

No assessment exists of the needs for training in administrative or management skills at the National University of Somalia. The Deans and other administrative officers appear to perform their functions well, but the increasing demands that the University will face in the next decade may place great strains on the informal management structures that now exist.

10.1.8 Costs and Financing

Section 2.0 discussed in detail the cost issues in regard to expenditures per student and per graduate for each faculty. In this brief section, two major financing issues will be addressed: the use of tuition and fees to alleviate the burden on government for University support and the more effective use of donor funds.

At present, the educational and support costs for all students (including expenses for board and lodging) are provided by government. Faced by fiscal constraints and the increased demands generated by larger numbers of secondary school graduates, government must find alternative sources for funds. The most expeditious way to do this would be through a partial tuition system and a loan program tied to loan forgiveness if the graduate performs selected forms of public

service. A certain number of graduates each year leave Somalia to find employment in the Gulf States or elsewhere. It would be more equitable if some system existed to require repayment or bonding of all students.

This program would not be popular initially, but should be promoted as a means of widening access rather than narrowing it. The funds from tuition should be returned to the University to expand enrollments in those faculties where labor market demand justifies this. At the present wage level of government employment, workers who become government employees might have a part or all of their tuition loan forgiven. Alternatively, forgiveness could be used as an incentive to encourage graduates to seek private-sector employment. The introduction of any tuition/loan program will require careful consideration. Study should begin immediately so that the impending conflict between fiscal resources and access demands is minimized.

The second financing issue regards the efficient use of donor resources. At present these monies go primarily for instructional services and research support. As appropriate as these activities are, the donor assistance does not appear to be preparing the way for full Somalization of the University. More on-the-job training and collegial exchanges are necessary. The full assistance program from all donors should be assessed in terms of the National University's long-term goal of professional self-sufficiency.

10.1.9 Donor Support

The major financial assistance to the National University of Somalia comes from the Government of Italy. For the 1981-1983 period, this assistance equalled 57,520 million Lire or approximately So.Sh. 579.3 million. Italian support has provided instructional and research assistance to the Faculties of Agriculture, Chemistry, Geology, Engineering, Medicine, and Veterinary Science. Beginning in 1983, the Faculties of Economics and Law will also receive funding. In addition, Italy has provided 2,120 million Lire (So.Sh. 21.35 million) for overseas training over the last three years. All planning and management of the Italian government support is coordinated by a joint Italo-Somali Commission for University Cooperation.

Support to each faculty has averaged approximately 300 million Lire (So.Sh. 3,021,600) per year. In addition to support for the individual faculties, Italian funds pay for the "zero semester" training in Italian language. Agreement has been reached for the 1984-1986 extension of Italian assistance. A new program will be supported for Italian language study in the Faculty of Language.

Other donor support for the University has been dominated by the EEC funding for construction of the new campus in Mogadishu. Saudi Arabia has also supplied loan funds to aid with completion of infrastructure needs at the new campus. Other assistance includes support of the Political Science Faculty from the People's Republic of China, Government of India support of the University Library, and Swedish support of staff research through the Somali National Academy.

10.2 ANALYSIS

This section builds on the previous review of higher education and identifies needs and examines them in light of current constraints and plans. Finally, a set of conclusions and recommendations is presented.

10.2.1 Needs

The principal need in higher education is to formulate long-term policies to address the issues of efficiency, equity, finance, and staff development. In order to do this, specific research is also required that will allow policies to be chosen on a realistic basis.

10.2.2 Plans

Government's plans for higher education have two major goals. One is to expand the National University by increasing enrollment in several faculties and eventually opening a new facility in the north. The other is to expand intake to 25 percent of secondary school graduates.

10.2.3 Constraints

The three most crucial constraints are fiscal, human, and economic. The real value of funds available to the University is not expected to increase dramatically on a per-student basis over the next five years. It will be necessary for the University to use its funds more efficiently if the quality of education is to be enhanced. This

need for increased efficiency extends to the use of donor funds as well as to government funds.

The human constraints exist in terms of the instructional and management skills of the Somali staff. Additional advanced formal training, more varied and responsible on-the-job training, and systematic management training are all required. The University also requires a long-term staff development plan with clearly established goals in terms of the desired distribution of instructional staff by formal training and by rank for each faculty. A management-needs survey is required for the University, and in-service as well as formal, longer-term training programs should be identified or created.

The economic constraints on the University operate in two main ways. First, aggregate economic activity will determine the government's fiscal success and, ultimately, the ability to allocate funds for support of higher education. Second, the expansion of the labor market demand for the skill types produced by the University will help determine the success of the institution in meeting its goals of external relevance. There is, at present, no good estimate of how well the University has done or may be expected to do in this regard.

Other external efficiency issues exist in terms of the nature and quantity of graduates produced. But these supply factors are only analyzable relative to the labor market demand phenomena.

All of these constraints are only partially determinable by the actions of government. Government's responsibility is to reduce the constraints wherever possible and to minimize their effects whenever

nothing else can be done. The present government strategy of flexible and adaptive development with a priority on a long-term shift of more economic responsibility for employment to the private sector appears to be an appropriate one, given the present nature of the economy. The University must initiate a similar strategy to increase its internal efficiency and to promote greater external efficiency.

10.2.4 Issues

Because of the complex nature of the National University of Somalia's environment and the paucity of detailed data available on its inputs, outputs, and processes, the analysis of the major issue areas is necessarily constrained. The appropriate action appears to be to identify the major issue in each of the issue areas and then, in the succeeding sections on conclusions and recommendations, to lay out tentative suggestions for how these issues should be studied further. This will be less detailed then the analysis of other chapters, but will serve the purpose of structuring a research/analysis agenda for the higher education subsector.

10.2.4.1 External Efficiency

The main issue concerns the link between the supply of graduates and the demand for their skill in the labor market. Intake into the University does not seem to be adequately based on projected demand because no accurate information exists on labor market demands.

10.2.4.2 Internal Efficiency

The low student/staff ratios do not appear to be justifiable in terms of instructional or research accomplishments. Also, the attrition rate is very high, especially in some faculties.

10.2.4.3 Access and Equity

The major access issue is the declining proportion of secondary school graduates that will be able to enter the University in future years. The major equity issue is the disproportionately large number of students from the Banaadir region, and to a lesser extent, the under-representation of women.

10.2.4.4 Administration and Supervision

The critical area of concern is the management capacity of the University to meet future demands. There is, at present, no long-term plan for staff development or utilization.

10.2.4.5 Costs and Financing

There is an immediate need to consider the alternatives of non-government financing for a part of the University's cost. Cost differentials between faculties are enormous and need to be examined. Finally, a more efficient use of donor funds must be found which better allows for the development of Somali faculty and staff.

10.2.5 Conclusions

The issues identified in the preceding analysis form the basis for several conclusions.

Conclusion 1: Plans for expansion of the University should be based on evidence of demand in Somalia and the Gulf Region for the knowledge and skills being developed.

Given that the cost to government of educating one university graduate can be the same as up to twenty primary graduates, the decision to expand enrollment must be made carefully. Also, the present policy of guaranteed government employment for graduates may lessen the incentives to tie education to the priority needs of the economy. It would be wise to consider demand in the wider Gulf Region when formulating enrollment plans. Graduates might be allowed to emigrate if they repaid the cost of their education.

Conclusion 2: A closer examination of student/staff ratios and student attrition rates should be undertaken.

If the staff is underutilized, as the student/staff ratios suggest, steps should be taken to change this. The student attrition rates also merit closer investigation because they reveal potential shortcomings in the educational system. There should be a careful consideration of the language policy and the role of the zero and refresher courses to see if they are contributing to high attrition. As attrition does not appear to be related to the quality of students, one possible step to ease the situation is to allow students to change their faculty after entering the University.

Conclusion 3: If it is decided that further expansion of the University is not feasible because of cost and demand factors, other education, training, and employment must be found to absorb the large number of secondary graduates who will appear in coming years. More ways should be sought to increase the proportion of rural and female students in the University.

Conclusion 4: Long-term management plans for the University should include ways to train staff in administrative and management skills.

Conclusion 5: Alternative sources of funds should be found to finance higher education.

One possibility is to have a partial tuition system with a loan program. If students who emigrated were required to repay the costs of their education, then such emigration would not be a financial loss to the country. Better use of donor funds for long-term objectives of the University would lead to greater efficiency.

10.3 RECOMMENDATIONS

For the reasons stated earlier, the recommendations presented here must be more tentative and provisional than in those areas where more detailed data exist for analysis. The present review of higher education generally, and of the National University of Somalia specifically, is not adequate to advance any assured recommendations. What does exist is a clear agenda for research and analysis. Eventually this research agenda should produce findings that will promote review of current policies and practices.

Seven recommendations of specific research areas may be identified:

1. Tracer study of graduates,
2. Study of staff time allocations,
3. Management needs survey,
4. Policy analysis of alternative sources of financing,
5. An ongoing cost analysis program,
6. Study of the causes of attrition, and
7. Projections of student intake and graduates

Recommendation 1: Tracer Study of Graduates. Samples should be selected from each faculty. Issues of length of job search, nature of job, skill requirements, salary, and location should be analyzed.

Recommendation 2: Study of Staff Time Allocations. The use of staff time should be analyzed in terms of the proportion allocated to instruction, research, administration, University service, and other activities. These data will aid in the examination of the implications of the student/staff ratios.

Recommendation 3: Management Needs Survey. The expected changes in management structure should be considered in the assessment of management skill requirements and training needs.

Recommendation 4: Policy Analysis of Alternative Sources of Financing. The issues of the use of student financing and donor funds utilization should be combined in this study. An attempt should be made to incorporate the internal efficiency issues with the cost/financing issues.

Recommendation 5: An Ongoing Cost-Analysis Program. The University should create a capacity for analysis of faculty costs. The emphasis should be on recurrent program costs and especially instructional cost differentials among faculties. Both per-student costs and per-graduate costs should be assessed.

Recommendation 6: Study of the Causes of Attrition. An analysis of the determinants of attrition will aid the University and the individual faculties in preparing programs to deal with this source of current internal inefficiency. This study should also be part of a larger reconsideration of the issue of allowing inter-faculty transfer of students within the University.

Recommendation 7: Projections of Student Intake and Graduates. Basic planning activities of the University must include the projection of student intake and of expected graduates. These calculations should be available by faculty. The projections of student intake will be an important input into staff utilization and cost analysis while the graduate projections will play a role in later external efficiency analysis.

The University has adequate competence in research methodology to design and implement this research agenda. As part of the research agenda design, a plan should be proposed for how these findings will be incorporated into the review of higher-education policy and practice.

11.0 HEALTH EDUCATION

This chapter examines health education programs offered to the public through the Ministry of Health (MOH). Health education is defined here as the transmission of knowledge to the public in order to create a process of incremental change in public understanding, feeling, and behavior relating to their health, and thus to raise the level of public health (after Caafimaad, Health Education Unit: Mogadishu, March 1983).

Health education is offered principally through programs of primary health care (PHC), a pyramidal system founded upon a base of community paraprofessional health workers who handle simple health matters, serve as liaison to their supervisory clinics, and educate their communities about basic preventive health measures. The success of PHC in raising levels of public health depends heavily on engaging communities in a self-reliant and rational approach to maintaining and improving their own health. Effective health education is, thus, a keystone of PHC delivery.

Principal needs are for extending the health care system in order to serve the rural majority, successfully maintaining the extended programs, and enhancing their impact so that public demand for health service becomes better linked with the kinds of services government is able to supply.

Key issues to be addressed include the necessity for ongoing assessment of impact and modification of the form and content of health

education activities in line with assessment results, the relative priority which should be given to preparing community workers as service suppliers and as health promoters, differential access of subpopulations to current and planned health services, and the need to strengthen managerial capacity to supervise, assess, and modify existing training and health-promotion practices.

Recommendations focus upon assessing and enhancing the impact of current health education activities, strengthening the training of community workers by laying greater stress on their acquisition and utilization of health-promotion skills, developing radio programming as a supplement to the face-to-face promotion work, and fostering information-sharing and high-level concern for health education as an issue distinct from, though at the same time intimately linked with, service delivery.

11.1 STATUS

This section examines the condition of health and health care delivery in Somalia, stressing the current situation and the rapid development which is now occurring in health education as a key strategy in the overall development of the health care sector. The health education subsector will then be considered from the point of view of its external and internal efficiency, access to it and equity in its distribution and practice, administration and supervision of programs, and costs and finance.

11.1.1 Condition of Health in Somalia

The major health problems of Somalia include: tuberculosis; waterborne diseases, particularly child diarrhea; contagious childhood diseases; and malaria and schistosomiasis, particularly in the southern interriverine and irrigated areas. There are indications that the latter two are increasing with the spread of irrigated agriculture and the increase in number of artificial watering ponds for livestock. In 1980, as part of the process of preparing the first National Health Plan (1980-85), the Ministry of Health listed in order of priority the following "top-ten" health problems: (1) tuberculosis; (2)communicable children's diseases; (3) diarrheal diseases, especially in children; (4) malaria; (5) schistosomiasis; (6) malnutrition; (7) sexually transmitted diseases; (8) respiratory infections; (9) accidents; and (10) obstetric problems.

Quantitative indicators show poor overall levels of health. Life expectancy at birth is 43 years (45 in urban areas, 40 in rural) and reflects high child mortality rates (estimated between 150 and 177 per 1000 live births). Factors said to be responsible for poor levels of public health include lack and poor quality of water (only 30% of the population is estimated to have access to reliable supplies of "safe" water--this figure disaggregates into 60% for urban and 18% for rural dwellers); malnutrition, particularly of women of childbearing age and children, and heavily affected by regularly-occurring, dry-season shortages; and poor environmental hygiene.

Providing modern health care is the responsibility of government; private practice in the sector is not permitted. Until very recently, modern health services were almost entirely curative in orientation and concentrated in hospitals and clinics at the larger towns and urban centers. Even these facilities are understaffed and undersupplied to meet their local demand. A national population estimated at some five million in 1980 is served by 294 medical doctors--one per 17,000 population. An estimated 85-90 percent of the rural public does not have access to government facilities beyond occasional contact with vertical programs--campaigns, usually aimed at controlling specific diseases, which are mounted for short periods and then disappear.

Partly for this reason, but also in many cases out of preference, the majority of the public depends for health care on an extensive system of traditional medicine which comprises a highly diversified offering of curative herbal practice; religious medicine, mostly curative, but also used to some preventive ends; and surgery. Even in the refugee camps, where modern health care is much more available than it is to the rural public at large, a substantial proportion of the population prefers traditional solutions to many health problems.

The two health systems regard each other for the most part with a modicum of suspicion, though many individual cases of practitioners combining elements of the two exist. In general, few traditional practices are considered efficacious by modern practitioners or urbanized people, while rural people, many of whom accept certain

modern curative resources such as antibiotics, are for the most part not convinced of the usefulness of Western preventive health practices. Systematic rural approaches to preventive health care do exist, a few of which contradict practices advocated by modern practitioners.

Finally, as the 1980-1985 National Health Plan explicitly notes, there is "a growing distrust of the [modern] health services" which will not be halted or reversed "as long as the deficiencies in the peripheral health network are allowed to remain."

11.1.2 Goals and Strategies

Accepting the goal of "health for all by the year 2000," the 1980 health plan represents the first step by government toward reorienting the entire national health service in order to provide more equitably distributed and effective health care to the mass of the population.

The single most far-reaching goal in the plan, "strengthening health services," includes as one general objective the deployment of a primary health care system which is eventually to cover the entire nation with a network of community-based health promoters.

Health education is also highlighted as a separate general goal in the 1980-1985 Plan, namely "encourag[ing] and establish[ing] healthful living practices by improving knowledge and health awareness among the community, with particular stress on the preventive and promotive aspects of health." Specific objectives in health education include:

(1) developing education skills of various categories of health workers through courses, workshops, and fellowships;

(2) producing health education aids relevant to the Somali cultural context and consistent with resources available to the country;

(3) establishing transport and administrative capacity to support the development of health education; and

(4) providing consultancy services to enhance the implementation of (1) and (2) above.

The institutional strategy proposed to achieve these ends is to strengthen the previously existing Health Education Service in Mogadishu and to establish a second such center in Hargeisa to serve the northern zone.

11.1.3 Structure

Primary Health Care (PHC) is delivered by two different branches of the Ministry of Health--the Refugee Health Unit, founded in 1980 and currently operating PHC programs in 34 refugee camps; and the Primary Health Care Program, also founded in 1980 and now in the process of developing programs in several regions to serve the Somali public. A small Health Education Unit produces and distributes some health education materials.

11.1.3.1 The Refugee Health Unit

The Refugee Health Unit (RHU) reports to three different entities: the Director-General of the MOH (mostly on personnel

matters), the National Refugee Commission on matters affecting or affected by refugee policy, and the United Nations High Commissioner for Refugees (UNHCR) on funding matters. Its national office comprises a directorate; offices for training, sanitation and nutrition; a central medical store; and administrative support sections. The directorate, sanitation and nutrition offices, and medical store each have a foreign advisor attached, while the training office has both a training advisor (supported by the Red Cross) and a health education advisor (International Rescue Committee/US).

RHU maintains regional offices in capitals of three of the four regions where refugee camps are located; the fourth region (Lower Shabeelle) has only three camps, located together, and will have a regional RHU office in the town nearest them. When fully staffed, each regional office will have a regional coordinator, a training coordinator, a pharmacists, and a mother and child health (MCH) coordinator (initially provided by donor agencies) as well as administrative support staff. In addition, two regions (Gedo and Hiiraan) have one subregional office each, serving clusters of camps which are far from the regional capitals.

Each of the 34 camps have RHU staff consisting of a Camp Medical Officer and a tutor in charge of training activities for community workers. Camps are divided into a number of sections, each served by five community workers: four community health workers (CHWs) and one trained traditional birth attendant (TBA). As the program is now

solidifying, CHWs have become specialized into different jobs, but all are responsible for carrying on health education activities related to their function.

11.1.3.2 The Primary Health Care Program

The Primary Health Care Program (PHCP) reports also to the Director General, MOH. Its national office comprises a director, a deputy, and officers for training, statistics, logistics, personnel, and fiscal systems. In the regions where PHC is being implemented, the deputy regional medical officer serves as regional coordinator of PHC, heading up a regional supervisory team consisting of a public health nurse, a nurse midwife, a sanitarian, and a laboratory technician. These supervise district teams of similar composition; each district is divided into several areas served each by a clinic or primary health care unit (PHCU) staffed by a midwife, sanitarian, and public health nurse. When fully functioning, each PHCU is to serve some 10,000 - 15,000 clients through several "health posts" which depend on it for supervision, referral facilities, and supplies. In theory, each health post should serve 3,000-4,000 people and be made up of one or two CHWs and one or two TBAs. CHWs will not have distinct specialties as is the case in RHU programs.

11.1.3.3 The Health Education Unit

The Health Education Unit (HEU) forms part of the Department of Public Health, MOH. It comprises a central office in Mogadishu staffed

by a unit head, a deputy, and several Health Education Assistants, and a branch office in Hargeisa, staffed by one Health Education Assistant.

11.1.4 Programs and Projects

This section examines current programs of the major institutions delivering health education, noting the nature and location of their programs, clients served, and international donor involvement in each.

11.1.4.1 The Refugee Health Unit

The Refugee Health Unit operates ongoing PHC programs in 34 refugee camps: twelve in Gedo Region, ten in Hiiraan, three in Lower Shabelle, and nine in North West. Approximately 2,200 CHWs and 800 TBAs trained and supervised by these programs are now delivering basic health care and providing promotive health education to an estimated 700,000 refugee clients. Many of these programs were initially developed by RHU in collaboration with international donor agencies, each of which concentrated its efforts in one or more camps assigned to its exclusive supervision for health programming. (It should perhaps be noted that these agencies were never responsible for "running" refugee camps overall; their responsibilities were confined in almost all cases to the health programs.) As a general rule, donors provided professional, personnel, and logistical support, while RHU provided professional staff to work in counterpart relations with foreign staff. Now that the crisis phase of the refugee work is past and most programs are fairly well established, the process of "handover" by international

donors and assumption by RHU of complete operational responsibility for PHC has been completed in many camps. By the end of 1983, 24 of the 34 camps should be completely managed by RHU, with most of the remainder following suit in the next one to two years.

International donors assisting in the development of PHC programs for refugees (those which have offered only curative or logistical support are not included) have been:

HANDOVER COMPLETED

DONOR	CAMP
Belgian Medical Committee	Ban Mandulle (Gedo)
Community Aid Abroad (Australia)	Jalalaqsi 4 (Hiiraan)
Interchurch Response (United States)	Cali Mataan (Gedo)
International Christian Aid (United States)	Halgan, Horseed (Gedo)
Medecins Sans Frontieres (France)	Buur Dhuubo (Gedo)
Medecins Sans Frontieres	Hilomareer (Gedo)
Oxfam (United Kingdom)	Sabacad (North West)
International Red Cross	Dooryaanley (Gedo)
World Concern International (United States)	Halba 1 and 2 (Gedo)
World Vision (United States)	Laas Dhuure (North West)

HANDOVER IN PROCESS

DONOR	CAMP	COMPLETION
German Emergency Doctors	Adhi Caddays (North West)	By end 1983
International Rescue Comm. (United States)	Malka Hidda (Gedo)	By end 1983
International Rescue Comm.	Suriya (Gedo)	By end 1983
Medical Volunteers Int'l. (United States)	Booco (Hiiraan)	By end 1983
Save the Children (United Kingdom)	Dareya Macaan (North West)	By end 1983
Swedish Church Relief	Jalalaqsi 3 (Hiiraan)	By end 1983
	OTHER	
Islamic African Relief Agency (Sudan)	Darbi Xoore (North West)	No date set
Islamic African Relief	Camalow (Hiiraan)	No date set
Italian Government Programme:	Jalalaqsi 1 and 2 (Hiiraan)	No date set
	Qooqane (Hiiraan)	No date set
	Siigalow (Hiiraan)	No date set
	Krash (Hiiraan)	No date set
	Qoryooley 1, 2, and 3 (Lower Shabeelle)	No date set
PHC Implemented entirely by RHU:	Dhaamka (North West)	
	Agabar (North West)	
	Arabsiyo (North West)	
	Tog Wajaale (North West)	
	Luuq Jeellow (Hiiraan)	

11.1.4.2 Primary Health Care Program

The Primary Health Care Program (PHCP) currently is developing programs for the national (i.e., non-refugee) population in seven regions: North West, Togdheer, Sanaag, Bay, Middle Shabeelle, Lower Shabeelle, and Gedo with the hope of eventually implementing similar programs in the country's remaining regions. In each region the program is being developed in cooperation with one (sometimes two)

international donor agency which provides counterpart professional staff; planning, training and logistical support at the regional level; and assistance as the program is expanded outward to districts, PHCUs, and individual communities.

The first such programs began in 1981 under the auspices of PHCP and USAID, in Togdheer and Bay regions. As of December 1982, approximately 18 CHWs and 50 TBAs had been trained and were functioning in 9 towns and villages.

Other regional programs have begun more recently, and actual preparation and support of community-level workers is in its early stages. These include programs in: North West (donors: UNICEF, and SCF on a small scale), where to date twelve CHWs are functioning in Boorame District; Lower and Middle Shabeelle (UNICEF the major donor, and WHO), where there is training of CHWs and work with TBAs trained in earlier settlement projects; Sanaag (donor: Community Aid Abroad, Australia); and Gedo (Caritas, Germany).

By the end of current project periods (1987-88, in most cases), approximately 1,312 community workers are projected to be serving some 3,700,000 members of the non-refugee public, or approximately 73 percent of the Somali population, excluding refugees.

11.1.4.3 Health Education Unit

The Health Education Unit works principally with the audio-visual media and radio. Foreign donors assisting with this program include UNICEF (office equipment, technical consultancy and seminars, support

for production of radio, print and audio-visual materials, and transport) and WHO (fellowships for national staff and a counterpart for the unit head). The government covers recurrent expenses and some travel support.

11.1.5 External Efficiency

This section treats matters pertaining to the interface between health education organizations and the public, and the resulting impact of their programs on the public.

11.1.5.1 Community Health Education

Community Health Education is primarily delivered by the CHWs and TBAs who form the base of the PHC programs. The main focus of their health education activities is preventive health--changing certain practices which have been centrally determined to be injurious to health, or encouraging new practices which health planners have decided would be beneficial. CHWs work mostly in the areas of environmental sanitation and hygiene; TBAs concentrate on nutrition, pre- and postnatal care, rehydration therapy, and other mother-and-child-focused areas.

Despite the initial enthusiasm of several donor agencies in promoting the use of visual aids for health education, RHU has discouraged the use of both print and visual materials, believing them to be of "negligible significance in our cultural context." Interactive presentation is preferred, "materials" in this case

constituting dramas presented to communities, songs composed and sung by health workers to those waiting at clinics, and in general the use of oral arts which lean heavily on humor, irony, insult and the like and eschew a didactic approach. The quality of oral materials can be assessed by the degree to which key phrases are picked up and repeated throughout the community; a definite indicator that people are at least listening and interested is when a community member produces a second song in response.

Nonetheless, unless supervision is both continuous and creative, community workers tend to concentrate their promotive efforts on "health education classes" offered to such groups as pregnant mothers or schoolchildren and lecturing on a selected topic with, perhaps, entertaining discussion and questions. In many programs, literate CHWs have access to the national CHW manual; some also utilize notes taken during their own training, as a reference while lecturing or as a curriculum base. Attempts to encourage community workers to engage in "on the spot," or situationally relevant health education have not met with general success to date.

In addition to their role as health educators, these workers carry out paramedical functions which are simple enough to be handled effectively in the community, serve as a referral link to their PHCU to which they pass on the more complex or ambiguous cases, and gather basic community data and health statistics for pooling at regional and national levels. Since they are members of the communities they serve, returning there to work after completing their training, local health

workers are considered potentially more credible purveyors of health information than the outside technical people who train and supervise them.

However, local health workers are perceived by communities as linked to, if not exactly employed by, the government health service. Public demand of that service focuses on curative care; as noted above, interest in outsiders' suggestions about preventive measures is low. Furthermore, CHWs and TABs are not freely supplied with, nor encouraged by PHCP and RHU to use certain items which rank high in the traditional approach to preventive health. In general, health workers compete for attention with (a) the non-governmental network of indigenous physicians and elder midwives who have not been trained and many of whose procedures (and whose names) are more trusted than the PHC workers and (b) pharmacists, usually untrained, who offer medical advice and modern drugs over the counter in larger villages, towns, and urban centers.

Initial public demand for modern health knowledge therefore has been slight. The process of community education is at best a long and arduous job, requiring constant support, supervision, and even pressure on workers from their PHCU. As an example, despite the fairly intense concentrations of funding, resources, and supervision in refugee health for two to three years, the level of community pressure on CHWs to "give a drug for every single case" has not abated significantly in many programs. While the non-refugee programs are still in very early stages and such experiential data are not yet available from them, it is not unreasonable to suppose that the job will be at least as

difficult, if not more so, given that staff-to-community ratios are smaller, distances greater, and so on.

11.1.5.2 Health Education Unit

Much of the work of the Health Education Unit can be called direct mass education. The unit prepares and tapes the biweekly radio program--Baraarujinta Caafimaadka ("Health Education")--and a weekly special program on family planning. These programs are usually urban-oriented in content and didactic in tone, though some use of songs on health topics (composed and sung by members of an urban performing group) has recently been introduced. The HEU audio-visual center has produced a set of short films narraced in Somali on such topics as first aid, immunization, environmental sanitation, and certain specific diseases. When teams from vertical health programs, e.g., the Expanded Program of Immunization, go on tour, HEU sends a technical team along to show films to the public--the Somali films and/or English-language films on topics such as nutrition and child care which are purchased from abroad. The Unit also prepares sets of health education materials in the form of posters and pamphlets and publishes a quarterly journal, Caafimaad ("Health"). Printed materials are distributed in small quantities to ministries, government agencies, and intermediate and secondary school libraries. HEU also assists with materials preparation for PHCP.

11.1.6 Internal Efficiency

This section treats matters pertaining to the preparation of CHWs

and TBAs for purveying health education to their publics. Aspects of their selection and subsequent supervision and on-the-job training will be dealt with in Section 11.1.8, Administration and Supervision.

After acceptance into the program, candidates are gathered for six weeks' training (in theory and practice) at central locations--major towns or district capitals. A subsequent six weeks are spent at a PHCU for a field practicum. Trainers are normally technically qualified in their subject matter, but few--including expatriate staffs in some programs--have had substantive preparation and experience in training methods for adults. The future community workers are trained on the basis of curricula generally constructed around behavioral objectives and prepared by national PHC staff. Although CHWs community organization and assessment are given some coverage, the bulk of the curriculum deals with substantive health content tailored to be generally appropriate for villages. Health education as a process receives 25 out of some 350 instructional hours. TBAs receive a course emphasizing pre-and postnatal care, handling routine births and recognizing complications, and infant care, again with a small portion of the course devoted to the health education process. The content of the training course is codified in the National CHW and TBA manuals.

CHWs and TBAs with the RHU receive monthly stipends. This and their special situation as refugees uprooted from their homes and livelihoods causes attrition from the program to be insignificant. It is too early to assess attrition trends in the national PHC programs, but neither the stipends nor the special circumstances exist in the

latter; thus the possibility exists that attrition of community workers from PHCP may become a significant problem in time.

RHU programs are fairly well staffed. Current training efforts in refugee camps, conducted by the RHU tutor, comprise on-the-job supervision and refresher courses, offered particularly when relevant situations, e.g., epidemics, arise.

In training as in CHW/TBA performance on the job, the use of print and visual materials is deemphasized by RHU, although PHCP is exploring their use. Some RHU programs have decided on their own initiative to build a literacy training component into CHW training; others, including PHCP, require literacy as a prerequisite.

11.1.7 Access and Equity

This section notes the proportion of the population which has access to HEU materials and PHC programs, and indicates differences in access which appear to correlate with membership in particular subpopulations.

Radio is accessible to much of the population, urban and rural. Radios are widely owned, and almost every tea shop--the favorite male gathering place--boasts a radio which is usually turned on for the benefit of the clientele. However, one important segment of the rural public tends not to have much direct access to radio sets--namely, pastoral women and girls, and young children. During much of the year, nuclear family settlements are scattered in the countryside, and many

nuclear families do not have individual radios. Because health education programs on the radio are not highly newsworthy, contents do not tend to get passed on by word of mouth.

Print materials are produced in limited quantities and only a small portion of the public gains access to them. Though much of the rural public is not functionally literate, the decisive factor in this case is distribution, which limits access not only to urban populations, but further to government institutions and those who frequent them. Health education posters and pamphlets seldom, if ever, appear in tea shops, stores, homes, or private business premises.

Community health education through PHC programs is currently offered to essentially all the refugee population and a small proportion of the national population. By the end of current project cycles, this percentage is projected to reach roughly 70 percent. At present, refugees clearly enjoy preferential access, due undoubtedly to their special international status and their initially far-more-precarious health situation.

The urban-rural dichotomy manifests itself at least in the start-up phases of national PHC programming. The normal order of infrastructure creation is to begin work in the regional capital, followed by expansion to district capitals, major villages, smaller settled centers, and lastly to those pastoral groups whose contact with village centers is cyclical rather than continuous. It is hard to predict what final patterns will emerge because no regional PHC program has as yet been fully deployed.

PHC development is presently farthest advanced in some of the most accessible regions (North West, Togdheer, and Bay), but those regions where PHC is at least starting up cover the spectrum from easy to moderate difficulty of access, and from settled to pastoral. It should be noted that in the clump of four regions (Bari, Nugaal, Mudug, and Galguduud) running from northeast to middle south, which as a group constitute the area most arid, purely pastoralist, and difficult to access in the country, only one region has donor funding assured, with work scheduled to begin in 1984. Overall, however, it cannot be said that distance from urban concentrations, or pastoralist versus settled nature of the populations, have a consistent impact on the planning pattern.

11.1.8 Administration and Supervision

The national offices of RHU and PHCP in Mogadishu bear overall responsibility for planning, coordination, supervising implementation in the different regions, liaison with other relevant programs, and developing and implementing policy. RHU provides technical coordination from the very top (see 11.1.3), In the PHCP, it is at the regional level where PHCP technical staff begin to feed into the chain of transmission of expertise which, passing from regional to district to clinic (PHCU) level, finally debouches in training, support, and supervision of the grassroots workers. Supervision of paraprofessional workers with a low level of technical training is based on intensive person-to-person contact all along the line, with

close and effective supervision, including on-the-job enhancement of skills, and follow-up, particularly essential at the community worker level.

CHWs and TBAs are initially proposed by, and subsequently responsible to, Village Health Committees. These committees are formed on initiation of project work in the areas.

If the refugee health programs have suffered logistically due to the location of many camps in nearly inaccessible areas, the PHCP programs have and will encounter even greater difficulty due to the far greater dispersion of their supervisory network and their clients. Supervision and supply depend on the willingness of staff to serve in rural areas, or to make frequent and preferably unhasty site visits. Somali staff receive incentive pay for rural service, but expatriate staff do not. Staff also need consistent access to transport for themselves and for supplies (on which, in great part, the initial credibility of community workers depends). Occasional gasoline shortages, shortfalls in transportation budgets, breakdowns, and difficulty in obtaining parts mean that, as a matter of course, transport is often interrupted. Regional and district project staff usually prefer to make rural site visits swiftly, using project vehicles. When project transport is temporarily unavailable, staff often do not go, and the continuity of rural supervision and program development, therefore, is interrupted frequently. Similarly, expatriate and Somali staff often wait in urban centers, delaying program work, while donor-contributed clinic facilities and/or housing are constructed.

Although RHU and PHCP are running essentially similar programs, the two entities are administratively distinct because the refugee population is considered a temporary one. RHU is already operating a far-flung, complex, and fairly successful PHC program under many of the same circumstances which face the implementers of the newer PHCP. At present, some informal interchange of information and lessons learned occurs, particularly in North West where the two programs relate closely, via the inclusion in the PHCP program of a small number of staff who previously worked with RHU. However, no systematic means exist for information sharing between the two entities.

In any program of community-based development guided from the center, research of various kinds is needed. PHCP is developing a nationwide health statistics system based on simple data gathering by community workers, pooled successively at the higher level centers. The purpose of this system is to observe the ultimate goal--positive changes in levels of community health. However, at the level of the goal of health education, i.e., achieving predetermined beneficial behavior changes, no entity has assessed as systematically the impact of health education efforts on public awareness or behavior, though some individual RHU programs have informally assessed certain elements, e.g., the impact of visual aids on their refugee clients.

11.2 ANALYSIS

This part of the assessment notes particular needs to ensure

effective health education and training and discusses the status of plans for health education and the constraints under which programs must emerge. Some issues are then raised in light of these considerations and a set of conclusions drawn, forming the basis for the programmatic recommendations in the final section.

11.2.1 Needs

Three outstanding needs must be addressed in order to increase the effectiveness of the linkage between health education activities and ensure the achievement of better health for all. They are, first, extending access to the system to an ever-widening proportion of the public; second, maintenance of programs once donor contracts end; and third, assessing and enhancing the impact of existing programs.

11.2.2 Plans

This section will note the status of planning for health education activities, both within the PHC programs and through the Health Education Unit.

11.2.2.1 Projects for Which Funding Has Been Received

Funding is secured for extending the PHCP to three additional regions: Lower Jubba, Mudug (USAID), and Hiiraan (Italian Government Program). The training of 384 community workers (CHWs and TBAs) to serve some 678,000 clients in those regions is projected through

these programs. The Health Education Unit is to be strengthened by providing an expatriate health education specialist for two years, under the existing agreement with UNICEF and WHO, and a short-term consultant to train the unit in field testing educational materials and radio program evaluation. Some overseas training will be provided to health education assistants. Also planned under the agreement is a village demonstration project to show what concentrated health education can do in support of health services.

11.2.2.2 Projects for Which Funding Has Not Yet Been Secured

It is planned to extend PHC throughout the country. PHCP has projected that between 1983 and 1985 staff will be trained in all regions except Banaadir (whose extent is coincident with that of Mogadishu only), including an estimated 672 CHWs and TBAs in five regions which to date have had no project funds committed: Bari, Nugaal, Galguduud, Middle Jubba, and Bakool.

11.2.3 Constraints

Principle factors which constrain addressing the major needs of the health education subsector are financial, managerial, and cultural.

11.2.3.1 Financial

Current expenditures in the entire health sector represent roughly six percent of the national budget, and of that, only a small amount goes into health education activities per se. Neither these

proportions nor their real value are likely to increase in the near future. All aspects of extension, maintenance, or enhancement which will entail funding increases will, of necessity, need outside donor support.

Current projects have created certain resources which can be utilized in expanding PHC to other regions, for example, the USAID-sponsored training centers for regional, district, and PHCU staff designed to serve the entire country. However, given the overall budget constraint, other inputs to further regional projects (logistics and transport, construction, supplies, and professional counterpart support) must come from outside donors. Also, any massive increase in the accessibility of health education materials through increased quantity would be subject to the same constraint, as well as that imposed by the lack of sufficient printing facilities to meet even the country's present demand.

During project periods, donors provide certain recurring inputs, particularly transport and supplies, to their regions. On project completion, government is expected to assume responsibility for these inputs and maintain the programs. Thus, a major increase in national health expenditure looms ahead during the next few years. Given fairly widespread reluctance on the part of donors to assist with purely recurrent expenditures, monies will have to be reallocated, undoubtedly within the already tight health budget, or program supervision and support will have to be curtailed, even before most programs have solidified.

Finally, as a broad generalization, it can be said that donor funds in the health arena tend to go into development and expansion of new programs, while government funds are fully absorbed in supporting staffs and recurrent functions. The very rapid current expansion of national PHC, in particular, has left little time or funding for assessment of programs, especially of their impact on the public, nor for subsequent planning to enhance their quality. Nor is this situation likely to change greatly as donors strive to complete their work within stipulated contract periods and government faces the hurdle of taking over independent management and financing ongoing programs.

11.2.3.2 Managerial

Two principle managerial constraints affect the subsector--one national, the other international. One, the national, is the quantity, quality, and availability of technical staff at all levels of the system. As regards health education needs in particular, the level of preparation and expertise in methods for training adults is low throughout the system, while every staff member from the regional level down is expected to function as both a trainer and an on-the-job retrainer. Personnel, including many expatriate professionals, are put into the system principally on the basis of their technical qualifications and then are expected to function also as trainers. The result

is that quality of training and on-the-job follow-up--a crucial managerial element of the pyramidal service delivery system--suffers at all levels.

The second constraint is an artifact of the international management system, which has particularly severe impact on any program, such as PHC, which depends so heavily on donor involvement. It is that project funding cycles, usually five years or less, are short compared to the time reasonably necessary to involve communities, create effective and informed village health committees, locate appropriate candidates for community-worker training, and follow-up long enough for the system to become firmly established and its health education function appreciated, in a critical mass of communities, before the project cycle ends.

11.2.3.3 Cultural

In programs of training and mass education, donors and central authorities tend to place stress on the production of tangible instructional materials, particularly manuals, detailed curricula, and visual aids. Specific barriers exist to their full utilization, such as low literacy levels in most rural communities as well as a comparative lack of what could be called "pictoracy," i.e., experience in interpreting two-dimensional abstract representations of three-dimensional reality (pictures). The literacy issue is addressed to some extent. PHCP requires CHWs, though not TBAs, to be literate before entering training, and some RHU programs have provided literacy

training as a component of training. The "pictoracy" issue, however, seldom has been addressed, although visual aids are used by many programs for training community workers. Further, some programs encourage workers to use visual aids in health education activities for the public.

The above, however, are relatively minor constraints which, if addressed, can be alleviated. The more global difficulty arises from the importance which is placed by traditional oral culture upon the precise, word-for-word transmission of important messages. Partly as a result of that, and partly as a result of the programmatic stress on producing and using standardized manuals and curricula in training, there is a tendency in transmission of health information, from regional professionals with highly technical knowledge to community workers at the grass roots, for that information not to be transformed adequately at each level so as to be appropriate to the audience at the next.

11.2.4 Issues

Needs of health education programming will be examined from the point of view of external and internal efficiency, access and equity, and administration and supervision.

11.2.4.1 External Efficiency

The external efficiency of the national PHC programs depends upon the programs being desired by the people they seek to serve. Since the traditional view of health care delivery differs in certain respects

from what the PHC programs have to offer, and is often satisfied by local, non-governmental resources, health education efforts form a key element in linking public demand for health services to public supply and in creating a vital system which can help to attain overall national health goals.

Within the constraints previously discussed, the maximum possible emphasis should be laid on careful involvement of communities. It is important to examine person-to-person programs and radio education programs in terms of their public impact, and use the results to enhance the appropriateness both of the communications genres which are employed and the content which is transmitted.

11.2.4.2 Internal Efficiency

In general, the coherence and quality of radio programming and training of community workers could be enhanced by developing clear operational goals and specifying the ordered steps needed to achieve those goals while keeping the focus upon the evolution of the learner or client rather than on production of the instructional "package." The radio programs could be explicitly used to backstop PHC development. Much of the training of community workers suffers from the emphasis placed on technical or content-related competency and the resulting neglect of process or training skills. Training time explicitly alloted to fostering appropriate community-education capacities in community workers, as distinct from content mastery, is limited.

It would further be useful for program workers to reassess the relative importance of generating materials vis-a-vis generating interactions. The issue of lack of sufficient teaching materials for use in community worker training, and the use of what is available, should be assessed within the overall context of cultural interpretations of the meaning and proper use of such materials. It is possible that such assessment might suggest that emphasis be shifted toward improving the interactional process of training, as for example, explicitly discouraging the use of lecture and classroom work to the degree possible and encouraging the use of literary, argumentative, and on-the-job apprenticeship modes instead. Community workers will pass on material much as it was passed on to them; methods used in their training may have considerable impact on the style of their own later promotive work.

If, after such assessment, written and visual materials continue to seem useful, attention should be paid to assuring their effective utilization so that the work and resources put into their creation are justified.

11.2.4.3 Access and Equity

As PHC programs are extended throughout certain regions, it is possible to hope that equity differences between those regions and the relatively well-served refugee population will be minimized. However, a comparison of targeted staff-to-clientele ratios shows that, for example, refugee programs now have, on the average, approximately one

community worker per 230 population, while national programs project final ratios of some 2,800 clients per community worker. In a program built so much upon interaction-intensive health promotion, it is questionable whether community workers serving in the national program will be able to achieve the same level of impact as those in refugee camps. Further, the greater dispersion and mobility of PHCP clients will probably further dilute their impact.

In light of the above, it would appear logical to give sharply increased attention to the use of radio to supplement community education. Such an option, however, would not be greatly worthwhile unless (a) it could be determined that the programming offered was effective in delivering health messages to rural communities and (b) attention were given to the matter of assuring access to those large numbers of pastoral households which, while their men hear radios in towns and villages, do not have regular access to radio sets. Assured access of pastoral TBAs to radio sets could considerably boost the propagation of interesting and appropriate health information dissemination.

11.2.4.4 Administration and Supervision

Three considerations are of particular importance in relation to solidifying progress already made and increasing the effectiveness of health education: coordinating between PHCP, RHU, and HEU; staffing patterns and resources devoted specifically to health education; and maximizing the gain which can be achieved during short project periods.

Coordination. PHCP is at present most concerned with rapid program expansion; RHU has passed that phase and is in a period of program consolidation. Each therefore, is subject to different constraints and, equally, has access to complementary resources. RHU has, and PHCP could have, access to quantities of information about impact, health-related oral art resources, and the like, which HEU lacks; HEU has access to technical resources and freedom from managerial pressures, which the field programs do not enjoy. Efficiency, productivity, and appropriateness could all be increased considerably by systematizing cooperation and information sharing on a broad range of issues among the three bodies, taking into account that complementary functions could be developed in such a relationship.

Staffing and resources devoted to health education. A notable difference between RHU and PHCP is the existence in RHU of staff at the national level who are concerned solely with health education and regional staff explicitly assigned to training work. PHCP lacks such staff. Although community workers are intended to assume the role of the well-integrated worker/educator, the PHCP management structure may reinforce the tendency to deemphasize community education activities and the quality of training in favor of service delivery, referral, and transmission of health content.

Maximizing achievement during short project cycles. As earlier noted, much time and impact are often lost due to project dependence on

donor inputs in the areas of construction and transport. Given that PHCP programs aim to cover entire regions within the span of five years or less, any reduction in such delays would considerably enhance the effectiveness of implementation, by allowing for increasing building and reinforcement of community support and better supervision and on-the-job training of the front-line workers.

11.2.5 Conclusions

Four major conclusions derive from the above analysis. They relate to specific recommendations advanced in the final section of this chapter.

Conclusion 1. Assessing the impact of health education activities on the public, and subsequently modifying the content and form of those activities in light of assessment results, is of paramount importance.

Conclusion 2. The training of community health promoters can be strengthened by increasing emphasis on process- and apprenticeship-based methods and deemphasizing lecture-demonstration modes of presentation.

Conclusion 3. Radio programming should be further developed as a powerful auxiliary health education tool, with increased emphasis on its function as a channel of communication to rural rather than urban communities.

Conclusion 4. Administration and supervision of health education activities can be strengthened by greater coordination and

information sharing among the involved agencies, by stressing health education as a distinct concern at the highest level, and by attempting to maximize staff time spent in field implementation work.

11.3 RECOMMENDATIONS

The recommendations for health education are discussed in relation to the main conclusions outlined above, but in order of priority.

11.3.1 First Priority - Administration and Supervision: Recommendations 1 - 4.

The following four recommendations are intended to strengthen the capacity of the health education system to carry out the subsequent recommendations based on conclusions 1 - 3.

Recommendation 1: Increase Coordination and Information Sharing Among PHCP, RHU, and HEU by Creating a Coordinating Group Composed of National-level PHCP, RHU, and HEU Staff Members Most Directly Involved in Health Education. The group would collect data from the field and share experiences and lessons learned on a regular basis. The group would also clarify and operationalize health education objectives, establish a series of assessable intermediate strategies by which those objectives may be pursued, and serve as an advisory board to senior health officials on health education issues.

Attention should be paid to using the strengths of each agency in achieving the coordinating group's goals. RHU, whose programs are

better established, could take the lead in systematically beginning assessment work in coordination with HEU. Both RHU and PHCP could facilitate the gathering of subjective data from the field in reaction to radio programs. HEU could call on both for input of oral materials generated in the field programs, or for initial reactions to proposed new radio programs.

Recommendation 2: Hold Combined Biannual Workshops for Field Staff Working in Both of the PHC Systems as well as the HEU Staff. Such workshops in the past have offered opportunities to field staff from different individual programs to share experiences and insights with each other, as well as for national staff to gain direct and fresh input from the field. Usually, however, workshops have been held only for RHU staff, or only for PHCP staff. A sharing of experiences between the two programs would further enhance the coordination and interchange which should be fostered between the two PHC implementers. HEU, which has no field-based staff, would also benefit from the input.

Recommendation 3: Establish a New Staff Position in PHCP, that of National Health Education Coordinator. This person would be responsible for planning and coordinating the health education component of the work of CHWs and TBAs and, in coordination with the PHCP training officer, for upgrading the health education components of community worker training.

Recommendation 4: Maximize Staff Time Spent in Field Implementation Work, Particularly During Project Development. Within

individual donor constraints, maximize the use of local buildings, construction resources, and transport--both in planned implementation and also as supplements when donor-provided resources are not yet available or are temporarily out of service. This recommendation does not imply, for example in the case of transport, the renting of expensive private vehicles, but the use of the extensive systems of public transport. It is recognized that implementing such a recommendation, particularly in the case of expatriate staff, would call for conviction and firm enforcement from PHCP; however, it is felt that the savings in time and cost would justify the effort.

11.3.2 Second Priority - External Efficiency: Recommendations 5 - 6.

Recommendation 5: Assess and Modify Programs. Informal sampling of public opinion should become routine during all visits by PHC staff to the field. Simple surveys (e.g., which radio program was better and why) can be carried out informally on such visits with little additional effort. Simple systems for collecting and analyzing such subjective data from staff could be set up by the coordinating body, which should also, in the light of results, propose alternatives for testing and assess again. More thorough surveys could also be conducted at biannual workshops, using participants as sources. At these workshops, HEU staff could also pass on what they have learned about program assessment in the course of their work with UNICEF.

The thrust of this recommendation is less the development of highly professional research systems than it is the fostering of attention, on the part of PHC staff, to feedback from the human environment which they seek to influence, and the reduction of their concentration principally on the "packages" produced. It is also the creation of the habit of pooling results, however informally, and the habit of experimentation. If it were eventually felt that a more professional assessment process were called for, this early experience in informal assessment and experiment would help in seeking and making full use of donor assistance for a major assessment effort.

Recommendation 6: Study the Audience. Some PHC staff workers have done studies of traditional health attitudes and practices. Such work should be circulated as widely as possible by publication in the RHU Newsletter or by being made a workshop subject. Staff should be encouraged to investigate and discuss the attitudes, values, and desires of their clients with respect to health. The resulting insights should be fed into the coordinating group for use in selecting alternative genres or approaches for experimentation.

11.3.3 Third Priority - Internal Efficiency: Recommendations 7 - 9.

Recommendation 7: Clarify and Operationalize Goals of Training for Community Workers. Particular reference should be given to the distinction between content and skills acquisition.

Recommendation 8: Accord Greater Emphasis in Training to the Acquisition of Promotive Skills. Specific exercises aimed at practicing skills should be carried out, as for example, exercises in delivering the same content to different audiences, as well as the creation of songs and plays about it.

Recommendation 9: Compare Training Programs and Results. The wide variety of programs now operating under the auspices of RHU and PHCP evidence a spectrum of training styles, and should provide good contrastive data. Particular emphasis should be placed on examining the relationship of training methods used to subsequent performance by trainees in their health promotion work.

11.3.4 Fourth Priority: Access and Equity - Recommendation 10.

Recommendation 10: Develop Health Education Radio Programs Appropriate to Rural Audiences. Shift primary emphasis away from urban audiences and toward developing non-didactic radio programs with rurally appropriate content and genres such as argument (skits), songs (composed preferrably by talented CHWs and TBAs and selected because they have generated public response when used in individual programs), poetry, and other forms suggested by the results of research and experimentation. Since HEU does not itself have a rural staff base, oral materials should be collected through RHU and PHCP, which do. Once such programming is actually on the air, radios should be distributed to pastoral TBAs and female CHWs, whose feedback and contributions should be solicited by PHCP staff and transmitted to HEU

or the coordinating group. Some distinction between content which is appropriate for farming villages and that which is appropriate for pastoral groups should be made.

12.0 AGRICULTURE AND LIVESTOCK EDUCATION

This section briefly examines agriculture and livestock extension services and the role that extension agents currently play in providing services to farmers and herders. The analysis and recommendations focus on approaches for increasing the effectiveness of those services.

The National Extension Service (NES) within the Ministry of Agriculture (MOA) receives considerable donor assistance and is expanding rapidly with the goal of serving all farm families in the country. Although the emphasis is on information dissemination, the extension agents are instructing farmers without benefit of a tested package of training materials.

The National Range Agency (NRA) within the Ministry of Livestock, Forestry and Range also receives donor sponsorship for its two major outreach projects--the Central Rangelands Development Project (CRDP) and the Northern Rangelands Development Project (NRDP). These projects are more narrow in scope than the NES. CRDP utilizes a community development and information exchange approach rather than a straight information dissemination approach in dealing with clients.

The division of extension services between two ministries occasionally results in contradictory recommendations for farmers and herders, overlooking recommendations that could emphasize the integration of practices complementary to both. Formation of a national agricultural research strategy and establishment of an inter-ministerial

body to encourage and coordinate research information exchanges between the ministries could reduce contradictory policies. Modifications in extension agent training and utilization could also result in improved outreach practices.

12.1 STATUS

This discussion briefly summarizes the condition of livestock and agricultural production in the country as background to describing extension programs in each sector. The programs are then considered from the point of view of their external and internal efficiency, access and equity, and administration and supervision.

12.1.1 Condition of Agriculture

Rough estimates place Somalia's total number of sheep, goats, camels, and cattle in the neighborhood of thirty-five million, or about seven head per capita. The country is believed to have the largest camel herd of any country in the world. This mobile food-production system is well suited to exploiting an environment which is mostly semi-arid and subject to unpredictable distribution, timing, and quantity of rain, and of the resulting forage. Some 55-60 percent of the population subsist, and many prosper, on semi- or fully nomadic pastoral herding; an estimated additional 20 percent of the population combine livestock production, many of these also in a semi-pastoral way, with small farming.

The vigor of the livestock sector is such that the country not

only consumes per capita quantities of milk and meat which are large by international standards, but it also supplies the Arabian Peninsula with more than a third of its live-slaughtered meat and thereby generates between 30 and 90 percent of Somalia's export revenues. Livestock production represents perhaps 50 percent of the Gross Domestic Product.

To date, agriculture represents a far more modest enterprise, occupying slightly over one percent of the total land area and providing about eight percent each of GDP and export earnings. The country is not self-sufficient in any important subsistence crop, importing sorghum and maize, rice, edible oil, and sugar to make up the shortfall in these staples. Most farming is done in the area of comparatively high rainfall between the two permanent rivers, the Jubba and Shabeelle. This includes both irrigated farming, by large commercial and state farms as well as by smallholders along the rivers themselves, and rainfed farming, mostly by smallholders scattered throughout much of the interriverine area. In recent decades, smallholder dryland farming has also gained considerable importance in the North West. However, the daunting regularity with which drought tends to be followed by flooding prompted the Agricultural Extension and Farm Management Training Project to observe in a biannual report, "Agriculture continues to be a gamble in the hands of Nature."

Nevertheless, the government has decided that the livestock resource is reaching its productive limits, while agriculture is considered to be, in potential, highly expandable. On the one hand, it is considered that the range is already being seriously degraded by

overstocking in general and by imbalance in range use due to proliferating clusters of watering ponds. On the other hand, agriculture is considered capable both of intensification and extension in area. Studies have suggested that perhaps 90 percent of the country's arable land is yet to come under cultivation. Accordingly, agriculture is allotted twice the development investment available for livestock development during the 1982-86 period (29.1% and 14.9%, respectively, of total investment during the five-year development period).

12.1.2 Goals and Strategies

Two overall policy goals of the government are (a) increasing production and (b) protecting the environment and reversing the deterioration of cropland and rangelands. Both have direct implications in planning for the agricultural and livestock sectors.

Specific objectives in agriculture, cited in the Five Year Development Plan, 1982-1986, all relate to import reduction or building up exports. It is sought to decrease dependence on imports of sorghum, maize, rice, oilseed, cotton, sugar, fruit, and vegetables and to increase banana exports, which dropped dramatically over the last decade, and develop grapefruit exports. Other goals in agriculture include:

- raising standards of living and welfare of rural dwellers through increasing farm productivity and income, and
- generating employment opportunities for that part of the increase in rural population which is not absorbed in non-agricultural work.

This plan stresses for the first time the development of large state farms and lays priority upon increasing the yields and marketable surpluses of small private farmers. One strategy to this end is building extension services backed by well-organized technological support, including effective linkage with research.

In the livestock sector, major strategies are given priority as follows: first, range development (to ensure preservation of the range); second, animal health (to increase offtake or the number of animals available for slaughter, and to safeguard Somalia's access to the Gulf market); and third, development of modern animal production systems and support services. Two objectives are of particular relevance to education efforts, namely:

- introducing modern techniques of production and management so as to lessen dependence on the traditional nomadic system and thereby improve the quality of life of the rural people; and
- creating new pastoral organizations to accommodate modern management of rangeland and lead to progressive settlement of nomads.

One specific means proposed to these ends is stimulating and assisting the private sector to adopt modern methods by development of extension services.

12.1.3 Structure

This section describes the major institutions delivering extension through nonformal education for the farming and herding public.

12.1.3.1 Agriculture Extension

The rapidly expanding National Extension Service (NES) in the Ministry of Agriculture is built on a pyramidal structure with the village-based Field Extension Assistant (FEA) as its base. FEAs report to District Extension Officers (DEOs) who are supervised by Regional Extension Officers (REOs). Each REO is to be assisted in technical supervision and training by a Crop Production Specialist and a Plant Protection Officer. In 1983, 155 FEAs are working with some 85,000 farm families in ten regions of the country. As the system is planned to function, each FEA will be responsible for promulgating a package of "improved practices" and providing agricultural inputs to a "circle" of about 500 farm families through regular weekly visits to an average of forty-eight contact farmers who, in turn, would disseminate information to other nearby farmers.

12.1.3.2 Livestock Extension

Extension and nonformal education activities of the Ministry of Livestock, Forestry and Range are carried out by the National Range Agency (NRA), a semi-autonomous body under the direct supervision of the Vice Minister. Two project units are involved within the NRA--the Northern and the Central Rangelands Development Projects, based respectively in Burco (Togdheer) and Mogadishu. Within the Northern Rangelands Development Project (NRDP), there is a small nonformal education unit, but no extension service per se; the Central Rangelands Development Project (CRDP) has an extension group comprising a small

extension and training unit and a nonformal education unit to back up the outreach service.

12.1.4 Programs and Projects

Agricultural extension efforts have a long, if modest, history in Somalia, beginning in 1952 with the founding in Bay Region of the Bonka Center for Agricultural Testing and Extension and culminating in the 1970s with a small national extension service reaching to the district level in several regions. There had been, however, no livestock and range extension work until the current projects began.

This section examines the current work of the National Extension Service and the National Range Agency, noting the nature, location, and extent of current programs and international donor support in each case.

12.1.4.1 National Extension Service (NES)

Assistance in developing and expanding the NES comes through a multi-donor funded project--the Agriculture Extension and Farm Management Training Project. International donors contributing to this US $32.4 million project include the World Bank (IDA), the African Development Bank, USAID, and the European Economic Community. Donors are providing technical and training support, assistance in developing management systems and training institutions, and extensive material inputs. The project is expanding rapidly, and by the end of the project period (1986), plans call for 368 field agents based in villages and working with a total of about 195,000 farm families--essentially the

entire estimated small-farming population in the ten target regions. Some work has already begun in all of the ten regions. Efforts have concentrated most in the regions with large farming populations, namely Lower and Middle Shabeelle and Bay. Other target regions include Bakool, Gedo, Lower and Middle Jubba, Hiiraan, Togdheer, and North West.

12.1.4.2 National Range Agency (NRA)

NRA was founded in 1976 in the aftermath of the devastating drought of the mid-seventies when degradation of the nation's range became a major concern. In 1977, the Northern Rangelands Development Project (NRDP) was initiated by the NRA with donor support from the Kuwait Fund for Arab Economic Development. Initially funded for a five-year period, but recently extended for another five, NRDP operates in four of the northeast regions: Togdheer, Sanaag, Nugaal, and part of Bari. Its goals are to protect grazing land from further deterioration, to increase production through the introduction of modern range management practices, and to serve as a model for later range development programs in other pastoral areas. The functions of its nonformal education (NFE) unit at project headquarters in Burco (Togdheer) are communicating project objectives to livestock raisers and propagating new ideas of range and stock management. No true extension structure exists, but the Burco NFE staff makes occasional trips to areas served by the project and functions as a roving, though modest,

single extension arm principally in conjunction with, and in support of, other project work.

The Central Rangelands Development Project (CRDP) began work along similar lines in 1981 with assistance from World Bank (IDA), USAID, German Technical Assistance, and World Food Programme. Also a five-year project, CRDP works in three regions--Mudug, Galguduud and Hiiraan--concentrating its efforts to date in one "priority district" per region. This project has a more developed extension arm with regional and district extension officers, who are soon to be backstopped by assistant extension officers. The nonformal education unit, which concentrates on materials production and dissemination, provides support services to the extension work.

12.1.5 External Efficiency

External efficiency is discussed separately with regard to the two major coordinating institutions in the country--the National Extension Service and the National Range Agency.

12.1.5.1 National Extension Service

The field extension service for agriculture follows the "training and visit" model wherein the field extension agents (FEAs) live in villages and make a regular round of weekly visits to the 48 contact farmers who serve as liaison to each FEA's "circle" of 500 farm families. Circulating among their contact farmers on bicycles or

motorcycles, FEAs are responsible for promoting a package of "improved practices"--plowing with animal traction, row planting, use of improved varieties and pesticides, and the like--which are considered to be low-risk changes capable of producing substantial increases in output without creating major new drains on farmers' resources. Dissemination methods include creating small demonstration plots on contact farmers' land or in the village where they live, occasional "field days" and other gatherings, and distribution of agricultural inputs (seed, pesticides, etc.).

NES has its own biweekly radio program, Fidinta Beeraha ("Agricultural Extension"), which offers short talks by, or interviews with, experts and officials, as well as coverage of site visits by staff which may include interviews with FEAs and farmers. The project has produced some Somali-language films and also shows foreign films about small-farming practices in other countries; these latter are dubbed in Somali.

12.1.5.2 National Range Agency

The small extension service of the Central Rangelands Development Projects (CRDP) links to the public initially through some thirty "range elders"--older herder men who are considered to be community leaders--in the three districts where it now works. CRDP's extension goals are relatively modest. As a first step, it is desired simply to get herders to understand and accept project activities in their areas, such as livestock census, creating and experimenting with seasonal grazing

reserves, and studies of livestock movement patterns. As a second step, extension workers promote the formation of range and livestock associations (particularly "grazing associations"), which coincide roughly with the social groupings based on particular home-well sites. Five or six of these grazing associations have been formed so far in the three districts; with the formation of "management committees," contact can be solidified and greater participation on project work can be sought.

The nonformal education units of both rangelands projects produce print materials, including small project periodicals which are distributed to literate members of pastoral cooperatives (NRDP) and range/livestock associations (CRDP) with the intention that literate members will disseminate their contents to others. CRDP also disseminates the material through its extension staff at villages and waterpoints. Both also utilize films; in the case of CRDP, the English soundtracks have been substituted by Somali-language cassettes. CRDP plans to designate an extension officer to spend full time traveling and showing films. NRA also has a radio program which broadcasts mostly in the didactic mode, although CRDP is thinking of including more diverse inputs, such as interviews with the contact elders.

12.1.6 Internal Efficiency

The chief source of outreach workers entering the National Extension service and the National Range Agency are the agricultural technical schools and the Range Management Institute at Burco, also a

secondary school. Of the four agricultural secondary schools, three are new and begin graduating students this year. These three are located at Jowhar in the south, Ceerigaabo in the northeast, and Camuud (Boorame) in North West Region. The older program at Afgoi is being expanded and the curriculum improved under this project, and eventually it will have a range and livestock curriculum to supplement the capacity of the Burco school. Additional sources of extension staff in agriculture include a number of extension workers from the earlier extension program who were retrained by the project; the CRDP extension service includes a few university graduates, particularly from the Lafole College of Education.

Agriculture school programs are three years; the Burco school program is two years. In both cases, however, preparation in English, the language of instruction, takes up an initial semester (intensive) and subsequent course time as well.

When extension workers are taken into the range and agriculture services, they receive initial classroom training in the subject matter and methods of work and subsequent field experiences. The CRDP field experience consists of a six-week apprenticeship with extension staff on site. In the case of NES, initial training consists of a month of orientation and field visits in the region to which they have been assigned. Agricultural extension workers receive continual in-service training, with biweekly group meetings for discussion and technical input from district and regional staff members.

Despite the stress in national planning on the linkage of extension with research, the research component lags behind the growth

of the field extension component. A national research strategy is still being formulated.

12.1.7 Access and Equity

Access of farming populations to NES services is expanding rapidly and is targeted to become almost complete. Within this population, however, women may be somewhat slighted. Women engage in farming to varying degrees. In many cases they are called upon to provide supplementary labor when work is heavy; in others, women take major responsibility. Despite this involvement, women candidates are not actively encouraged to enter agricultural secondary schools or the field component of NES because it is widely felt that women are unlikely to accept or remain at rural postings. It is possible, given cultural constraints, that male FEAs give less attention to women clients than they do to men.

Equity on a regional basis in agricultural extension service may improve considerably once the graduates of the three new agricultural secondary schools begin entering the service. Previously, most graduates were from the Mogadishu area, and even if they were willing to serve in distant regions, they tended to be by background and temperament less suited than more local recruits would have been. However, the new schools are distributed about the country in such a way as to improve the access of people from the northern and eastern areas. This should enhance the quality of outreach service which will be available in those areas.

Access of pastoral populations to the services and outreach of the NRA depends on (a) their region, since the programs are not nationwide, and (b) other factors which have implications for equity. Within the regions covered by CRDP, the project has initially limited work to three districts for technical reasons. The program is intended to serve the entire area eventually. Now, however, it is concentrating almost exclusively on working with herder men despite the existence of two complementary and fairly distinct herding subsystems--one run by men and the other by women, who, in the vast majority of cases, are in charge of small stock. CRDP notes that because information about movements of small stock can be obtained from men, there is no need for direct outreach to women.

Another matter concerns the kinds of groups with which the NRA projects work. NRDP has concentrated much of its outreach and services on herder cooperatives, a group whose total membership in NRDP's four regions may encompass up to 1000 families. The cooperatives are somewhat atypical in the degree to which they have assumed ownership of specific land parcels, received earlier inputs from government and, in some cases, alienated their more purely herder neighbors. The "grazing association" approach of CRDP, in contrast, tends to involve more representative groups of herders. These groups tend to be larger in size and may be more likely to spread information effectively to more pastoralists than the cooperatives served by NDRP.

A final observation is made that farming populations are receiving a per capita concentration of inputs and attention which is appreciably

greater than that which pastoral populations receive. The disparity appears especially more significant when their per capita contributions to GDP or export earnings are compared.

12.1.8 Administration and Supervision

There is little coordination between the Ministry of Agriculture and the Ministry of Livestock, Forestry and Range. Nearly all small farmers also have livestock or coordinate production with relatives who do. There are many tie-ins between the two practices which would benefit from coordination between the two ministries. For example, MOA wants to introduce short-stalk sorghum, but sorghum stalks provide fodder for animals after harvest. The MOA's National Extension Service promotes animal traction as part of its package of improved practices, but that means animals must be held out of the herd, and given special feed just at the end of dry season when there is less feed and the animals are weakest.

Because a national research strategy for agriculture is still in development, implementation of education and training is not adequately tailored to an integrated base of knowledge and practice. As a consequence, field extension agents are expected to "instruct" farmers without benefit of a tested package of training materials to do so. One of the most valuable functions of FEAs in the absence of a tested package of training materials might be to gather information on farmers' needs, promoting an exchange which could assist the development of appropriate training materials.

In contrast, CRDP extension agents seem to be working in a manner which encourages an interchange of ideas between extension staff, range elders, and members of the grazing associations. Although their program is not expanding rapidly, the slower pace may result in a more effective process for educating herders.

12.2 ANALYSIS

This section examines various issues raised in view of the needs, plans, and constraints related to improving extension services in agriculture and livestock. It closes with a set of conclusions which form the basis for recommendations for this subsector.

12.2.1 Needs

There are three major needs in extension services. First, dissemination activities need to be linked to research and information gathering on the needs of farmers and herders. Second, the two ministries involved in extension services, the Ministry of Agriculture and the Ministry of Livestock, Forestry and Range, need to coordinate their efforts so that range and farming activities are complementary whenever possible. Third, when appropriate education packages are available, extension services need to be expanded to populations not currently served. Particular attention should be given to recruiting and serving women farmers and herders.

12.2.2 Plans

Two proposals were generated in 1982 by NRDP, one for development

of an extension service similar to that of the CRDP, and a second for development of a paraprofessional network of "livestock cooperative ranch assistants" to serve as an outreach liaison to the livestock cooperatives.

12.2.3 Constraints

As previously indicated, inadequate coordination between the two ministries involved in extension services sometimes results in conflicting practices. The general lack of mid-level trainers is another constraint in developing effective extension services. Further, it is not feasible to stop projects already on course while groundwork is laid for more effective extension education programs.

12.2.4 Issues

The following examination of issues focuses upon external efficiency, internal efficiency, access and equity, and administration and supervision.

12.2.4.1 External Efficiency

The major issues of external efficiency concern the appropriateness and adequacy of the package of changes which is being introduced, and the extension agent's role in development. The first of these issues is whether the changes being introduced are based on valid assumptions about the nation's agriculture and livestock development. The informational packages or message sets assume, for example, that

pastoral production is overextended or near its limits, and that the national range is in decline. They also assume that much unexploited land could be suitable for cultivation, and that intensification of cropping on land currently under cultivation is feasible and environmentally sound. Such assumptions are being questioned and merit careful research and further refinement. Because specific practices advocated by trainers and extension workers are rarely risk-free or without opportunity costs, it is important that these be tested adequately in the environment of the producers before being promulgated.

The second issue concerns the roles of the field extension agents and range extension workers and how these can become more appropriate. Most extension workers are not selected for the agricultural and range technical schools, nor subsequently for their jobs, primarily on the basis of agricultural or pastoral background, or even the possession of appropriate personal communication skills. In practice, the roles of the extension workers tend to emphasize the one-way transmission of information, inputs, and decisions.

Besides providing trainees with content knowledge about agriculture and livestock, the technical schools should also prepare their graduates to engage rural people in inter-active community processes for development. However, some schools tend to orient students outward, toward participation in advanced study overseas and eventual work in central agencies and organizations, rather than toward the clients which many will serve later. Given the backgrounds of many of the extension agents and general knowledge gaps about agriculture and livestock, it perhaps would be appropriate if their roles could be modified to stress facilitation of community processes and information

gathering at the grass-roots level. It may be desirable for such an orientation to take precedence, for an interim period, over information acquisition and dissemination per se.

12.2.4.2 Internal Efficiency

Major issues in this area include (1) the impact of foreign language instruction upon the preparation of outreach agents to work with rural people, and (2) the coordination and effectiveness of supporting media efforts.

The efficiency of teaching and learning in the agricultural and range secondary schools is diminished seriously by the need to engage in technical studies in a new medium of instruction. The general rationale for providing technical instruction in English rather than Somali is that much of the professional literature is in English. Further, expatriate teachers who are brought into donor-supported programs, such as the agriculture and livestock outreach programs, are English speakers. However, English language transmission during schooling is inefficient, and outreach workers will probably not have regular access on the job to professional literature. They will be interacting primarily with Somali farmers and herders. It seems that the rationale should perhaps be reexamined.

Internal efficiency also suffers from a lack of coordination between outreach work and radio programming. Proper coordination could be used to create programming which would enhance both the credibility and the outreach of extension staff. Semi-technical information on farming, livestock breeding, range conservation, and project activities

is broadcast on two radio programs--one from NES and one from NRA. No surveys have been done to assess the impact of didactic programs on either farming or pastoral audiences. A survey by the NES of farmers in areas where it is now working indicated that only 15 percent of respondents received agricultural information through radio. It would be useful to know whether the bottleneck is access to radio sets in rural farming areas, or timing of the programs, or program content and style. And, while it seems clear that films are much enjoyed by rural audiences, experience suggests that visual instruction of the sort purveyed in how-to films may not be fully effective in terms of the desired outcomes. In addition, examination of how far and how effectively the content of printed matter is disseminated in both rural and urban areas could be beneficial to all future development work, not just in the agriculture and livestock sectors. Comparative studies of all these media applications will help to determine their relative value and cost effectiveness.

12.2.4.3 Access and Equity

Extension programs in agriculture and livestock concentrate on men more than women; on agricultural populations more than herders; and, in one case, on atypical groups within the herder population. However, since some aspects of these programs have not been fully tested, the issue of equity is of low relative priority in the short term.

12.2.4.4 Administration and Supervision

The two areas of concern in administration and supervision deal with the division of agriculture and livestock between two ministries and the rapid growth of extension services without the support of materials that have been adequately researched.

Having agriculture and livestock work divided between two separate ministries and therefore between separate projects means that many research activities reflect the dichotomy. Little attention is paid to the extensive and intimate relationship which farming has, in almost every instance, with some form of herding. As a result, specific recommendations made to farmers may ignore production efficiencies which farmers do or could achieve in mixed production. At times, recommended cultivation practices may actually conflict with useful herding practices and thus be resisted.

Since most small farmers herd, but a major proportion of herders do not farm, the Ministry of Agriculture should take the lead in developing some mechanism for assuring that research pays sufficient attention to mixed agro-pastoral production systems.

The rapid growth of extension services without sufficient research-based materials for those programs presents an administrative dilemma. The desire to meet the needs of the people propels administrators to move ahead with massive programs implemented in short periods. Management of such programs is difficult under any circumstances and even more so when tested education materials are not available for use by outreach workers. A "pilot district" approach with

intense supervised activity within a limited scope might be worth comparing with the more massive approach. Future project planning could benefit from the results of the pilot project.

12.2.5 Conclusions

Four conclusions result from the analysis of constraints and issues and form the basis for the recommendations closing this section.

Conclusion 1. Extension programs are being implemented so rapidly that projects may lack a proper basis.

Conclusion 2. External efficiency can be enhanced by having outreach workers do more information gathering or basic research instead of simply disseminating information. The results can be combined with those of more formal research programs when this component is in place. Research should focus on both content (practices, their value or harmfulness, and the overall questions such as degradation of the range and the results of intensified cultivation in the long term) and the effectiveness of different communicative modes (print, film, radio, talks by experts, face-to-face advice, etc.).

Conclusion 3. Administration and supervision of agriculture and livestock can be strengthened by greater coordination and information sharing between the two concerned ministries, and by experimenting with the "pilot district" or even a "pilot settlement" approach to project work.

Conclusion 4. Internal efficiency could be considerably increased by bringing language policy in the technical secondary schools

into coherence with the prior preparation and subsequent work of the students.

12.3 RECOMMENDATIONS

Following are five recommendations for agriculture and livestock outreach education.

12.3.1 First Priority - External Efficiency: Recommendations 1-2.

Recommendation 1: Develop and Apply the National Agriculture Research Strategy Plan with All Deliberate Speed. Such a plan has long been discussed but not formulated.

Recommendation 2: Reshape the Role of Extension Agents to Include More Information Gathering. Pre- and in-service training programs for extension agents should deemphasize the urgency of achieving acceptance of the current package and encourage the agents to gather information from farmers or herders.

12.3.2 Second Priority - Administration and Supervision: Recommendations 3-4.

Recommendation 3: Establish an Inter-ministeral Body to Encourage and Coordinate Research Information Exchange. The extension agencies of the Ministry of Agriculture and Ministry of Livestock, Forestry and Range together with the National Research Council need to cooperate in devising outreach strategies complementary to both farming

and herding activities. A regular flow of research information should be exchanged between all levels of the two outreach services.

Recommendation 4: Experiment Seriously With the Pilot Approach. To assess the effects of practices promoted by extension workers, pilot districts or settlements should be considered.

12.3.3 Third Priority - Internal Efficiency:

Recommendation 5.

Recommendation 5: Reduce the Dependence on English for Training of Technical School Students. A language policy needs to be established to appropriately link the language background of students and their practical language needs for subsequent outreach work.

13.0 ADULT BASIC EDUCATION

This section examines adult basic education, including women's education, nomadic education, and other forms of nonformal education not covered in sections 8.0, Vocational and Technical Education; 11.0, Health Education; and 12.0, Agriculture and Livestock Education.

Since 1969, government has placed a particular priority on adult education. This resulted in the urban literacy campaign of 1973-74 and in the rural development campaign of 1974-75, which also sought to drastically reduce illiteracy. The second campaign included thousands of student/teachers and civil servants together with veterinary and health teams dispersed to remote parts of the country. In 1974, over 25,000 students from Grade Six in primary school through the third year of secondary school were sent to introduce the new Somali script to the nomads and subsistence agriculturalists. Of the 1.25 million who were initially enrolled in the campaign, 753,802 passed the literacy test. In 1977, however, a MOE team found that about 50 percent of those who became literate during the 1974-75 campaign had not been able to maintain their literacy because of inadequate follow-up supports.

So, despite the two literacy campaigns and the large increases in absolute numbers of students enrolled in schools, well over half of the population remains without either functional literacy or access to formal education. In addition, many students leave formal primary education before completing the four to six grades necessary to acquire

and maintain literacy. As pointed out in the assessment of Primary Education, nearly half of the children entering primary school leave before completing four grades. For these reasons, and to help maintain some of the achievements of the two literacy campaigns, nonformal education remains an important potential means through which to reach adults who have not shared in the benefits of formal schooling or who wish to upgrade certain skills.

13.1 STATUS

This review of the status of adult basic education identifies government's goals and strategies for the subsector and describes its structure and programs. Observations are then made with respect to efficiencies, outreach, and management of existing efforts to provide basic education for adults.

13.1.1 Condition of Adult Education

The Ministry of Education has an active Non-Formal Education Department divided into four services, three of which focus on adult training and education:

- Women's Education Service
- National Adult Education and Training Center, and
- Adult Education Service.

The fourth service, Youth and Sports, plans sports programs and summer camps for youth and will not be considered here.

The number of women participating in the Women's Education Service programs totalled 3,534 in 1980-81. The programs were conducted that year in a total of 62 Family Life Centers. In addition, 16,675 rural adults and nomads engaged in other adult education courses, including 7,855 women.

In addition to the Ministry of Education's efforts in adult basic education and training, the Ministry of Local Government and Rural Development also has a Permanent Literacy Committee to coordinate post literacy efforts among the Ministeries of Education, Health, Agriculture, and Livestock. The activities of the Permanent Literacy Committee have been extremely limited, and as a result, no post-literacy materials have been produced and distributed.

The nonformal education and training by non-governmental agencies is directed, almost exclusively, toward refugees and administered through the U.N. High Commissioner for Refugees. Some 33 private Voluntary Organizations are involved in assistance to the nation's refugees. As the need for emergency relief, brought on by the recent droughts, has subsided, attention has turned increasingly to education and training programs. These include training in such areas as tree planting and growth, farming, irrigation, income generation, appropriate technology (e.g., building mud stoves), technical surveying, and medical laboratory technology. Various ministries help coordinate these efforts, including the Ministries of Local Government and Rural Development, Agriculture, Livestock, Water Resources, Health, and Forestry and Range.

13.1.2 Goals and Strategies

The Five Year Development Plan, 1982-1986, specifies that "the extension of education to all segments of the society and to all areas is considered vital not only to improve the general welfare of people but also to help reduce disparities in income between individuals and between regions." Included is the objective "to expand adult education programmes and improve course content so as to make non-formal education responsive to the needs of the participants, especially in terms of improving their earning capability."

The Non-Formal Education Department of the Ministry of Education was established to serve the out-of-school population, particularly adult illiterates, women, rural groups, and nomads. The Women's Education Service of the department seeks to:

1) form groups to stimulate rural development activities emphasizing women's participation;

2) transmit information and new technologies to women within the different districts; and

3) provide rural women and their families with the opportunity to acquire skills in areas related to food and nutrition, health, child development, home and resource management, textiles, handicrafts, and literacy.

The objectives of the Adult Education Service are to:

1) maintain and consolidate the existing adult education activities; and

2) design activities that answer the pressing needs of their target population, based on realistic analysis of the living and learning conditions of adult populations, specifically rural and nomad.

The Training and Production Center is charged with producing educational and training materials to be used in the different adult education programs.

13.1.3 Structure

The discussion of structure briefly describes the Women's Education Service and the National Adult Education and Training Center.

13.1.3.1 Women's Education Service

The Women's Education Service (WES) was launched in 1974. It is managed by a director with regional representatives who supervise the 66 Family Life Centers that now operate in the various districts. The WES also runs a teacher training center that prepares teachers for field assignment. The center expanded its activities in 1982 to include training for teachers in nutrition education.

13.1.3.2 National Adult Education and Training Center

The National Adult Education and Training Center is also operated by a central staff with regional representatives. The Center has responsibility for six Nomadic Education Centers, five of which are operational, and seven Regional Adult Education and Training Centers which are under construction as part of the Third Education Project, assisted by the World Bank. There is no institution to prepare teachers for the programs of the Adult Education Service.

13.1.4 Programs

The overview to follow describes the programs of the Women's Education Service at both its teachers' training center and the Family Life Centers. The section also describes the programs of the Adult Education and Training Center in Nomadic Education and Regional Adult Education. Finally, the section discusses donor assistance to the various programs of nonformal education and training.

13.1.4.1 Women's Education Service

The Women's Education Service operates two types of programs: one program for the teacher training center and another for the 66 Family Life Centers. To train teachers for the Family Life Centers, the WES provides three kinds of courses: pre-service training, in-service training, and special courses.

Pre-service training prepares teachers for field assignment. The Family Life Teacher Training lasts one academic year. It is paralleled by a training program in nutrition education requiring two academic years. Admission is offered to women with at least an intermediate education who have been selected by their communities to become teachers of Family Life or nutrition education. A certificate is awarded to those teachers who successfully complete the entire course, including a supervised field practicum at a Family Life Center. To date, 600 teachers have graduated from the WES teachers' training center. Not all are teachers at Family Life Centers, however. Approximately 150

are reported to have other jobs, such as teaching at elementary schools, or to have left a Family Life Center in a given district to follow a husband. Another 35 of those who graduated were assigned to the various refugee camps. About 20 of those trained are now teaching at the WES teachers' training center. The remaining graduates, about 400, are in charge of the teaching that takes place at the 66 Family Life Centers, currently attended by approximately 4,000 women. While this suggests an oversupply of teachers, the WES feels the need to continue training teachers for field assignments to compensate for the continuous loss of personnel and for maternity leaves.

The Family Life Teacher Training includes the following subject areas:

Food and Nutrition
Traditional food habits; Somalia's food situation; food aid; foods and their value in the Somali diet; planning for adequate family diet; food preparation and sanitation; food processing, preserving and storage; spoilage and pest control.

Health and Sanitation
Personal and family hygiene; Somalia's common health problems; preventive medicine and health care; maternal and child health; housing and sanitation; water supply and storage; government health services.

Child Development
Pregnancy and post-natal care; delivery; child growth; infant and child nutrition; play; common accidents and their prevention; school; a good home for children; day-care facilities; child illnesses.

Home and Resource Management
Household management; division of labor within the household; identifying and using local resources; problem solving and decision making; budgeting; production and marketing of home and farm products; credit and co-operatives.

Textiles and Clothing
Clothing practices in Somalia; clothing needs of the family; use and care of sewing equipment; selection of fabric and style; sewing and embroidery techniques; pattern drafting; maintenance and storing of clothing; mending and clothing renovation.

Handcrafts
Traditional crafts in Somalia, their household use; local materials used for crafts; seasonal/regional availability and cost; basic handcraft techniques; traditional and "new" handcrafts as a source of income; need for technical skills; resources; quality products; markets and transportation.

Literacy and Numeracy
The improvement of individual written and verbal language skills; teaching functional literacy and numeracy skills.

Community Development
Rural population characteristics in Somalia; the family life teacher and her role in the community; group organization and leadership; identifying and using local skills; starting a family life program in the rural community.

Communication Skills/Adult Teaching Methods
Characteristics of adult learners; application of various teaching methods including demonstrations, group discussions, role playing, stories and songs; preparation and use of simple visual aids.

The two-year nutrition course includes the following subjects:

Basic Science of Food and Nutrition
Basic foods and nutrients; digestion, absorption and elimination.

Special Nutrition Needs of the Family
Assessing nutritional status; pregnant and lactating mothers; infants; pre-school children and adolescents; adults; the aged.

Child Care and Development
Normal growth and development; importance of play and exercise; interchange with different age groups; common accidents and their prevention; common child illnesses.

Food Preparation, Planning and Cooking
Food habits and beliefs; planning an adequate diet; the eating area; cooking stoves, equipment and utensils; cooking methods; food processing and preparation; food budgeting.

Sanitation, Hygiene and Nutrition
Personal hygiene and cleanliness; safe water supply; clean house and surroundings; clean food storage; waste disposal and latrines.

Disease and Nutrition
Prevalent infections; preventive medicine and health care; immunization and other controls; government health services.

Food Production and Preservation
Fruit and vegetable resources; kitchen gardens; storage and pest control; preservation methods; agriculture and small-animal raising for food and cash crops.

Improving the Status of Women
Family health planning; women's role in the Somali family; participation of women in community and political activities.

Teaching Methods
Teaching and learning processes; adult learners; application of various teaching methods; preparation and use of simple visual aids.

First Aid
Immediate care of injured or ill persons; preventative measures for controlling accidents in the home.

English Language
English as a second language; development of verbal and written skills.

In-service courses of two-or four-week duration also are provided to reinforce the pre-service training. Other special courses include training for headmistresses and regional supervisors; professional training for instructors and staff from the Family Life Teacher Training Center; training for nomadic women from the settlement schemes and refugee camps; and specific skill training for family life teachers in improved technologies, food preservation, agriculture, and handcrafts.

For adult women who attend the Family Life Centers, a four-year program is offered. During the first two years the women are offered courses in home economics, nutrition, cooking, child care, home management, numeracy, literacy, handcrafts, and sewing. The last two

years of training are considered skill oriented, and the women are offered courses in sewing, tailoring, and handcrafts. An estimated 4,000 women attended the 66 Family Life Centers in 1982-83. WES observes that more than half of the women in the program participate the first year and sometimes part of the second, then leave without completing the four-year program. The reasons for this attrition have to be identified, including the possibility that the program content may not be answering the perceived needs of the women.

13.1.4.2 National Adult Education and Training Center (NAETC)

The Ministry of Education has charged the National Adult Education and Training Center with responsibility for nonformal education activities for two target groups: the nomadic population and rural adults. The Center is in charge of drafting syllabi, producing teaching materials, preparing lectures, and conducting short-and long-term courses for nomads and other adults in the various regions.

A proposal for a "Nomadic Education Program" was drafted in 1972, when Somali officials discussed the idea with UNESCO representatives. It took nearly one decade for the program to begin the first training courses. Government faced several problems which contributed to this delay. The greatest of these concerned educational outreach and the challenges and costs inherent in trying to serve approximately 2,500,000 nomads without access to the formal education system. The designing of a decentralized, mobile nonformal education program was seriously hindered by a lack of funds and qualified manpower.

Government at first decided to build nine Nomadic Education Centers in different regions. When the drought of 1974-1975 caused the influx of 250,000 nomads into relief camps, an emergency program was mounted, and the three Nomadic Education Centers that had been constructed were turned into Community Education and Training Centers in the agricultural settlement areas of Kurtunwaarey, Sablaale, and Dujuma. These three centers now cater to former nomads, a settled population that is now agriculturalist rather than pastoralist.

In 1979, government again embarked on a program for nomads, beginning with the construction of six Nomadic Education Centers. The thought was that some members of the nomadic family could be delegated to participate in a residential course where room and board are provided. While an education program for nomads might optimally be as mobile as the nomads themselves, this type of program seemed beyond the organizational, administrative, and fiscal means then available to mount such a program. The Aboorey Nomadic Education Center opened in December 1980, the Buran Center in November 1981, and the Bocaume Center in December 1982. Construction of the Guri Ceel Center was completed in 1983. The center in Wadamago remains under construction, and a sixth center near the border is not usable because of the present conflict. Each center provides dormitories, kitchen, one dining/assembly hall, classrooms, offices, stores, showers/toilets, and staff houses.

Short-term courses, varying from four to eight weeks in length, are offered or planned on such topics as: nutrition, hygiene and basic

sanitation, diseases, the human body, pregnancy, animal husbandry, animal biology, animal products, livestock diseases, and the preparation of animal byproducts, (e.g., hides and skins). One center is planning to establish a "Range Management Demonstration Plot" with a nursery, test fields for fodder grasses, and experiments in water catchment. By mid-1983, seven training courses had been offered in the Nomadic Education Centers. A total of 840 nomads have participated, giving an average of 120 nomads per course.

The National Adult Education and Training Center (NAETC) in collaboration with the Ministry of Local Government and Rural Development, and through assistance from the World Bank, is also establishing seven regional Adult Education and Training Centers. These Centers--located in Galcayo, Gondo, Burao, Kismayo, Jowhar, Qoryooley, and Baydoha--will offer adult basic education courses of three- to six-months duration. The NAETCs will also serve as regional support and resource centers to provide the necessary organization, supervision, and materials distribution for adult learning groups. The curricula and some printed materials for these groups have been developed by the NAETC.

The possibility of an educational radio program for adults is being explored by the NAETC, based on its earlier experience with the regional, pilot radio project of 1978-79, designed to broadcast basic education topics. This "Radio Education Program" was initially broadcast to the lower Shabeli region and scheduled to last for six months. Due to audience demand, the project was extended to fourteen

months. A total of 76 radio sets were distributed to study groups involving 3,435 adults. Each group of villagers recruited one or two group leaders to lead them in discussion following the educational broadcasts. The project, though successful in engaging adult learners, was not extended beyond the fourteen months due to administrative, supervisory, and technical problems.

13.1.4.3 Donor Assistance

The Women's Education Service receives assistance from local government, UNICEF, and FAO. Local governments assume the responsibilities and costs of building and managing the Family Life Centers. UNICEF is providing financial, material, and technical support to WES and has been one of its principal sponsors since the initiation of the WES in 1974. Additional assistance is being provided for the training of refugee women in family life education. Approximately US $500,000 has been committed to date. The FAO is also assisting the WES and the Faculty of Agriculture at the National University through the project "Integration of Women in Agricultural and Rural Development." The three-year project (through October 1983) is providing technical assistance for the training of staff, particularly those in supervisory and senior positions. Project assistance is also provided for the development of curricula and educational materials, rural studies, and a field demonstration area for use by teachers and students of the WES and the Faculty of Agriculture. The FAO project is funded by the Norwegian

Government (US $344,200) and the United Nations Voluntary Fund (US $191,000).

There are a few other women's training programs that donors have helped launch and continue supporting which are not part of the WES activities. Technical assistance from the United Nations Economic Commission for Africa and financial aid from the United Nations Voluntary Fund (US $190,000) are being provided to the Somali Women's Democratic Organization to establish a training and cooperative unit for cottage industries. At the first training center, started in Mogadishu in 1981, women receive training in tie-dying, handprinting, silk-screening, tailoring, and cooperative management.

Another such donor-supported program is the income-generating project for refugee women. Technical assistance is provided by the ILO through the UNHCR. The project is funded by the Dutch Government, with US $296,000 allocated to teach refugee women skills that can assist them in earning more income. The income-earning activities to date have been in soap making, mat making, and poultry raising.

The National Adult Education and Training Center receives assistance from local government and the Federal Republic of Germany. The Ministry of Local Government and Rural Development assumes part of the responsibility for establishing the Regional Adult Education and Training Centers. The World Bank, through the Third Education Project, assisted in the construction of the five Nomadic Education Centers and is assisting in the construction of the seven Regional Adult Education and Training Centers. The completion rates of the RAETCs varied from 20

to 70 percent as of April 1983, and furnishings and equipment are to be installed in late 1983. The German Educational Assistance has been the principal donor to the NEATC, providing financial, material, and technical support to the Nomadic Education Programs, in particular. As part of this assistance, the NAETC has been equipped with printing and production facilities and provided a permanent consultant and several short-term consultants to help NAETC staff design courses, draft syllabi, and produce teaching materials. Approximately US $2.8 million has been designated by the FRG to the NAETC.

13.1.5 External Efficiency

The relationship of the programs of the Women's Education Service and the Adult Education Service to economic and social opportunities and benefits is not fully known because no quantitative or qualitative evaluation has been made of the programs. Because these programs may serve as principal means through which women, nomads, and other adults bypassed by formal education can upgrade the quality of their lives and those of their families, more information is needed on their impact.

An evaluation of nomadic education is to be conducted as part of the World Bank-assisted Fourth Education Project. Draft terms of reference have been prepared and the study is slated for early 1984.

13.1.6 Internal Efficiency

Two sets of factors merit examination concerning internal efficiency: trainer quality and retention, and participant learning and

retention. In terms of the first, even though the WES has established a teacher training center and has designed a fairly diversified curriculum, the quality of the teaching and the courses suffers from a shortage of qualified trainers and curriculum development experts.

The problem of the trainers' quality is even more salient with regard to the Nomadic Education Program. The NAETC does not have a teacher training center; the Ministry of Education recruits trainers for the NAETC from among those who were prepared to be primary school teachers. In addition, teachers assigned to the Nomadic Education Centers frequently are products of urban conditions and without any preparation for nonformal education or work with pastoral people.

The retention of nonformal education trainers has also been a problem. Approximately 600 field personnel have been trained by the WES, and others have been trained on the job or abroad by the NAETC. Nevertheless, there is a continuous loss of trainers to other sectors, or to work outside Somalia.

This attrition, together with the frequent shifting of field personnel within regions and within various government postings (not necessarily related to rural extension or adult education), particularly among women field workers, makes it difficult to estimate the total number of field personnel working in the adult education centers. Remote adult education centers suffer the most. In addition, many teachers who have been selected by their communities to go to Mogadishu for training at the WES teacher training center do not return to their

own districts to teach at the Family Life Centers. Some outlying centers are closed for this reason.

Regarding participant learning, Grade III examination results in adult education for 1980-81, by region and gender, indicate a total pass rate of 68 percent for the 2,157 participants taking the exam. There was little differentiation between males and females. Four regional adult education programs had pass rates of less than 50 percent, and these need to be studied to discern particular problems.

Also of concern is the attrition of women participants, especially the older ones as a result of younger women joining the Family Life Centers. The younger women tend to have received some formal education, as contrasted with the older ones who have not. Because of their age and exposure to some schooling, however little, the younger women generally show greater aptitude for learning than does the original target group of older and less literate women. This disparity among the skill entry level of those who join the centers appears linked to the problem of attrition.

13.1.7 Access and Equity

In 1981-82, 11,389 women and 8,820 men reportedly enrolled in adult education programs. The higher rate of female participation parallels the greater rate of illiteracy among women, especially in rural areas. The current level of national effort in adult education is less than adequate to serve the basic education needs of most of the country's adults.

The five operating nomadic education centers, which since December 1980 have offered a combined total of seven courses for 840 participants, currently reach an insignificant number of the nomadic population comprising about two and one-half million Somalis. To better plan for the basic education of nomads, more first must be known about the learning that nomads have already acquired through informal means, the further knowledge and skills that they require in their highly successful livestock trade and in participating more fully in national life, and the best means by which to develop an appropriate education program and delivery system.

13.1.8 Administration and Supervision

Even though the few individuals in charge of the nonformal education sector at the central administrative level are highly qualified, there is a serious hortage of qualified administrators and managers to monitor and supervise the different services of the regional and local centers. This is true for the adult regional centers as well as the Family Life Centers and the Nomad Education Centers.

13.1.9 Costs and Financing

The allocation for Non-Formal Education in government's education budget of 1982 amounted to So.Sh. 1.0 million of a total So.Sh. 281 million. This level of financing appears much less than adequate to extend basic education to all segments and areas of the society.

13.2 ANALYSIS

The analysis of adult basic education considers the needs and plans of the nonformal education subsector and examines the constraints with which government must deal in pursuing its objectives. It then identifies several critical issues and conclusions which emerge from these.

13.2.1 Needs

To develop an effective nonformal adult education program, government needs to back its goals for the subsector with a more adequate budget. The 0.36 percent of the 1982 education budget allocated to the nonformal education department is insufficient to make the education programs for women, nomads, and other adults significant and effective. When a larger financial commitment can be made, priority should be given to retraining a critical number of trainers and curriculum developers to enable them to redesign the programs and tailor them to the specific needs of the various target populations.

13.2.2 Constraints

The major constraints to expanding adult basic education are present levels of human, logistical, and financial resources directed to the subsector.

13.2.3 Issues

Four sets of issues emerge from the assessment of current plans and strategies for adult basic education in view of existing constraints.

13.2.3.1 External Efficiency

Concerning the external efficiency of basic education programs for adults, three issues emerge:

- the fit of the programs with the needs and wishes of the target groups,
- the involvement of the target populations in program development, and
- validation of program effectiveness and fit.

Regarding program fit, the question needs to be raised whether the present programs are sufficiently functional in view of immediate needs. Programs for women tend to focus on home economics, health, and nutrition, rather than on economic productivity as a means for achieving family well-being. Literacy tends to be taught for its own sake rather than for its practical value in carrying out the necessary reading, writing, and numeracy tasks of adult life. The adult education courses in particular need to better address the Five Year Plan objective that they be "responsive to the needs of the participants, especially in terms of improving their learning capability."

In order to address the problem of program appropriateness or fit, especially regarding the improvement of earning capability, systematic inquiry must be made into several related areas; e.g., traditional

income-generation strategies and potential new opportunities for women, nomads, and rural adults; dynamics of formal and informal economic exchange networks; and household economics and potential use of the extended family in income generation.

A study of the current situation and role of rural women in Somalia, carried out in March 1981 by FAO, revealed significant information gaps in such areas as the nature of women's involvement in food processing and marketing, and their access to production services and public amenities. To further understand rural women's education needs, information must also be gathered on the percentage of females who head households, access of women farmers to state-owned land, the division of labor in agriculture and livestock raising, access to available cooperative schemes and credit facilities, and extent of marketing skills and food-processing skills.

What is particularly important to ensure program appropriateness for nomads is an understanding of what nomads already learn through informal means, what more they need to know for income enhancement and improvement in their quality of life, and the strategies most conducive to that further education and training. Concerning the involvement of the target populations in the development of the programs, there are few indications that the needs of the intended beneficiaries are being deliberately studied and given priorities before specific adult education programs are designed. Moreover, there needs to be a better mechanism for the continual review and adjustment of programs to new needs that may emerge.

The limited information available on women, nomads, and rural adults makes it difficult not only to formulate new programs focusing on the very specific needs of these populations, but also to monitor and evaluate the impact of the ongoing programs on social and economic change. Until there is careful development of easy-to-measure benchmark criteria with which to help validate the attainment of program objectives, argument cannot be well made for putting a greater share of the education budget into programs for adult basic education.

13.2.3.2 Internal Efficiency

The pertinent issues here concern staff development, curriculum and materials development, and measurement and assessment of progress.

Key to the efficient implementation of the various nonformal education programs is the preparation of a sufficient number of educators trained in adult pedagogy. At present there is no institution for training adult education personnel. It is not unusual for intermediate school leavers to be employed as trainers at the adult education centers. Also, even though the Women's Education Service has its own teacher training center, the training that takes place there remains limited in content. Particularly valuable for staff training would be greater emphasis on the production, marketing, and accounting skills needed to enable the target groups to generate income.

Once the appropriate course content can be determined from more systematic assessment of target population needs, curricula will need to be developed or modified by experienced designers. The curricula should

be formulated around easy-to-measure objectives with instructional guides and validation criteria. The curricula then will need to be field tested and revised before being mass produced. The development of additional instructional materials geared to particular interests of diverse learning groups is a logical step following the revision of curricula.

Highly important is the provision of mechanisms for the measurement and assessment of progress, by both the instructor/trainers and the adult learners. Although the adult regional centers test students to determine satisfactory completion of Grade Three, additional benchmarks must be developed to assess the impact and effectiveness of all programs for adult education. The development of means to determine program effectiveness in better equipping adults to economically and socially function in their societies and to measure learner progress is one of the most pressing challenges currently facing the nonformal education programs.

13.2.3.3 Access and Equity

Because 60 percent of the population is nomadic and semi-nomadic, very few have been able to take advantage of the public schooling system. For this reason, the issue of access to some form of basic public education is critical. While the construction of the seven regional adult education and training centers will help extend outreach to a greater number of non-migratory adults, the particular education needs of nomads have yet to be adequately addressed. As earlier noted,

only 840 nomads have participated in the various courses offered at the five operating centers. A radical change in strategy will be needed to provide educational access to this population.

13.2.3.4 Administration and Supervision

Key to the successful implementation of women's and nomads' education is improvement of the present organizational infrastructure and a strengthening of the administrative and managerial capacity of the central and regional supervisory staff at WES and the NAETC. Equally important is the coordination among the several ministries involved. With regard to the Nomad Education Program, coordinating the contributions and support of the Ministries of Education, Health, Livestock, Agriculture, Industries, and the National Range Agency becomes a crucial issue.

13.2.4 Conclusions

Five conclusions regarding adult basic education emerge from the above analysis of constraints and issues. These form the basis for the specific program recommendations in the final part of this section.

Conclusion 1. Ensuring program fit with the needs and wishes of the distinct target groups, and with national goals--especially for income enhancement--deserves the greatest priority. This must include validation of program impact and effectiveness.

Conclusion 2. Improving the internal efficiency of programs is

the second priority. This should entail the revision of curricula to reflect priority program goals; the operationalization of these goals into concrete and sequential objectives, with suggested learning strategies and validation measures of achievement; and the in-service and pre-service training of instructors in adult pedagogy and nonformal education.

Conclusion 3. Coordination among adult basic education programs and better monitoring and supervision of field staff should receive third priority.

Conclusion 4. Expanding access of adult basic education, particularly to women, nomads, and other target groups bypassed by the formal schooling system, is the fourth priority. Expanding access, while an immediate need, must be predicated on having appropriate programs of high quality available to the target groups to be served.

Conclusion 5. Increasing the allocation of the education budget for adult basic education programs should follow validation of program impact in achieving priority goals and objectives.

13.3 RECOMMENDATIONS

The following eight recommendations concerning adult basic education are suggested as programmatic responses to the preceding analysis and conclusions.

13.3.1 First Priority - Improve External Efficiency: Recommendations 1 - 2.

Recommendation 1: Conduct Applied Needs Assessment. Undertake an applied study to form policy regarding priority education and training needs for nomads, in particular, and for women and other adults who have not had access to the formal schooling system. The orientation of such a study should be to increase the earning capability of the target groups. It should address, particularly in the case of nomads, what is already known by the target group through indigenous learning systems and other informal means, what further knowledge and skills are critically required to enhance production and participation in national life, and what pedagogical strategies would be most appropriate.

Recommendation 2: Establish Learning Objectives. Formulate, in view of findings from the above study, key learning objectives for the relevant target groups.

13.3 2 Second Priority - Improve Internal Efficiency: Recommendations 3 - 4.

Recommendation 3: Develop Curricula, Guides, and Validation Criteria. Revise or develop new curricula for particular target groups, based on the work outlined in Recommendations 1 and 2, to include: operational sequencing of the learning objectives, appropriate instructional strategies, and criteria by which to validate the achievement of the objectives.

Recommendation 4: Train Adult Education Instructors. Provide in-service and pre-service training of instructors of adult basic education programs in methods for using the new or revised curricula and for most effectively guiding the learning of the target groups.

13.3.3 Third Priority - Strengthen Coordination, Administration, and Supervision: Recommendations 5 - 6.

Recommendation 5: Establish Consultative Group. This should be done at the national level to foster communications and coordination among the various adult education programs.

Recommendation 6: Improve Supervision and Support. Provide for more effective monitoring and supervision of field staff and instructor/trainers through visits by central staff, periodic in-service training, and supply of instructional materials.

13.3.4 Fourth Priority - Expand Access: Recommendation 7.

Recommendation 7: Plan and Pilot New Approaches. Formulate a plan for testing several new program designs and strategies to serve selected populations, as a basis for gradually expanding access to the various education programs of proven quality and effectiveness.

13.3.5 Fifth Priority - Increase Budget Allocation: Recommendation 8.

Recommendation 8: Assess Relative Program Costs. Analyze unit and aggregate costs for the various programs and pilot designs and weigh these with measured program impacts, as a basis for judiciously increasing the financial allocation for the most efficient and effective programs.

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