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Honor — Fraternity — Justice

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**Directorate of Studies and
Programming**

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Rural Assessment and Manpower Surveys

Manpower Skills

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Manpower Skills

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Introduction to the Four Volumes Covering Manpower
and Employment

The RAMS project title, Rural Assessment and Manpower Survey, is only indicative of the scope of the effort as far as manpower is concerned. From the beginning, the intent of the manpower survey portion was to be comprehensive, encompassing manpower surveys and analysis, employment surveys and analysis, and educational systems, both formal and non-formal. All of these are interrelated. In developing and analyzing the data base during Phase I of RAMS, it appeared appropriate to present the findings in four volumes as follows:

Volume I - Manpower Skills

Chapter 1 of this Volume documents the literacy level of the Mauritanian population and labor force. Chapter 2 describes the educational level of the population as a whole, with additional detail on the sedentary and nomad portions. The educational levels of the entire labor force are then presented with details by occupation and economic sector.

Although the primary focus of RAMS is on the rural sector, the interaction of the modern and traditional sectors (rural and urban) is recognized in the overall functioning of the economy. The workers' educational levels, skills and qualifications of the modern sector are also subject to a RAMS survey the results of which are reported in Chapter 3 of this Volume. This Chapter also covers other aspects of the modern sector employment as revealed by the survey.

In Chapter 4, the Civil Service is described from a manpower and employment perspective, based on personnel information furnished by the Ministry of Economy and Finance.

Chapter 5 treats the Non-Structured Business Sector of the economy. The sector provides the major portion of urban employment. A RAMS survey which enumerated over 11,000 non-structured activities in Nouakchott alone, is described in detail.

Chapter 6 briefly summarizes the current school population figures and Chapter 7 projects these figures to the year 2000, demonstrating the major effect the graduates will have on the structure of the work force.

Chapter 8 describes the basis for a Human Resources Planning system and the actions that can be taken to make a start in this direction.

Volume II -- Evaluation of the Formal Educational System describes the formal government school system and certain private technical training centers. The report gives particular attention to the internal efficiency of the primary, secondary and professional systems of education. These are studied in the light of the educational needs of a largely rural and illiterate society. The cost of formal education, problems of training enough Mauritanian teachers, and the lack of sufficient planning capability are all addressed.

The report points out that the lack of planning in particular has led to serious regional imbalances in the availability of schools and an un-coordinated system of technical education with few provisions for training people with less than a secondary education.

The report concludes that the system is alienated from the fundamental needs of manpower training as related to the task of rural development. It recommends mass, basic education focused on functional literacy, numeracy, and the skills enabling people to find productive work in their own milieu.

Volume III - Report on Non-Formal Education

This report thoroughly examines the potential of non-formal (out-of-school) education to deal with the severe imbalance in Mauritania between the supply and demand for practical, production-related skills needed for economic development.

The report is in three parts. The first conveys an understanding of the nature of non-formal education-organized learning activities which take place in a wide variety of settings, but with the focus on practical skills which can be learned in a relatively short term. Many developing countries have come to realize that this type of education is an effective way to involve the majority of their peoples in the development process, and that they must therefore seek the appropriate trade-off between formal and non-formal education.

The second part looks in fine detail at the ongoing non-formal education programs in Mauritania, both those which are directly linked to productive work and those indirectly linked. In the direct category are governmental, non-governmental and foreign donor programs in agriculture, herding, and fishing, among others. The effectiveness of both the programs and the services and organizations which deliver them is analyzed and discussed. In the indirect category are, for example, the health and environmental programs. This part of the report makes clear that the most widespread use of non-formal education is in the traditional occupations in the form of apprenticeships. The report stresses the need for material and institutional support, and for innovative means of revitalizing this type of rural learning.

The third part describes the results of a RAMS survey designed to assess the qualifications of rural people in six traditional occupations, one of which was women's activities. The survey questionnaire dealt with the individuals' experience, family influences, schooling, training and learning outside the family, and attitudes affecting learning. The results and analysis of this pioneering effort form an important part of the overall assessment of national manpower skills, and are thus a logical

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extension of Volume I. They serve as a basis for the formulations of appropriate non formal training programs and therefore fit equally well in Volume III.

Volume IV - Employment Report commences with an analysis of the 1977 census data in terms of population totals, manpower stock and the labor force. It next describes the characteristics of the population including sedentary/nomad, rural/urban, age, gender and geographic distributions. This basic information is then further analyzed in employment terms using sectoral and occupational breakdowns and employment/unemployment figures. Some critical aspects of the employment situation came to light, including:

- a dramatic increase in urban unemployment between the 1977 census and the results of a 1980 RIMS employment survey;
- the inability of the small modern sector to absorb large numbers of the unemployed or the new entrants to the labor force, estimated to average 15,000 year until the year 2000;
- the high dependency ratios: each male between 20 and 64 supports 5 other persons. This makes savings and investment difficult, yet these are needed to effect structural change in the rural sector;
- the fact that over three fourths of the population live in villages and small towns of less than 5,000 persons, and that they are primarily self employed. The prospects for these people are in improving their production - better tools and support facilities to more farmers - and in generating a steady increase in wage employment through agricultural processing facilities and other small scale industries.

The volume concludes with alternative projections of the labor force to the year 2000 and the factors, conditions and policy discussions which will bear on the employment situation in the future.

The subject matter of the four volumes are not only interrelated, but they can be conceptualized as a system for accelerating the process of human resources development in Mauritania. A survey of Household Employment, done in the summer of 1980 brings up to date selected census figures of 1977 and provides an insight into certain other aspects of unemployment, employment, educational levels and manpower supply. This is published separately as a supplement to the Employment Situation.

Chapter 1Educational Levels of the Population1.1. Literacy

Literacy and numeracy are an important part of any individual's total manpower skills. Obviously they are not required to successfully accomplish some jobs. Equally obviously, they are useful in most jobs and are absolutely essential to many jobs. Literacy and numeracy are a prerequisite for all further formal education and for much of the nonformal education and training required to improve the skills of individual workers.

On a national level, it is generally recognized that before a developing country can "take off" economically, a significant proportion of the country's labor force must be literate. In Mauritania, the literate population numbered 191,000 or 17.9% of the population 6 years and over. Of these:

55,000 read/wrote Arabic and French
111,000 read/wrote Arabic only
24,000 read/wrote French only
1,000 read/wrote other languages

Table 1.1 summarizes the distribution of literacy rates of the population by language and rural/urban place of residence and Table 1.2 presents the distribution of the 6 and over population by age group and by type of literacy.

The 191,000 people who are already literate are a significant manpower resource. Furthermore, it is a resource which will last. Over 143,000 of that group were between the ages of 6 and 39 and will continue to contribute this skill to the national effort in the years to come.

A major effort must be made to increase the literacy rates of the labor force before more rapid economic development can occur. Present efforts, laudable as they are, are insufficient. The public primary school system and the Koranic school system reach only a small part of the adult illiterates.

The size of the program needed is indicated by the size of the population involved. Between now and the year 2,000, the education system should consider literacy programs for:

1. all children who will be entering school
2. the 286,000 children now age 14 who are illiterate, whether currently in school or not
3. the 384,000 adults age 15-39 who are illiterate
4. those illiterate adults over 40 who wish to become literate.

1.2 Educational Levels

Like literacy and numeracy, an important part of an individual's manpower skills is his education.

There are many reasons for having a formal education system and for educating the population. One of the most important of those reasons, and the one which is addressed in this section, is to prepare people to enter the work force and to increase their productivity as workers. Some education, particularly technical training, teaches specific work skills which are immediately, directly applicable to a specific job; while other education may be only indirectly applicable, or designed to meet other education goals other than manpower development.

Although it is in itself an important topic, no analysis will be made here of the applicability of specific curriculum content to manpower development. See Volume II where it is thoroughly covered.

As with literacy, formal education is not necessarily required to satisfactorily fill many jobs, but it is usually helpful, and it is essential for certain occupations.

The educated population corresponds so closely with the literate population that it can be assumed that they are the same group. About 189,000 people have received some education: slightly more than half of them in the formal public school system and slightly less than half only in family or organized traditional/religious education. Some 80,000 have at least some primary education, another 14,000 have some secondary education, and almost 3,000 have advanced technical or professional education. In terms of percentages, about 8% of the population over age 6 have at least some primary education, while an additional 1% have at least secondary education, and less than 1% more have completed advanced technical or professional education. The rest, roughly 90% of the population have no formal education beyond Koranic school.

This distribution is summarized below as Table 1.3 and presented in detail by Department as Table 1.4.

1.3 Educational Levels of the Sedentary Population

Table 1.5 presents the distribution of the sedentary population age 6 and over by educational level, activity status (salaried, dependent, worker, etc.) and sex. Table 1.6 does the same for the nomad population.

Table 1.1

Number of Literate Persons and Literacy Rates of
Population Age 6 and Over Rural and Urban and
Language 1977

	Urban		Rural						Total National	
	Number (000)	%	Sedentary Number (000)	%	Nomadic Number (000)	%	Total Number (000)	%	Number (000)	%
Read and write French and Arabic	38	12	16	4	1	0.4	17	2	55	5
Read and write Arabic only	35	15	38	8	58	10	76	9	111	10
Read and write French	18	8	5	0.8	1	0.07	6	0.5	24	2
Other Languages	-	-	-	-	-	-	-	-	1	1
Total Literates	91	37	59	12	40	10	99	12	191	17

Source: 1977 computer printout table TC 17 : data are summarized without adjustment.

Table 1.2
Population Age 6 and Over by Sex, Age Group, and Type of Literacy (1977)

Age Group	Sex	Type of Literacy					Tot. Literate Population	Total Population
		Illiterate	Classical Arabic	French	Classi. Arabic and French	Other Language ges		
11 ages 6 and over	M	390,470	75,190	17,930	42,110	630	135,360	526,330
	F	506,520	35,810	5,980	13,340	120	55,250	561,770
	T	896,990	111,000	23,910	55,450	750	191,110	1,088,100
5 - 9	M	78,300	7,200	230	2,290	10	9,780	88,080
	F	76,590	3,800	220	1,660	-	5,680	82,270
	T	154,890	11,000	550	3,950	10	15,460	170,350
10 - 14	M	60,120	7,970	1,370	12,980	20	22,340	82,460
	F	66,400	4,180	940	6,190	10	11,320	77,720
	T	126,520	12,150	2,310	19,170	30	33,660	160,180
15 - 19	M	46,550	6,620	2,970	11,300	30	20,920	67,870
	F	63,900	3,530	1,460	3,440	20	8,450	72,350
	T	110,850	10,150	4,430	14,740	50	29,370	140,220
20 - 24	M	34,360	9,510	4,240	6,750	20	19,520	53,880
	F	49,390	3,240	1,360	1,490	10	6,100	55,490
	T	33,750	11,750	5,600	8,240	30	25,620	109,370
25 - 29	M	29,690	5,520	2,650	3,590	230	11,990	41,680
	F	45,320	3,610	850	350	20	4,830	50,150
	T	75,010	9,130	3,500	3,940	250	16,820	91,830
30 - 39	M	43,880	9,900	3,390	3,430	180	16,900	60,780
	F	70,690	4,930	740	170	40	5,880	76,570
	T	114,570	14,830	4,130	3,600	220	22,780	137,350
40 - 49	M	40,130	11,380	2,030	1,290	100	14,800	54,930
	F	54,190	5,290	250	20	20	5,580	59,770
	T	94,320	16,670	2,280	1,310	120	20,380	114,700
50 - 59	M	30,110	9,250	720	410	40	10,420	40,530
	F	39,220	4,530	110	20	-	4,660	43,880
	T	69,330	13,780	830	430	40	15,080	84,410
60 and over	M	26,930	3,840	230	70	-	9,190	36,120
	F	40,820	2,700	50	-	-	2,750	43,570
	T	67,750	11,540	330	70	-	11,940	79,690

Source: 1977 census computer printout table TC 17. These data are summarized without adjustment.

Table 1.3

Summary of Education Levels of the Population
age 6 and over (1977)

Level of Education	Number	% of Educated	% of Population 6 and over
Technical and Professional	2,990	1.5%	0.3%
Secondary and higher	14,120	7.4%	1.3%
Primary	80,240	42.4%	7.6%
(sub-total formal)	(97,350)	(51.4%)	9.2%
Organized Traditional	19,580	10.3%	1.8%
Family Traditional	72,370	38.2%	6.8%
(sub-total traditional)	(91,950)	(48.5%)	8.7%
Grand Total	189,300	100%	17.9%
No Education	863,960		82.0%

Source : Summarized from Census table TC 22.

Table 1.4

Population age 6 and over by the Type of Education Received, by Department (1977)

Name of Department	No Education	Traditional Family Education	Organized Traditional Education	Primary Education	Secondary and Higher Education	Technical and Prof. Education	Total
NOUAKCHOTT ARRONDISSEMENT 1	12,940	2,630	260	3,730	670	140	20,370
NOUAKCHOTT ARRONDISSEMENT 2	4,530	459	150	1,910	630	70	7,740
NOUAKCHOTT ARRONDISSEMENT 3	6,290	1,010	310	4,910	1,970	690	15,180
NOUAKCHOTT ARRONDISSEMENT 4	6,190	710	220	3,360	1,930	320	12,730
NOUAKCHOTT ARRONDISSEMENT 5	29,550	3,130	730	7,070	1,340	220	42,040
AMOURI	19,130	1,090	200	580	70	10	21,080
BASSIKOUNOU	12,390	840	260	740	30	10	14,270
DJIGUENNI	15,590	920	360	480	20	10	17,380
NENA	28,320	2,870	700	1,860	150	100	34,000
OULATA	12,510	330	120	420	50	10	13,430
TIMBUKTA	20,120	1,050	570	1,130	50	40	22,460
AIOUH	22,310	2,060	170	2,790	350	90	27,770
KOBOU	21,200	1,070	590	310	100	-	23,270
TAMCHAKETI	26,690	2,580	250	400	70	-	29,990
TINTANE	17,950	1,930	230	970	80	-	21,160
KARENKOLI	23,310	940	410	310	-	-	24,970
BOUMELID	6,860	1,750	830	200	50	-	9,690
GUEKOU	10,430	1,150	610	280	60	10	12,530
KANKOSSO	19,880	730	80	580	100	10	21,380
KIFFA	28,100	2,680	280	2,030	220	-	33,310
KALDI	34,900	1,620	160	4,300	500	150	41,630
MAGHAMA	17,670	360	20	930	80	30	19,090
M'BOU	36,080	720	30	1,540	60	10	38,440
MONCHEL	14,100	270	440	800	60	20	15,690
ALFG	30,480	2,090	1,120	1,590	230	100	35,610
LABABE	11,720	430	40	970	140	10	13,310
BOGHE	23,870	680	80	2,410	420	60	27,520
MACHIA-LAIJAR	24,930	1,980	1,150	800	50	10	28,920
M'BAGNE	15,770	490	130	660	20	-	17,070
BOUTILIMIT	33,570	8,700	1,880	2,690	620	100	47,560
KEUR MASSENE	13,560	2,020	40	1,040	100	30	16,790
MEDEKRA	28,180	4,360	1,800	1,770	260	10	36,380
OUED NAGA	7,910	930	1,170	270	60	-	10,340
R'ELZ	31,380	3,270	1,020	1,640	340	20	37,670
ROSSO	19,840	1,430	360	4,060	710	100	26,500
AOUJEFT	10,480	880	50	270	30	10	11,720
ATAR	16,500	2,910	440	4,060	500	250	24,660
CHINGUETTI	6,240	350	70	680	40	10	7,390
MOUADHIDOU	10,940	970	190	4,050	770	70	16,990
LA GUERA	530	10	-	120	20	-	680
MOUJERIA	21,890	1,040	230	1,310	50	-	24,520
TICHT	4,430	280	60	110	-	10	4,890
TIDJIKJA	24,710	2,290	170	2,390	190	70	29,820
OULD YENCE	17,220	360	170	840	40	10	18,640
SELIBABY	42,150	1,200	90	1,320	170	60	44,990
BIR MOGHREIN ET AIN-BEN-TILI	990	30	30	240	70	-	1,360
F'DERICK	1,840	250	70	600	60	10	2,830
ZOUERATE	8,560	940	100	3,230	390	20	13,240
ACOUJIT	9,230	1,590	1,140	1,540	200	90	13,790

Source: Censu, table TC 22

Table 1.5

Distribution of the Sedentary Population 6 Years of Age and Over
By Detailed Activity Status, by Type of Education and by Sex (1977)

Activity Status

Type of Educa- tion,	Sex	Unemployed	Salaried Workers	Dependent Workers	Self- Employed	Owners	Family Workers	Housewives	Handi- capped Sick & Old	Students	Other Inactive	Total
No Education or Beginner in Trad. Educ.	Male	19,880	33,620	5,820	78,100	220	30,650	0	7,020	4,880	67,920	248,110
	Female	10,600	4,390	5,860	14,990	10	26,540	144,430	21,620	2,800	79,460	310,700
	Total	30,480	38,010	11,680	93,090	230	57,190	144,430	28,640	7,680	147,380	558,810
Traditional Family Education	Male	3,760	4,260	410	15,260	190	2,170	0	1,700	370	1,780	29,900
	Female	1,620	140	80	1,460	0	560	15,340	3,460	50	1,630	24,340
	Total	5,380	4,400	490	16,720	190	2,730	15,340	5,160	420	3,410	54,240
Organized Traditional Education	Male	1,160	1,360	70	5,250	70	210	0	680	100	540	9,440
	Female	90	20	0	50	0	10	730	110	0	90	1,150
	Total	1,250	1,380	70	5,300	70	220	780	790	100	630	10,590
Primary Education	Male	2,790	10,760	410	2,500	30	800	0	140	39,180	970	57,580
	Female	1,360	1,340	10	80	0	110	2,940	30	19,780	920	26,570
	Total	4,150	12,100	420	2,580	30	910	2,940	170	58,960	1,890	84,150
Secondary and Higher Education	Male	980	6,540	40	330	40	20	0	40	6,550	80	14,620
	Female	170	880	10	30	0	0	560	10	1,260	0	2,920
	Total	1,150	7,420	50	360	40	20	560	50	7,810	80	17,450
Technical and Prof. Education	Male	40	2,430	0	20	10	0	0	0	490	10	3,000
	Female	0	330	0	0	0	0	70	0	60	0	460
	Total	40	2,760	0	20	10	0	70	0	550	10	3,460
Grand Total	Male	28,610	58,970	6,750	101,460	560	53,850	0	9,580	51,570	71,300	362,650
	Female	13,240	7,100	5,960	16,610	10	27,220	164,120	25,230	23,950	82,100	366,140
	Total	42,450	66,070	12,710	118,070	570	61,070	164,120	34,810	75,420	153,400	728,790

Source: Bureau of Statistics, based on 1977 census.

Several observations are evident. Almost all of those with a formal education are in the sedentary population. Of those at the technical and professional education level, most are in salaried positions in the work force. Among those who have a secondary school level of education there are almost as many students still in school as there are workers in the work force. Among those who are at the primary school level, students outnumber workers almost 4 to 1. There are some "educated unemployed": over 4,000 (5%) of the primary school, and over 1,000 (6.6%) of the secondary school graduates were unemployed.

The inactive population (excluding students) does not have much formal education. Only 2% of the housewives and less than 2% of the "other inactive" (who are mostly age 6 and older children) had any formal education. If female labor force participation rates were to increase, the influx into the labor force would be of uneducated rather than educated women. However, it can be anticipated that a relatively large influx of current students will enter the labor force in the foreseeable future.

A further observation is worthy of note. A large proportion (6%) of the formally educated manpower are not yet in the labor force. They are still in the classroom and are going to increase markedly the number and skills of that labor force and the need for jobs in the years to come.

1.4 Educational Levels of the Nomad Population

Slightly less than 2,000 nomads (less than 1%) have received a formal public education of any kind.

Table 1.6 describes the nomad education for persons six or more years of age by sex, type of instruction received and region. The vast majority, 92 percent of the nomad population (329,865 persons) have received no education or only a beginning of a traditional education. Five percent of the population (19,283 persons) have received a traditional education, 2 percent (8,319 persons) have an organized traditional education, 0.5 percent (1,846 persons) have some general primary education, and 0.02 percent (75 persons) have some secondary or post-secondary education. Regional differences in educational attainment are evident but no clear pattern emerges.

A much lower percentage of women receive education. Only 32% of those who received a traditional family education are women; the percentage with higher levels of education declines continually to 20% for primary school graduates. No nomad woman is reported to have a higher level of education.

Table 1.6

Nominal Population Six or More Years of Age by Sex, Type of Educational Instruction Received and Region

(Data Express Numbers of People)

Region

Type of Educational Instruction Received	Sex	Hodh Oriental	Hodh Occidental	Arsaba	Gorgol	Brakna	Trarza	Adrar	Tagant	Guidimaka	Nord	Total	Percent
No Education or Partial Trad. Educ.	Males	32,204	21,561	12,338	5,589	16,372	30,770	7,071	13,934	3,167	3,608	146,614	
	Female	34,906	27,802	19,274	7,050	21,513	41,404	6,135	18,411	3,705	3,051	143,251	
	Total	67,110	49,363	31,612	12,639	37,885	72,174	13,206	32,345	6,872	6,659	289,865	(92%)
Traditional Family Educ. only	Males	737	1,807	1,420	156	1,107	6,064	405	1,169	30	215	13,110	
	Female	15	189	220	4	158	4,449	422	223	-	493	6,173	
	Total	752	1,996	1,640	160	1,265	10,513	827	1,392	30	708	19,283	(5%)
Organized Traditional Education only	Male	817	474	1,060	44	915	3,200	6	491	26	373	7,406	
	Female	4	-	18	41	316	459	-	6	-	69	911	
	Total	821	474	1,078	85	1,231	3,659	6	497	26	442	8,317	(2%)
General Primary Education	Male	157	155	190	182	100	296	83	227	1	85	1,476	
	Female	22	21	45	114	41	37	59	26	-	5	370	
	Total	179	176	235	296	141	333	142	253	1	90	1,846	(0.5%)
General Secondary and Post-Secondary Educ.	Male	3	8	2	11	-	39	-	7	-	5	75	
	Female	-	-	-	-	-	-	-	-	-	-	-	
	Total	3	8	2	11	-	39	-	7	-	5	75	(0.02%)
Technical and Professional Education	Male	-	-	-	-	-	-	-	-	-	-	-	
	Female	-	-	-	-	-	-	-	-	-	-	-	
	Total	-	-	-	-	-	-	-	-	-	-	-	
Total	Male	33,918	24,005	15,010	5,982	18,494	40,369	7,565	15,828	3,224	4,286	168,681	
	Female	34,947	28,012	19,557	7,209	22,028	46,349	6,616	18,666	3,705	3,618	190,707	
	Total	68,865	52,017	34,567	13,191	40,522	86,718	14,181	34,494	6,929	7,904	359,388	(100%)

Source: 1977 Census of Mauritania: Computers printout table NC 11: these data are summarized without adjustment.

Chapter 2

Educational Levels of the Labor Force

2.1 Literacy

From the analytical point of view it is important to consider both the total manpower stock as well as the part of it which is currently available for work (labor force), because there are among the inactive population those who will eventually enter the labor force.

Among the nomad population, about 40,000 were literate, mostly in Arabic. No information was available about how many of them were in the labor force because of the difficulties encountered in defining the nomad labor force.^{1/}

Of the sedentary labor force of about 300,000, some 69,000 (23%) were literate, while more than 232,000 of those already working or seeking work were illiterate.

Since only 69,000 of the literate population is in the sedentary labor force, another 31,000 must be in the sedentary inactive population. This high figure is understandable when it is realized that in the school year during which the census was taken (1976-1977) there were some 75,000 students enrolled in schools, ranging the primary to the university level. There were actually more of the literate population out of the labor force (most of them in school) than there were in the sedentary labor force itself. This is shown in the diagram below:

^{1/}This matter is discussed in more detail in Volume 4 on the Employment Situation.

Literate Population by Group (1977)
(000's)

Total		190
Nomads		40
Sedentary		150
	Sedentary Labor Force	69
	Sedentary Inactive Population	81
	Students in formal education generally presumed to be literate	75

The distribution by occupational group of the 69,000 literate and 232,100 illiterate workers shown in Table 2.1

Table 2.1

Literacy by Occupational Group of the Sedentary
Labor Force 1977
(000)

<u>Occupational Group</u>	<u>Literate</u>	<u>Illiterate</u>	<u>Total</u>	<u>%Literate</u>
No Occupation	9,5	26,9	36.4	26
Agricultural Workers	10,0	133,0	143,0	7
Industrial Workers	1,6	2,0	3.6	44
Artisan Workers	2,2	10,7	12.9	17
Administrators and Communication Workers	6,5	0,9	7.4	88
Construction and Public Work Workers	4,3	12,0	16.8	29
Commerce (and Transportation) Workers	16,6	20,5	37.1	45
Professional and Technical Workers	1,7	0,3	2.0	85
Armed Forces and Security Workers	9,2	6,6	15,8	58
Service and Social Workers	7,4	18,9	26.3	28
<hr/>				
Total Sedentary Workers	69,2	232,1	301.3	23

Source: Data summarized from census table SA 20 bis.

As shown, the number of literate workers is biggest in commerce. The next is in agriculture, despite the fact that it has by far the smallest percentage of literate workers. "Armed forces and security workers" and those who claimed to have "no occupation" have 10,000 literate workers each. Virtually all of the "no occupation" group are unemployed: they constitute 86.2% of the 42,228 total sedentary unemployed. It is instructive to note that almost 10,000 workers claimed to be literate and without occupation. The smallest groups numerically of literate workers were artisans, professional and technical workers, and industrial workers with about 2,000 each.

The distribution of literacy by percentage shows a more familiar pattern. "Administrators and communication workers" and "professional and technical workers" are of course very high. Artisans showed a low percentage of literacy (17%), and agricultural workers were very low. (7%).

Literacy is useful for all workers, and it is assumed that current literacy and education efforts will continue to upgrade the work force.

There are however two groups of workers which deserve particular attention: agricultural workers and artisans. If individual productivity and production is to be significantly increased in the agricultural sector and the urban nonstructured sector, the manpower skills of the workers in those sectors must be improved. Literacy and numeracy are necessary prerequisites to much of the needed education, both formal and nonformal, which will be necessary for the improvement of these manpower skills.

Table 2.2 compares literacy and illiteracy at the traditional level and that at the formal level, for both the total population and for the sedentary labor force. In the year 1977, the number of literates was somewhat higher at the formal level than at the traditional level for the population (6 years and over): 97,000 vs. 91,000. In the sedentary labor force, there were more traditionally-educated literates than formal literates. It is worth noting that close to two-thirds of the literates were still in school and thus not yet in the labor force.

2.2 By Occupation

The educational attainment of employed and unemployed sedentary workers in 93 occupational groups is presented in Tables 2.3 and 2.4.

They indicate that of the 259,000 employed sedentary workers:

- 78% (201,634 persons) were not able to read and write;
- 0.4% (907 persons) while literate, had no education;
- 12% (30,803 persons) have a traditional Koranic education;
- 6% (15,055 persons) have completed primary education;
- 2% (4,911 persons) have completed 1st cycle secondary education;
- 1% (2,839 persons) have completed some form of technical or professional training.

Table 2.5 shows the distribution of literacy/illiteracy by occupational groups for the employed sedentary population. Illiteracy is high among agriculture, construction, service, and commercial workers. Thus, 132,267 out of 142,124 agricultural workers were illiterate, as were 11,008 out of 15,035 construction workers, 19,758 out of 35,644 workers in commerce and transport, and 18,539 out of

Table 2.2
Comparison of Population Age 6 and Over and
 Sedentary Labor Force by Educational Level (1977)

Educational Level	Population age 6 and over		Sedentary Labor Force	
	No. of Persons (000's)	Percent	No. of Persons (000's)	Percent
No education or beginner	864	82	230	76
Traditional family (Koranic) education	72	7	30	10
Organized traditional education (Mahadras)	19	2	6	3
Sub-total traditional education	91	9	38	89
Primary School	80	8	20	7
Secondary School or superior	14	1	9	3
Technical and Professional	3	0.3	3	1
Sub-total formal education	97	9	32	11
Total Population	1,052	100	300	100

...21...

Table 2.3

**Employed Sedentary Population 12 or more Years of Age
by Type of Education and Occupational Group in 1977**

(Data Express Numbers of People)

10 Census Occupational Groups	Census Code Number	93 Census Occupational Groups	Level of Education								Total
			Illiterate	No Education	Traditional Education	Primary Education	1st Cycle Secondary Education	2nd Cycle Secondary Education	Technical/Professional Training		
Agricultural Workers	10	Agricultural Workers in Large Projects	718	2	83	29	8	1	4	845	
	11	Farmers	58,508	97	4,165	501	11	1	63,283		
	12	Gardeners	586	2	105	7	-	-	700		
	13	Nurserymen	167	-	79	3	-	-	249		
	14	Herders	9,442	19	2,122	77	5	1	11,666		
	15	Bergers	10,810	4	363	59	-	1	11,237		
	16	Charcoal Producers and Lumber Jacks	687	-	17	5	1	1	711		
	17	Fishermen	2,181	2	80	105	6	1	2,375		
	18	Hunters	11	-	2	-	-	-	13		
	19	Others in Agriculture	49,157	42	1,271	563	11	-	51,045		
Industrial Workers	20	Industrial Foremen	20	9	18	43	44	66	31	231	
	21	Miners	86	3	22	16	7	1	-	135	
	22	Mineral Processing	8	-	1	6	-	-	-	15	
	23	Food Processing	6	-	3	1	2	-	-	12	
	24	Textile Workers	1	-	-	3	-	-	-	4	
	25	Metal Workers	280	13	83	223	73	3	20	695	
	26	Tool Operators	26	4	10	35	20	-	3	98	
	27	Warehousemen	32	-	8	61	18	-	-	119	
	28	Non-Specialized Industrial Labor	1,185	4	225	78	3	-	-	1,495	
	29	Other Industrial Workers	227	30	91	139	71	1	4	563	
Artisan Workers	30	Tanners	45	-	1	-	-	-	-	46	
	31	Leatherworkers	2,779	3	208	26	-	-	-	3,016	
	32	Weavers	1,158	1	89	22	1	-	-	1,271	
	33	Tailors	1,209	14	433	191	19	-	1	1,867	
	34	Basket Makers	100	-	9	2	-	-	-	111	
	35	Jewelers	2,186	7	527	95	5	-	1	2,821	
	36	Pottery Workers	225	-	7	4	-	-	-	236	
	37	Producers of Household Articles	50	-	13	2	1	-	-	66	
	38	Slaughters, Bakers	1,439	4	124	90	9	2	-	1,668	
	39	Other Artisans	912	1	158	16	2	-	1	1,090	
Administration and Communication Workers	40	Office Managers	17	1	33	70	142	75	129	467	
	41	Administrative Agents	148	13	165	577	349	80	101	1,433	
	42	Secretaries	21	12	184	960	435	84	180	1,876	
	43	Bookkeepers	13	6	40	238	354	141	180	972	
	44	Orderlies	606	11	261	166	7	-	-	1,051	
	45	Receptionists	3	-	6	48	10	-	1	68	
	46	Radio/Telephone Operators	31	1	33	237	52	22	16	302	
	47	Communication Workers	3	-	1	11	6	2	3	26	
	48	Printers	12	2	13	32	48	21	45	173	
	49	Other Administrations and Communication Workers	41	4	53	102	116	45	110	471	
Construction and Maintenance Workers	50	Contractors, Foremen	98	2	80	114	43	28	29	394	
	51	Manual Labor in Construction	5,897	26	680	195	12	-	-	6,810	
	52	Heavy Machinery Operators	286	4	122	135	25	7	11	590	
	53	Masons	2,491	20	373	302	47	-	7	3,250	
	54	Painters	299	7	52	51	30	9	2	442	
	55	Plumbers	113	4	27	60	6	1	3	214	
	56	Electricians	173	6	92	279	127	27	26	790	
	57	Carpenters	639	9	173	288	17	1	10	1,159	
	58	Construction Apprentices, Equipment Operators	442	2	21	127	10	-	2	606	
	59	Other Construction and Public Works Workers	570	9	138	86	26	6	15	850	

Table 2.3 (continued)

(Data Express Numbers of People)

10 Census Occupational Groups	Census Code Number	Level of Education								Total
		Illiterate	No Education	Traditional Education	Primary Education	1st Cycle Secondary Education	2nd Cycle Secondary Education	Technical/Professional Training		
93 Census Occupational Groups										
60	Owners and Directors in Commerce or Transportation	130	3	174	26	14	9	7	363	
61	Wholesale Merchants and Transporters	763	4	384	52	7	-	1,211		
62	Retail Merchants	12,083	66	8,211	770	114	25	21,276		
63	Peddlers	376	1	166	17	2	-	562		
64	Salesmen	1,894	11	1,238	367	79	15	3,614		
65	Sales Agents and Supervisors	-	-	24	73	87	65	276		
66	Insurance and Real Estate Agents	-	-	-	1	5	6	14		
67	Dockers, Seamen	605	7	190	98	12	2	914		
68	Drivers, Mechanics	3,738	82	1,200	1,643	277	54	7,084		
69	Others in Commerce and Transportation	169	7	53	55	27	11	330		
70	Architects, Technical Engineers	11	-	-	-	-	245	30	286	
71	High Level Technicians	3	-	-	-	-	116	63	182	
72	Chemists, Geologists	3	-	-	-	-	-	2	42	
73	Biologists, Agronomists	-	-	-	-	-	38	11	49	
74	Economists, Accountants	-	-	-	-	-	224	34	258	
75	Judges, Lawyers	1	-	35	1	-	53	9	99	
76	Artists, Writers	278	1	63	42	35	69	16	504	
77	Sociologists, Anthropologists	2	2	2	5	8	21	3	43	
78	Others in Government Administration	7	2	52	27	26	305	53	472	
79	Other Professional and Technical Workers	1	-	4	4	2	10	4	25	
80	Armed Forces Officers	3	-	5	24	40	69	54	195	
81	Armed Forces Staff	1	1	9	17	27	69	43	167	
82	Soldiers, Policemen	4,008	103	1,657	2,943	747	100	330	9,888	
83	Guards, Militia	2,274	96	1,021	612	55	3	8	4,069	
84	Customs Officials	55	2	75	157	81	5	26	401	
85	Prison Workers, Detectives	129	4	129	233	101	5	37	638	
86	Firemen, Environmental Protection Officers	36	-	21	37	17	4	13	128	
87	Clerks	53	12	17	6	4	-	-	82	
88	Armed Forces Technicians	5	-	6	28	3	23	20	112	
89	Others in Armed Forces	3	-	-	1	-	1	-	5	
90	Doctors	7	1	-	1	2	73	4	88	
91	Nurses	16	1	15	115	119	29	166	461	
92	Mid-Level Health Workers	253	13	112	320	31	2	22	753	
93	Secondary School Teachers	2	1	15	3	20	452	53	546	
94	Primary School Teachers	20	6	447	247	500	189	714	2,223	
95	Other School Personnel	67	4	85	40	35	38	16	285	
96	Houseboys	15,769	53	821	322	49	6	4	17,024	
97	Workers in Personal Services	1,500	16	183	177	57	14	6	1,953	
98	Clergy	517	4	1,311	29	7	5	-	1,873	
99	Other Service Workers	388	3	203	10	1	3	1	609	
01	Investors	4	-	1	2	-	1	-	8	
02	Apprentices	316	1	18	68	4	-	-	407	
03	Retirees and NEC ^{2/}	-	-	-	-	-	-	-	-	
99-99	Total Sedentary	201,634	907	30,803	15,055	4,911	3,017	2,839	250,166	

1/ No explanation has been found for this group; it may include illegible responses and certain nonresponses.

2/ Not elsewhere classified includes those who reported no occupation (mainly inexperienced workers) and those whose responses were illegibly recorded on the survey instruments.

Table 2.4

Unemployed Sedentary Population 12 or more Years of Age by the Type of Education
and Occupational Group 1977

(Data Express Numbers of People)

10 Census Occupational Groups	Census Code Number	Level of Education								
		Illiterate	No Education	Traditional Education	Primary Education	1st Cycle Secondary Education	2nd Cycle Secondary Education	Technical/Professional Training	Total	
93 Census Occupational Groups										
Agricultural Workers	10 Agricultural Workers in Large Projects	-	-	-	-	-	-	-	-	-
	11 Farmers	-	-	-	-	-	-	-	-	-
	12 Gardeners	-	-	-	-	-	-	-	-	-
	13 Nurserymen	-	-	-	-	-	-	-	-	-
	14 Herders	-	-	-	-	-	-	-	-	-
	15 Bergers	296	-	80	5	-	-	-	381	-
	16 Charcoal Producers and Lumber Jacks	8	-	1	1	-	-	-	10	-
	17 Fishermen	28	-	6	4	1	-	-	39	-
	18 Hunters	-	-	1	-	-	-	-	1	-
19 Others in Agriculture	475	3	45	16	4	-	-	543	-	
Industrial Workers	20 Industrial Foremen	1	-	-	-	-	-	1	2	-
	21 Miners	2	-	1	-	-	-	-	3	-
	22 Mineral Processing	-	-	-	-	-	-	1	1	-
	23 Food Processing	-	-	-	-	-	-	-	1	-
	24 Textile Workers	-	-	-	1	-	-	-	1	-
	25 Metal Workers	39	-	4	17	5	-	1	66	-
	26 Tool Operators	1	-	-	-	-	-	-	2	-
	27 Warehousemen	-	-	-	1	-	-	-	1	-
	28 Non-Specialized Industrial Labor	124	-	42	14	1	-	-	181	-
29 Other Industrial Workers	12	-	2	7	1	-	-	22	-	
Artisan Workers	30 Tanners	2	-	-	-	-	-	-	2	-
	31 Leatherworkers	18	-	1	2	-	-	-	21	-
	32 Weavers	474	1	31	6	-	-	-	512	-
	33 Tailors	79	-	21	19	2	-	1	122	-
	34 Basket Makers	1	-	-	-	-	-	-	1	-
	35 Jewelers	22	-	4	3	-	-	-	29	-
	36 Pottery Workers	1	-	1	-	-	-	-	2	-
	37 Producers of Household Articles	-	-	2	-	-	-	-	2	-
	38 Slaughterers, Bakers	50	-	3	3	-	-	-	56	-
39 Other Artisans	9	-	3	5	-	-	-	17	-	
Administration and Communication Workers	40 Office Managers	-	-	-	3	1	1	-	5	-
	41 Administrative Agents	3	-	7	64	19	3	1	97	-
	42 Secretaries	17	2	53	210	44	5	9	340	-
	43 Bookkeepers	2	-	1	16	21	18	7	65	-
	44 Orderlies	15	-	7	-	-	-	1	23	-
	45 Receptionists	-	-	-	7	3	-	-	10	-
	46 Radio/Telephone Operators	-	-	1	7	2	-	-	10	-
	47 Communication Workers	-	-	-	2	1	1	-	4	-
	48 Printers	-	-	1	2	2	1	-	6	-
49 Other Administrations and Communication Workers	3	-	4	3	3	2	-	15	-	
Construction and Public Works Workers	50 Contractors, Foremen	1	-	7	1	-	1	-	10	-
	51 Manual Labor in Construction	744	6	119	39	2	-	-	910	-
	52 Heavy Machinery Operators	8	-	5	3	1	-	-	17	-
	53 Masons	158	1	35	18	1	-	-	213	-
	54 Painters	45	1	5	4	1	-	-	56	-
	55 Plumbers	9	-	2	5	2	-	1	19	-
	56 Electricians	17	-	2	25	11	2	6	63	-
	57 Carpenters	54	1	12	22	2	1	-	92	-
	58 Construction Apprentices, Equipment Operators	13	-	6	1	-	-	-	20	-
59 Other Construction and Public Works Workers	33	-	16	4	2	-	1	56	-	

Table 2.4 (continued)

(Data Express Numbers of People)

10 Census Occupational Groups	Census Code Number	Level of Education							Total			
		Illiterate	No Education	Traditional Education	Primary Education	1st Cycle Secondary	2nd Cycle Secondary	Technical/Professional Training				
93 Census Occupational Groups												
Commerce and Transportation Workers	60	-	-	-	-	-	-	-	-	-	-	-
	61	-	-	-	-	-	-	-	-	-	-	-
	62	-	-	-	-	-	-	-	-	-	-	-
	63	-	-	-	-	-	-	-	-	-	-	-
	64	-	-	-	-	-	-	-	-	-	-	-
	65	274	-	278	51	14	1	1	618	-	-	-
	66	-	-	1	6	4	3	1	15	-	-	-
	67	-	-	-	-	-	1	-	1	-	-	-
	68	54	-	25	16	2	-	-	97	-	-	-
	69	420	5	148	160	23	2	1	759	-	-	-
		7	1	-	4	1	2	1	16	-	-	-
Professional Technical Workers	70	-	-	-	-	-	1	-	1	-	-	-
	71	1	-	-	-	-	3	-	4	-	-	-
	72	-	-	-	-	-	-	-	-	-	-	-
	73	-	-	-	-	-	1	-	1	-	-	-
	74	-	-	-	-	-	8	-	9	-	-	-
	75	1	-	-	-	-	4	-	4	-	-	-
	76	1	-	4	2	1	4	-	12	-	-	-
	77	-	-	-	-	1	-	-	1	-	-	-
	78	-	-	1	-	-	3	1	5	-	-	-
	79	-	-	-	-	1	1	-	2	-	-	-
Armed Forces and Security Workers	80	-	-	-	-	-	1	-	1	-	-	-
	81	-	-	-	-	-	1	1	2	-	-	-
	82	19	1	5	9	1	1	-	36	-	-	-
	83	10	-	7	4	-	-	-	21	-	-	-
	84	-	-	2	3	-	1	1	7	-	-	-
	85	3	-	1	3	3	-	-	10	-	-	-
	86	-	-	-	-	1	-	-	1	-	-	-
	87	1	-	1	1	-	-	-	3	-	-	-
	88	2	1	-	3	3	-	-	9	-	-	-
	89	1	-	-	-	-	-	-	-	-	-	-
Service and Social Workers	90	-	-	-	1	-	2	-	3	-	-	-
	91	1	-	1	6	7	2	3	20	-	-	-
	92	22	-	4	20	-	-	1	47	-	-	-
	93	-	-	-	-	-	14	-	15	-	-	-
	94	1	-	9	5	11	4	1	32	-	-	-
	95	1	-	-	1	-	1	-	3	-	-	-
	96	327	1	37	14	-	1	-	380	-	-	-
	97	28	-	5	10	-	-	1	44	-	-	-
	98	7	-	24	-	-	-	-	31	-	-	-
	99	-	-	-	1	-	-	-	1	-	-	-
Persons Not in the Labour Force	01	-	-	-	-	-	-	-	-	-	-	-
	02	24	1	3	5	-	-	-	33	-	-	-
	09	26,555	67	5,494	3,045	593	138	43	35,935	-	-	-
01-99 Total Sedentary		30,524	92	6,581	3,910	799	234	88	42,228	-	-	-

1/ No explanation has been found for this group; it may include illegible responses and certain nonresponses.

2/ Not elsewhere classified includes those who reported no occupation (mainly inexperienced workers) and those whose responses were illegibly recorded on the survey instruments.

Table 2.5

Sedentary Population Employed in 1977 By Educational Background and Occupational Group

(Data Express Numbers of People)

Occupational Groups	Type of Education Completed							Total
	Illiterate	No Education	Traditional Education	Primary Education	1st Cycle Secondary Education	2nd Cycle Secondary Education	Technical Professional Training	
Agriculture								
Total	132,267	168	8,287	1,349	42	3	8	142,124
% by Occupation	(93%)	(0.1%)	(6%)	(1%)	(0.03%)	(00%)	(60%)	(100%)
% by Education	(66%)	(19%)	(27%)	(9%)	(1%)	(0.1%)	(0.3%)	(34%)
Industry								
Total	1,871	63	461	605	238	71	58	3,367
% by Occupation	(56%)	(0.02%)	(14%)	(18%)	(7%)	(2%)	(2%)	(100%)
% by Education	(1%)	(7%)	(2%)	(4%)	(5%)	(2%)	(2%)	(1%)
Artisan								
Total	10,103	30	1,569	448	37	2	3	12,192
% by Occupation	(83%)	(0.2%)	(13%)	(4%)	(0.3%)	(0.02%)	(0.02%)	(100%)
% by Education	(5%)	(3%)	(5%)	(3%)	(1%)	(0.07%)	(0.1%)	(5%)
Administration & Communication								
Total	895	50	789	2,441	1,519	470	765	6,929
% by Occupation	(13%)	(1%)	(11%)	(35%)	(22%)	(7%)	(11%)	(100%)
% by Education	(0.4%)	(6%)	(3%)	(16%)	(31%)	(16%)	(27%)	(3%)
Construction & Public Works								
Total	11,008	89	1,760	1,639	353	81	105	15,035
% by Occupation	(73%)	(1%)	(12%)	(11%)	(2%)	(1%)	(1%)	(100%)
% by Education	(5%)	(10%)	(6%)	(11%)	(7%)	(3%)	(4%)	(6%)
Commerce & Transport								
Total	19,758	181	11,640	3,102	624	188	151	35,644
% by Occupation	(55%)	(1%)	(33%)	(9%)	(2%)	(1%)	(0.4%)	(100%)
% by Education	(10%)	(20%)	(38%)	(21%)	(13%)	(6%)	(5%)	(14%)
Professional & Technical								
Total	306	5	156	79	71	1,111	232	1,960
% by Occupation	(16%)	(0.3%)	(8%)	(4%)	(4%)	(57%)	(12%)	(100%)
% by Education	(0.2%)	(1%)	(0.5%)	(0.5%)	(1%)	(37%)	(8%)	(1%)
Armed/Security Forces								
Total	5,567	218	2,930	4,058	1,102	270	531	15,685
% by Occupation	(42%)	(1%)	(19%)	(26%)	(7%)	(2%)	(3%)	(100%)
% by Education	(3%)	(24%)	(10%)	(27%)	(22%)	(9%)	(19%)	(6%)
Service/Social Workers								
Total	18,539	102	3,192	1,264	921	811	986	25,815
% by Occupation	(72%)	(0.4%)	(12%)	(5%)	(4%)	(3%)	(4%)	(100%)
% by Education	(9%)	(11%)	(10%)	(8%)	(19%)	(27%)	(35%)	(10%)
Apprentices, Retirees and N.E.C.¹⁾								
Total	320	1	19	70	4	1	0	415
% by Occupation	(72%)	(0.2%)	(5%)	(17%)	(1%)	(0.2%)	0	(100%)
% by Education	(0.2%)	(0.1%)	(0.1%)	(0.5%)	(0.1%)	(0.03%)	0	(0.3%)
Total Sedentary								
Total	201,634	907	30,803	15,055	4,911	3,017	2,839	259,166
% by Occupation	(78%)	(0.4%)	(12%)	(6%)	(2%)	(1%)	(1%)	(100%)
% by Education	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)

1) Not Elsewhere Classified includes those who reported no occupation (mainly inexperienced workers) and those whose responses were illegibly recorded on the survey instruments.

25,815 service workers. In industry, 1,835 out of 3,367 workers were illiterate; in administration and communication 895 out of 6,839; armed forces and security 6,609 out of 15,313, and professional and technical 306 out of 1,906.

Table 2.6 describes the level of educational attainment and last occupation worked for the 42,228 unemployed members of the sedentary population. Higher percentages of unemployed workers than employed workers have a traditional or primary level of education: 16% of unemployed workers have a traditional education and 9% of them have a primary educational education; but for employed workers the corresponding figures are 12% and 6%.

About 2% of both employed and unemployed workers have completed the 1st cycle of secondary education but only about 0.6% and 0.2% of unemployed workers have completed the 2nd cycle of secondary education and of Professional and Technical training, respectively. Only 1% of employed workers completed each of these two levels of education.

The relatively high concentration of unemployed workers among Apprentices, Retirees, and Inexperienced Workers suggest, firstly, most unemployed workers have probably not had jobs outside their traditional rural activities, and so they have not had the opportunity to gain the skills needed to make them more than marginally useful to employers; secondly, labor turnover is fairly low in the modern sector, once the workers have gained the required skills. Those workers who fail to acquire necessary skills quickly, however, are laid off and join the ranks of inexperienced workers. Employer demand for labor is relatively low in the modern sector regardless of educational attainment. This hypothesis is suggested by the slight bulge in employed graduates from traditional and primary levels of education. Unemployed workers as a whole have higher levels of

Sedentary Population Unemployed in 1977 By Educational Background and Occupational Group

(Data Express Numbers of People)

Occupational Groups	Type of Education Completed							Total
	Illiterate	No Education	Traditional Education	Primary Education	1st Cycle Secondary Education	2nd Cycle Secondary Education	Technical Professional Training	
Agriculture								
Total	807	3	133	26	5	0	0	974
% by Occupation	(83%)	(0.3%)	(14%)	(3%)	(0.5%)	0	0	(100%)
% by Education	(3%)	(3%)	(2%)	(1%)	(1%)	0	0	(2%)
Industry								
Total	179	0	49	40	8	0	3	279
% by Occupation	(64%)	0	(18%)	(14%)	(3%)	0	(1%)	(100%)
% by Education	(1%)	0	(1%)	(1%)	(1%)	0	(3%)	(1%)
Artisan								
Total	656	1	66	38	2	0	1	764
% by Occupation	(86%)	(0.1%)	(9%)	(5%)	(0.3%)	0	(0.1%)	(100%)
% by Education	(2%)	(1%)	(1%)	(1%)	(0.2%)	0	(1%)	(2%)
Administration & Communication								
Total	40	2	74	314	96	31	18	575
% by Occupation	(7%)	(0.3%)	(13%)	(55%)	(17%)	(5%)	(3%)	(100%)
% by Education	(0.1%)	(2%)	(1%)	(8%)	(12%)	(13%)	(20%)	(1%)
Construction & Public Works								
Total	1,082	9	209	122	22	4	8	1,456
% by Occupation	(74%)	(1%)	(14%)	(8%)	(1%)	(0.3%)	(0.5%)	(100%)
% by Education	(4%)	(10%)	(3%)	(3%)	(3%)	(2%)	(10%)	(3%)
Commerce & Transport								
Total	755	6	452	237	44	8	4	1,506
% by Occupation	(50%)	(0.4%)	(30%)	(16%)	(3%)	(0.5%)	(0.3%)	(100%)
% by Education	(2%)	(7%)	(7%)	(5%)	(6%)	(3%)	(5%)	(4%)
Professional & Technical								
Total	3	0	5	2	3	25	1	39
% by Occupation	(8%)	0	(13%)	(5%)	(8%)	(66%)	(3%)	(100%)
% by Education	(0.01%)	0	(0.1%)	(0.1%)	(0.4%)	(11%)	(1%)	(0.1%)
Armed/Security Forces								
Total	36	2	16	23	8	4	2	91
% by Occupation	(40%)	(2%)	(18%)	(25%)	(9%)	(4%)	(2%)	(100%)
% by Education	(0.1%)	(2%)	(0.2%)	(1%)	(1%)	(2%)	(2%)	(0.2%)
Service/Social Workers								
Total	387	1	80	58	18	24	8	576
% by Occupation	(67%)	(0.2%)	(14%)	(1%)	(3%)	(4%)	(1%)	(100%)
% by Education	(1%)	(1%)	(1%)	(10%)	(2%)	(10%)	(9%)	(1%)
Apprentices, Retirees and N.E.C.1)								
Total	26,579	68	5,497	3,050	593	138	43	35,968
% by Occupation	(74%)	(0.2%)	(15%)	(8%)	(2%)	(0.4%)	(0.1%)	(100%)
% by Education	(87%)	(74%)	(84%)	(78%)	(74%)	(59%)	(49%)	(85%)
Total Sedentary								
Total	30,524	72	6,581	3,910	799	234	88	42,228
% by Occupation	(72%)	(0.2%)	(16%)	(9%)	(2%)	(0.6%)	(0.2%)	(100%)
% by Education	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)	(100%)

1) Not Elsewhere Classified includes those who reported no occupation (mainly inexperienced workers) and those whose responses were illegible recorded on the survey instruments.

literacy and higher completion rates for traditional and primary education than employed workers. They also have the same completion rates in the 1st cycle of secondary education as employed workers. This suggests that jobs in the modern sector are difficult to obtain regardless of workers level of educational attainment. It is also possible that some expressed unemployment among the "apprentices and inexperienced" group reflects the implicit desire of workers to seek jobs in the modern sector (even though they have had no work experience there). More research is needed as to whether education itself carries with it a form of indoctrination which induces young workers to forego rural employment opportunities and search for difficult-to-find jobs in the modern sector.

2.3 By Economic Sector

According to the census figures of 1977, 76.6% of the nation's sedentary population had "no education" (formal or non-formal). Of the remainder, only 6.7% had a primary school education, 3.0% a secondary school education, and only 1% a technical or professional education. The remaining 12.7% had a traditional family or Islamic education.

This condition was more pronounced in agriculture (89.6%) in household services (84.1%) in artisanal manufacturing (79.2%) and construction (77.2%). The figures are higher in the rural areas and somewhat lower in the urban areas.

Going to the other extreme, that part of the sedentary labor force with the highest educational qualifications is found working for the Government and Financial Institutions. Thus, this sector

occupies 79.4% of those with technical and professional education (2,250 out of 2,830), 55.4% of those who have completed secondary school (5,000 out of 9,040), and 35.7% of those with a primary school education (7,410 out of 20,190). If the para-statal enterprises in water, electricity, and mining are included (as a group), then the Government's absorption of the relatively highly qualified personnel rises further: by another 240 (3.5%) at the technical-professional level, 1,420 (15.3%) of the secondary school graduates, and 1,810 (9.0%) of primary school graduates.

Other features in the rural areas are worth noting. The commercial sector has the highest percentages of workers with a traditional education: 34.9% (25.0% traditional family and 9.9% traditional Islamic), while it is also the sector, after Government and Finance, with the smallest percentage of workers with no education, 57.3%.

Certain differences between the rural and urban areas stand out. All of the sectors have somewhat lower rates of no education in the urban areas, and, conversely, somewhat higher rates for primary and secondary education. In some cases, the differences are small as in the case of household services sector, and in others much larger, as in the case of the para-statal enterprises and the construction sector. Also, those with some education (traditional family, traditional Islamic, primary school) represent 15.4% in the rural areas and 26.7% in the urban areas.

The differences between the educational levels of the 259,166 employed and the 42,228 unemployed are relatively small in all sectors. Thus, it is not clear that any conclusions can be drawn from the fact that illiteracy was 93.9% among employed agricultural workers (132,267

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out of 142,124) and 83.0% among unemployed workers (807 out of 974), and 33.0% among employed artisan (10,103 out of 12,192) and 36.0% among the unemployed (656 out of 764), etc. Perhaps the most interesting finding here is that 85.0% of the total unemployed (35,968 out of 42,228) were apprentices, indicating that the young and inexperienced were having difficulties in finding employment. The level of education is approximately the same among the employed and unemployed of this group. (Tables 2.7, 2.8, and 2.9).

Table 2.7

Sedentary Labor Force by Economic Sector and Educational Level 1977

Level of Education	Agriculture	Extractive, Water, and Elect.	Modern MFG.	Craft Mfg.	Const. and Public Works	Commerce, Rest. and Hotels	Trans. and Communi- cations	Gov't. and Financial Instit.	Household and Busi- ness Services	Not Else- where Class.	Total
No Education-											
Number	128,220	3,690	980	10,670	8,270	16,870	3,300	12,390	19,320	26,980	250,690
% No Education	55.6	1.5	0.4	4.6	3.6	7.3	1.4	5.4	8.4	11.7	100.0
% of Sector	89.6	47.6	66.2	79.2	77.2	57.8	63.2	41.4	84.1	72.6	76.6
Traditional Family	10,490	430	120	1,850	740	7,300	410	2,050	1,750	4,770	29,910
% Trad. Family	35.1	1.4	0.4	6.2	24.4	24.4	1.4	6.9	5.9	15.9	100.0
% Sector	7.3	5.5	8.1	13.7	7.0	25.0	7.9	5.8	7.6	12.8	9.9
Traditional Islamic	2,470	160	50	140	140	2,880	30	830	540	1,050	5,290
% Trad. Islamic	29.8	1.9	0.6	1.7	1.7	34.7	0.4	10.0	6.5	12.7	100.0
% Sector	1.8	2.1	3.4	1.1	1.3	9.9	0.6	2.8	2.3	2.8	2.8
Primary Education	1,780	1,310	130	680	1,130	1,520	1,030	7,410	1,150	3,500	20,190
% primary	6.8	9.0	0.9	3.4	5.6	7.5	5.1	36.7	5.7	17.3	100.0
% Sector	1.3	23.4	12.2	5.0	10.5	5.2	19.7	24.8	5.0	9.4	6.7
Secondary Education	80	1,420	140	130	270	560	400	5,000	200	840	9,040
% Secondary	0.9	15.8	1.5	1.4	3.0	6.2	4.5	55.4	2.2	9.4	100.0
% Sector	0	18.3	9.5	1.0	2.5	1.9	7.7	16.7	0.9	2.3	3.0
Tech/Profess. Train.	0	240	10	0	160	70	50	2,250	20	30	2,830
% Tech/Profess.	0	8.5	0.4	0	5.6	2.5	1.8	79.4	0.8	1.0	100.0
% Sector	0	3.1	0.6	0	1.5	0.2	0.9	7.5	0.1	0.1	1.0
Total	143,040	7,750	1,480	13,470	10,710	29,200	5,200	29,930	22,980	37,170	300,950
% Sedentary L.F.	47.5	2.5	0.5	4.5	3.5	9.7	1.8	9.9	7.6	12.5	100.0
% Sector	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Population Census 1977

Rounded figures.

Table 2.8
Urban Sedentary Labor Force by Economic Sector and Educational Level 1977

Level of Education Completed	Agriculture	Extractive Water, & Mining	Modern Mfg	Craft Mfg	Const. and Public Works	Commerce, Rest. & Hotels	Trans. & Communications	Gov't. & Financial Institutions	Household & Business Services	Not Elsewhere Classified	Total
No Education											
Number	6,400	3,160	820	4,890	6,670	10,000	2,850	7,130	10,440	14,940	67,300
% No Education	9.5	4.7	1.2	7.3	9.9	14.9	4.2	10.5	15.5	22.2	100.0
% of Sector	81.2	45.3	63.5	76.1	74.8	61.5	61.3	36.9	81.3	70.0	63.6
Traditional Family											
Number	310	360	110	730	650	3,660	370	1,160	980	2,310	11,240
% Trad. Family	3.1	3.2	1.0	6.5	5.8	32.5	3.3	10.3	8.7	20.6	100.0
% Sector	11.5	5.2	8.5	11.4	7.3	22.6	3.1	6.0	7.5	10.8	19.6
Trad. Islamic											
No.	190	110	50	100	120	920	30	340	190	490	2,540
% Trad. Islamic	7.5	4.3	2.0	3.9	4.7	36.2	1.2	13.4	7.5	19.3	100.0
% Sector	2.4	1.6	3.9	1.5	1.3	5.6	0.6	1.8	1.4	2.3	2.4
Prim. Educ.											
No.	340	1,710	170	580	1,060	1,110	960	4,800	1,060	2,760	14,550
% Primary	2.3	11.8	1.2	4.0	7.3	7.6	6.5	33.0	7.3	19.0	100.0
% Sector	4.3	24.5	13.2	9.0	11.9	6.8	20.6	24.9	6.3	12.9	13.7
Second./Higher											
No.	50	1,390	130	130	270	510	390	4,170	190	790	8,020
% Second./Higher	0.6	17.2	1.6	1.6	3.4	6.4	4.9	52.0	2.4	9.9	100.0
% of Sector	0.6	19.9	10.0	2.0	3.0	3.1	8.4	21.6	1.4	3.7	7.5
Tech./Profess.											
No.	0	240	10	0	150	70	50	1,710	20	30	2,280
% Tech./Profess.	0	10.5	0.4	0	6.5	3.1	2.2	75.0	0.9	1.3	100.0
% Sector	0	3.5	0.8	0	1.7	0.4	1.1	8.8	0.1	0.3	2.2
Total											
No.	7,390	6,970	1,290	6,430	8,920	16,270	4,650	19,310	12,880	21,320	105,930
% of Urban Educ.	7.4	6.6	1.2	6.1	8.4	15.4	4.4	18.2	12.2	20.1	100.0
% Sector	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Population Census 1977.

Rounded figures.

Table 2.9

Rural Sedentary Labor Force by Economic Sector and Educational Level 1977

Level of Education Completed	Agriculture	Extractive: Water, & Elec.	Modern Mfg.	Craft Mfg.	Const. and Public Works	Commerce, Rest. & Hotels	Trans. & Communications	Gov't. & Financial: Instit.	Household & Busi. Services	Not Elsewhere Classified	Total
No Education	121,320	530	160	5,780	1,600	6,870	450	5,250	8,870	12,040	163,380
% of no Educ.	74.6	0.3	0.1	3.5	1.0	4.2	0.3	3.2	5.4	7.4	100.0
% of Sector	90.1	68.0	84.1	82.1	89.3	53.1	78.9	49.8	87.8	76.0	83.8
Trad. Family	9,580	70	10	1,120	90	3,640	40	890	770	2,460	18,670
% of Trad. Family	51.3	0.4	0.1	6.0	0.5	19.5	0.2	4.8	4.1	13.1	100.0
% of Sector	7.1	9.0	5.3	15.9	5.0	28.2	7.0	3.4	7.7	15.5	9.6
Additional Islamic	2,280	50	0	40	20	1,960	0	490	350	560	5,750
% of Trad. Islamic	39.7	0.8	0	0.6	0.3	34.0	0	8.5	6.1	10.0	100.0
% of Sector	1.7	6.4	0	0.6	1.2	15.2	0	4.6	3.5	3.5	2.9
Primary Education	1,440	100	10	100	70	410	70	2,610	90	740	5,640
% of Primary	25.5	1.7	0.2	1.7	1.3	7.3	1.3	46.3	1.6	13.1	100.0
% of Sector	1.1	12.8	5.3	1.4	3.9	3.1	12.3	24.6	0.9	4.7	2.9
Secondary/Higher	30	30	10	0	0	50	10	830	10	50	1,020
% of Sec./Higher	2.9	2.9	1.0	0	0	5.0	1.0	31.3	1.0	5.0	100.0
% of Sector	0	3.8	5.3	0	0	0.4	1.8	7.8	0.1	0.3	0.5
Tech/Prof. Training	0	0	0	0	10	0	0	540	0	0	550
% of Tech/Prof.	0	0	0	0	1.0	0	0	98.2	0	0	100.0
% of Sector	0	0	0	0	0.6	0	0	5.1	0	0	0.3
Total	135,150	730	190	7,040	1,790	12,930	570	10,620	10,100	15,850	195,020
% of Rural Sed.	69.3	1.6	0.1	3.6	0.9	6.6	0.3	5.4	5.2	8.0	100.0
% of Sector	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source : Population Census 1977

Rounded figures.

Chapter 3
The Modern Sector

3.1 Introduction

Two essential methods of developing manpower skills are obviously education and job experience. For every job there are certain skills that can be learned only through formal or nonformal instruction and others through instruction supplemented by learning on the job.

This and the following sections analyze the existing stock of manpower skills in the modern sector from the perspective of educational level and job experience.

Earlier chapters of this report analyzed the existing work force of 450,000 persons in terms of economic sectors, occupations, and rural/urban areas.

This section contains the findings of the RME Census of the Modern Business Sector which was conducted during the period March through June 1980. The census covered 199 firms with 5 or more employees in the six largest cities of Mauritania. These cities and their respective population are:

<u>City</u>	<u>1977 Population</u> ¹
Nouakchott	134,704
Nouadhibou	21,930
Kaedi	20,707
Zouerate	19,473
Posso	16,510
Kiffa	10,266
Total	<u>223,590</u>

This census was conducted jointly by RAMS and the Department of Labor of the Ministry of Health, Labor and Social Affairs. Information collected included:

1. Number of firms and employees by economic sector
2. Employment by citizenship and sex
3. Employment of labor contractors
5. Salaries and employment grade by occupational group
6. Apprentices by trade
7. Education, training and experience by occupational group
8. Training school graduates employed by trade
9. Turnover of workers
10. Forecast of manpower requirements by occupational group
11. Minimum desirable education, training and experience by occupational group
12. Recruitment problems by occupation
13. Means of recruitment by occupational group.

Of the 199 businesses contacted in the RAMS Survey, a response in some form or another was received by 191 of them (96%). Those that did not respond appeared to be out of business or small in size; therefore, the census is quite representative of the entire modern sector.

Two firms, the national mining company (SHIM) and a private road construction firm, with 6,306 employees constitute 41% of the entire sector. The inclusion of these two firms have skewed the overall

¹For more information on the Department of Labor's role in the Census of Business of the Modern Sector, and Survey response rates, see Section 11.3, Methodology of the 1980 Census of the Modern Sector.

figures, for they are "huge in" comparison with the general run of enterprises and establishments in the modern sector. In any case, the following discussion includes the case with these two firms and without them.

3.2 Size of Firms

Most of the businesses in the modern sector are quite small in terms of the number of employees hired. (No data were gathered on the value of assets.) There are 74 firms or 38.7% with less than 15 employees, and 146 or 76.4% with less than 50 employees. Only 29 or 15.2% businesses had more than 100 employees each. Of them, SNIM with 5,132, and the road construction firm with 1,121, are by far the largest.

If the work force of the two largest enterprises (SNIM and the private construction company) is subtracted from the total of 15,123, the average size of the work force falls to 46.7 from 79.2 per establishment.

Although total employment is relatively low in the modern sector, this sector pays higher salaries, and together with the government sector absorbs the largest part of educated and highly skilled manpower.

3.3 Employment Status

Table 3.1 divides the work force by the employment status of workers. As expected, the bulk (74%) is permanent. A rather surprisingly high proportion (21%) consists of occasional day laborers, suggesting a fluid, irregular work force that is probably paid minimum level wages and has low skill and productivity levels. The remaining 5% is divided between employers and proprietors (2%), labor contractors (2%), apprentices and part-time workers (less than 1%), and independent workers (0.1%). The latter two groups seem suspiciously low and may be underreported. According to discussions with labor officials, the practice of labor contracting seems to be more widespread than the 279 workers (or 2%) reported would indicate. The figure for independent workers also appears doubtful. In the population at large, a significant proportion are independent workers engaged directly (rather than through a labor contractor) as contractors or temporary employees. A contract is made usually to do a specific job during a limited amount of time. Presumably, some of these independents are successful enough to have employees working for them. The low response, only 19 workers (or 0.1% suggests either that there really are not many in this category or that the category may have been misunderstood and the questionnaire reflected "employers and proprietors" instead.

The category "employers and proprietors", which includes 233 for the 191 businesses, is not unusually high, including as it does owners who also work in multiple-ownership companies.

Table 3.1

Employment Status of Workers in all Businesses in
Mauritania's Six Largest Cities and Towns in 1980^{a/}

Employment Status	Male	Female	Total	Percent of Distribution
Employers and Proprietors	220	13	233	2
Permanent Employees	10,722	603	11,325	74
Occasional day Laborers	3,125	12	3,132	21
Part-time Permanent Workers, Apprentices, and New Conditional Workers	127	3	130	0.9
Independent Workers ^{b/}	18	1	19	0.1
Contract Workers ^{c/}	253	26	279	2
Total	14,465	658	15,123	100
Percent Distribution	96	4	100	

^{a/}Data based on business establishment with five or more employees.

^{b/}Hired by a firm on a contract basis.

^{c/}Hired by an intermediary that supplies labor to a firm on a contract basis.

Source: 1980 Census of Businesses of the Modern Sector.

3.4 Skill Level

As shown in Table 3.2 employees were also classified by skill level using the eight categories generally recognized in Mauritania:

- Management
- Management Staff
- Master Craftsmen
- Qualified Employees
- Skilled Workers
- Assistants
- Laborers
- Apprentices

Of the 15,552 employed, 2% are top management and another 6% are professional staff.

3.5 Economic Sectors

Table 3.3 shows the distribution of workers by economic sector. As noted above, the mining industry is by far the single largest employer in the modern sector (excluding Government). Its 5,182 employees constitute one-third of total **private** modern sector employment. The mining industry and the national water and electricity company constitute the Extractive Industries sector and contribute a total of 5,701 employees, 37% of the total modern sector.

Table 3.2

Employment By Occupational Groups, Place of Origin and Sex of Workers

(Data Express Numbers of Workers)

Occupational Group	Mauritanian	<u>Males</u> Other African	Other Non-African	Mauritanian	<u>Females</u> Other African	Other Non-African	Total	Percent Distribution	Percent Male
Management	241	7	62	3	2	4	319	2%	97%
Management Staff	565	170	500	30	2	20	1,241	8%	95%
Master Craftsmen	2,338	104	326	153	9	60	2,990	19%	92%
Qualified Employees	2,001	67	1	262	3	5	2,339	15%	88%
Qualified Craftsmen	2,892	66	--	132	--	1	3,091	20%	95%
Special Assistants	2,839	33	--	73	--	3	2,948	19%	97%
Laborers	2,546	3	--	15	--	--	2,569	16%	19%
Apprentices	65	--	--	--	--	--	65	0.4%	100%
Total	13,491	405	889	668	16	93	15,562		
Percent Distribution	87%	3%	6%	4%	0.1%	0.5%	100%	99.4%	95%

Source: 1980 RAMS Establishment Survey. These data are based on establishments with five or more employees.

Table 3.3

**Employment By Economic Sector in All Business Establishments in Mauritania's
Six Largest Cities and Towns in 1979, by Size of Establishment, Sex and
Area of Origin^{a/}**

Economic Sector	Size of Establishment				Total	Percent Distribution
	5 - 14 Employees	15 - 49	50 - 99	100 or More		
1. Agriculture						
Total	-	39	-	104	143	1%
% Male	-	95	-	98		97%
% Mauritanian	-	95	-	100		99%
% Non-African	-	0	-	0		0%
2. Extractive Industries plus Water & Electricity						
Total	-	-	-	5,701	5,701	37%
% Male	-	-	-	97		97%
% Mauritanian	-	-	-	80		90%
% Non-African	-	-	-	8		8%
3. Modern Manufacturing						
Total	117	294	51	901	1,363	9%
% Male	100	73	100	82		87%
% Mauritanian	72	64	94	94		90%
% Non-African	3	8	4	6		5%
4. Craft Manufacturing^{a/}						
Total						
% Male						
% Mauritanian						
% Non-African						
5. Construction and Public Works						
Total	23	130	189	2,002	2,522	16%
% Male	100	94	99	99		99%
% Mauritanian	74	76	90	80		81%
% Non-African	9	5	3	14		12%
6. Commerce, Restaurants and Hotels						
Total	262	463	293	598	1,616	10%
% Male	96	94	97	91		94%
% Mauritanian	84	88	89	99		92%
% Non-African	5	5	3	0.3		3%
7. Transport and Communications						
Total	89	155	164	1,308	1,716	11%
% Male	81	85	93	96		92%
% Mauritanian	93	93	95	97		96%
% Non-African	3	5	1	3		3%
8. Government & Financial Institutions						
Total	21	243	387	1,357	2,008	13%
% Male	26	95	89	90		90%
% Mauritanian	95	96	95	99		98%
% Non-African	0	2	3	0.4		1%
9. Household and Business Services						
Total	68	425	0	0	493	3%
% Male	97	98	-	-		98%
% Mauritanian	60	95	-	-		91%
% Non-African	15	3	-	-		4%
Total	580	1,927	1,084	11,971	15,562	100%
% Male	94	94	94	95		94%
% Mauritanian	80	88	92	90		90%
% Non-African	2	5	2	7		0%

^{a/}Based on establishments with five or more employees.

^{b/}Excluded from the survey.

Source: 1980 RANS Business Establishment Survey.

Five other sectors have the following proportions of the workforce:

Construction and Public Works:	16%	2,522 employees
Financial Institutions:	13%	2,008 employees
Transport and Communications:	11%	1,716 employees
Commerce:	10%	1,616 employees
Modern Manufacturing:	9%	1,363 employees

In Mauritania, the definition of sectors differs somewhat from the norm: most of the extractive industry is in the modern sector; manufacturing is divided between modern and artisan manufacturing, so the former should be all modern sector and the latter should be all nonstructured or traditional sector; in construction and public works (26%) and transportation and communication (35%), the modern sector contributes a significant portion but still less than half of total employment. The government and the financial sector numbers are misleading because the Government, the largest single employer in the country, was not included in this census, but was the subject of a separate study. By far the largest group of employment in the country is in agriculture, which forms a negligible part of the modern sector. (SONADER projects and cooperatives were not included in the survey). The next largest group of employment in the country is in commerce, which contributes about 5% to this sector; after government, the fourth largest group of employment is in "service" which provides only 22% to it.

It is little wonder then that, overall, modern sector employment contributes less than 4% to the total employment of the country and 6% to sedentary employment.

3.6 Expatriate Workers

Almost all of the workers in the modern sector are Mauritians. Of the 15,562 total work force, 14,159 or 91% are nationals. In addition, 421 (3%) other Africans and 982 (6%) non-African expatriates were reported, making a total of 1,403 jobs which could become available if all of the expatriates in the modern sector were to be replaced by Mauritians. The 1977 census reported a total expatriate population of 12,734 of both sexes and all ages. This survey suggests that roughly 10% of them are working in the modern private business sector. Although the number and proportion of expatriates is quite small, their location within the occupational groups is significant. Of the 1,241 in professional staff positions, 652 are expatriates representing over 1/2 of second-level management. Predominant among the foreigners in management positions are non-Africans; 586 versus 131 of other nationalities.

Foreigners were also important at the clerical staff level, numbering almost 500 of the 2,990 employees or 17%.

A complete Mauritanization of the modern sector work force would not provide many additional jobs for Mauritians, since they already hold most of them anyway. Relative to their number however, expatriates hold a high share of high-level jobs.

This analysis, it should be noted, does not include consideration of the government, which itself includes significant numbers of foreigners working as secondary school teachers and senior level advisors. (Table 3.4)

3.7 Gender

Most of the workers in the modern sector are males. The 14,785 males in this sector constitute 95% of the total. No economic sector contains less than 87% males.

The 777 women reported as working in the modern sector (excluding government) make up only 5% of that work force. At the same time, they make up a miniscule 0.2% of the more than 394,000 women age 15-64 estimated for 1980.^{1/} Table 3.5 shows their distribution by employment. A total of 492 or 63% are classified as skilled and technical. Only 8% are in management positions; 2 are reported laborers and none as apprentices.

^{1/}Calculation based on EAMS' Study Demographic Projections, Appendix Table K.

Table 3.4

Expatriate Workers in the Modern Sector by Economic Sector (1980)

Economic Sector	Number of Expatriate Workers	Percent Distribution
1. Agriculture ^{a/}	4	0.2
2. Extractive	586	42
3. Manufacturing	125	9
5. Construction	426	30
6. Commerce	127	9
7. Transportation	50	4
8. Financial Institution	43	3
9. Services	43	3
	1,404	100

a/ Excludes Chinese workers at M'Pourie.

Table 3.5
Modern Sector Female Employees by Employment

Level

Skill Level	Female Employees	% Distribution
Management	9	1
Professional Staff	52	7
Clerical Staff	222	28
Skilled Workers	270	35
Workers	133	17
Assistants	76	10
Laborers	15	2
Apprentices	0	0
Total	777	100

3.8 Contract Labor

The practice of contract labor seems to be widespread in urban areas, yet the survey only identified 43 employees as contract labor, a figure no doubt underreported. Table 3.6 provides the number of labor contractors by city.

3.9 Salary

Three questions were asked in the census about salaries. The response rate for this question was very low, including only 544 out of the 15,562 employees (ie., 4%). Therefore, little credence can be given to the figures in Table 3.7. The distribution illustrates, as expected, that the bulk of salaries is on the lower end of the scale: over 70% of the workers have a gross salary of 20,000 UM or less per month.^{1/} Even the lower end salaries are, however, much higher than the per worker earnings of those in traditional occupations. At the top, 24 workers were each earning more than 75,000 UM per month.^{2/} Generally, lower salaries are earned in small, rather than in large companies.

3.10 Apprentices

Only 11 firms completed the question which asked details about apprenticeship contracts. Of those who responded, 21 apprentices in six occupations were identified. The data, obviously a small proportion of the probable total, is presented in as Table 3.8

^{1/}US \$ 433/month or US \$ 5,196/ year.

^{2/}US \$ 1,633/month or almost US \$ 20,000/ year.

Table 3.6
Contract Labor Employed
1980^{a/}

<u>City or Town</u>	<u>Contractor^{b/}</u>
Nouakchott	17
Nouadhibou	16
Kaedi	0
Zouerate	9
Rosso	1
Kiffa	0
Total	43

^{a/} Data based on business establishments with five or more employees.

^{b/} Labor contractors are hired by intermediaries that supply labor to firms on a contract basis.

Source: 1980 RAME Census of Business of the Modern Sector.

Table 3.7

Number of Workers by Gross Salary and Size of Firms 1980^{a/}

Gross Salary (in Cuguiyas)	5 - 14 Employees	15 - 49 Employees	50 - 99 Employees	100 or More Employees	Total
0 - 5,000	49 (21%)	52 (16%)	10 (10%)	14 (12%)	105 (16%)
5,001 - 7,500	50 (21%)	32 (16%)	12 (12%)	16 (14%)	110 (17%)
7,501 - 10,000	34 (14%)	28 (15%)	12 (12%)	14 (12%)	88 (14%)
10,001 - 15,000	32 (16%)	27 (14%)	12 (14%)	14 (12%)	91 (14%)
15,001 - 20,000	16 (7%)	24 (12%)	11 (11%)	11 (10%)	62 (10%)
20,001 - 25,000	9 (4%)	11 (6%)	10 (10%)	8 (7%)	38 (6%)
25,001 - 30,000	9 (4%)	8 (4%)	6 (6%)	8 (7%)	31 (5%)
30,001 - 40,000	9 (4%)	12 (5%)	10 (10%)	8 (7%)	39 (6%)
40,001 - 50,000	5 (2%)	5 (3%)	4 (4%)	7 (6%)	21 (3%)
50,001 - 60,000	7 (3%)	5 (3%)	4 (4%)	4 (4%)	20 (3%)
60,001 - 75,000	3 (1%)	6 (3%)	2 (2%)	4 (4%)	15 (2%)
Over 75,000	7 (3%)	4 (2%)	7 (7%)	5 (5%)	24 (4%)
Total	236	194	100	114	544

a/ Based on establishments with five or more employees.

Source: 1980 FAMS Business Establishment Survey.

Table 3.8

Number of Apprentices by Trade and by Size of Firms 1980^{1/}

(Data Express Numbers of Workers)

Trade	Workers in Firms with 5-14 Employees	Workers in Firms with 15-49 Employees	Workers in Firms with 50-99 Employees	Workers in Firm with 100 Employees or more	Workers in all Firms
Laboratory	--	--	3	--	3
Chaffeur	--	6	--	--	6
Mechanic	--	3	--	--	3
Sheet metal worker	--	3	--	--	3
Electrician	--	3	--	--	3
Painters	--	3	--	--	3
Total	--	18	3	--	21

^{1/}These data are based on establishments with five or more employees.

Source: 1980 RANS Establishment Survey

Table 3.9

Educational and Training of Workers by Occupational Group, as Reported by Business Establishments in Mauritania's Six Largest Cities and Towns in 1980

Occupational Group	Less Than Primary School	Primary School	Secondary School		Teacher Training		Technical School		Higher Education		Professional Instruction					
			b/	c/	b/	c/	b/	c/	b/	c/	d/	e/	b/	c/	d/	e/
Management	8	9	23	36	2	3	3	10	35	19	15	17	4	4	1	2
Management Staff	3	46	80	83	4	17	43	64	60	42	7	26	7	9	5	7
Master Craftsmen	539	516	199	180	31	11	60	143	-	1	-	25	33	33	12	-
Qualified Employees	256	539	196	66	3	-	38	-	-	-	-	10	14	5	1	1
Qualified Craftsmen	266	174	16	-	-	-	672	2	-	-	-	20	12	12	-	-
Special Assistants	549	106	8	1	-	-	251	-	-	-	-	3	8	1	5	-
Laborers	1,795	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	3,416	1,401	522	366	40	31	1,067	219	95	62	22	101	78	64	31	10
Distribution (100% equals 7,525)	(45%)	(19%)	(7%)	(5%)	(0.5%)	(0.4%)	(14%)	(3%)	(1%)	(1%)	(0.3%)	(1%)	(1%)	(1%)	(0.4%)	(0.1%)

a/ Based on establishments with five or more employees.

b/ 1st cycle c/ 2nd cycle d/ 3rd cycle e/ Other

Source : 1980 RIMS Business Establishment Survey.

3.11 Educational Characteristics

The educational level and years of experience were reported for 7,525 of the 15,562 employees, a response rate of about 50%. As shown in Table 3.9, the biggest group of employees in the modern sector, i.e., 3,416 workers, or 45% of the total are those with less than primary education. Of those, about half (1,705) are working as laborers. About half of those with less than primary education however, are working in occupations requiring more skills than laborers, 539 clerical staff and 8 top-level managers. The second largest sample group comprises those with **primary** school education, numbering 1,401 or 19% of the total. Those with post-secondary education make up only 6% of the modern sector work force. Included are 230 with at least some university education and 183 with some professional education.

It is interesting to compare these distributions with those of the sedentary labor force as a whole. It is evident that there are dramatic differences between the total labor force and that part of it working in the modern sector in terms of formal education. Whereas the modern sector has less than half of its work force with "less than primary" education, the total labor force has 89% in the same group. Those categorized as "secondary and higher" represented only 3% of the total labor force, but "secondary school" represented 30% of the modern work force. The common assumption that levels of formal education are much higher in the modern sector than in the total labor force is supported by Table 3.10.

Another interesting observation is the wide distribution between education levels of occupational groups. In a personnel system where the primary criterion for entry into a given grade level is the formal education attained, it would be expected that a given education level would apply for a given occupational

Table 3.10

Comparison of Levels of Education Between the Sedentary Labor Force 1977 and the Modern Sector Work Force 1980

Total Sedentary Labor Force 1977			Modern Sector Work Force 1980		
Level of Education	No. of Workers	Percent Distribution	Percent Distribution	No. of Workers	Level of Education
None	230,690	75%			
Traditional: Family	29,910	10%	45%	3,416	Less than Primary
Traditional: Organized	8,290	3%			
Primary	20,190	7%	19%	1,401	Primary
Secondary and Higher	9,040	3%	12%	888	Secondary general
		1%	1%	71	Teacher training
			17%	1,286	Technical
			4%	280	Higher Education
Technical and Professional	2,830	1%	2%	183	Professional Instruction
Total	300,950	100%	100%	7,525	

Source: National Census 1977 and Census of Modern Business Sector 1980

group. Yet, that is clearly not the case. Primary and less than primary education groups have members scattered from laborers to top management; secondary and professional education both include all occupation groups except laborers. Only higher education cycles 1 to 3 are confined (with one exception) to management, as expected, suggesting that formal education in the group surveyed was neither the sole criterion, nor apparently a prerequisite for access to a given occupational level. The implications for manpower planning are important. They suggest that significant numbers of current employees have been able to reach high levels of professional groups without having formal education and presumably by some combination of non-formal education and on the job training. If, in fact, such employees are successfully performing their assigned tasks, then others should also be able to perform the same job without extensive formal education. Information available from this survey is inadequate for any firm conclusions. The experience of the Centre de Formation Professionnelle (CFPP) should be followed closely in this regard.

This also suggests another line of inquiry. In other sections of this report, the increasing number of higher education level graduates and dropouts is addressed. Given the large number of current job holders with little or no formal education, it seems that they will gradually be replaced by younger entering workers with much higher levels of formal education but less experience or on-the-job training. As this occurs, what will be its impact? There is the possibility of serious tension as a "new breed" of workers moves in and threatens the status of older employees. It can be asked whether or not the existing modern sector is capable in the short term of absorbing not only the numbers but also the capacities of better educated workers.

3.12 Technical Skills

An attempt was made to find the current occupations of those who were graduates of specialized technical training schools, particularly the Mamadou Touré Center for Professional Training. The response (48%) to this question suggests underreporting. Of those reported there is a diversity of occupations, suggesting a flexible transferability of skills among even those with a specific technical training (Table 3.11).

Table 3.11

Number of Employee Graduates of the Mamadou Toure Center For Professional Training and Other Training Centers 1980¹

Trade	Employed Graduates
Metallurgical Engineer	1
Mining Engineer	7
Mechanic	6
Plumber	1
Chief of <u>Quart</u> (fishing)	1
Supervisors of Installations	1
Electro-Mechanic	1
Chief of Site - Masonry	1
Chief of Staff	1
Secretary	1
Masonry	2
Welder	1
Train Conductor	1
Electrician	1
Typist	7
Office Employee	3
Chief of <u>Exploitation</u>	2
Insurance Editor	2
Administrator	2
Accounting and Finance	6
Total	43

¹These data are based on establishments with five or more employees.

Source: 1980 RAMS Establishment Survey.

Chapter 4

The Civil Service

4.1 Introduction

The Government is the country's largest single employer. In 1980, the Civil Service included 9,570 employees (police and security forces not included). The trend has been rising as may be seen in the fact that employment was 7,939, in 1973, 8,345 in 1974, and 9,235 in 1975. The Civil Service, together with the private and para-statal modern sector firms, contains virtually all of the existing employed high level manpower and most of the mid-level manpower as well. This stock of manpower skills, including work experience, is essential to the development of the country and is particularly important because of its relatively high income per position, relatively high levels of education and skills, high costs to produce those skills, and the role which the government must play in economic development.

The main source of information for this analysis is a 1979 government computer printout of personnel by Ministry provided by the Ministry of Economy and Finance.

The 1977 census did not provide a separate category for the civil service but rather included them in the economic sector "Government and Financial Services" in which 28,899 employees were divided among a variety of occupations.

4.2 Current Employment Breakdown and Educational Levels

The 1979 computer printout lists each employee by grade level and occupation by the Ministry. There are several important omissions, viz:

All military, national guard, police and other security forces.

All ambassadorial staff abroad.

Several para-statal institutions including:

- .. The Office of Social Security
- .. The National Scientific Research Institute
- .. Mauritanian Red Crescent
- .. The National Hospital

All civil servants currently on leave of absence.

Cooperants (technical assistant personnel) particularly teachers who are paid by donating governments, but work directly for GIPM.

The lists provided were grouped by ~~the Ministry as it existed~~ before the latest government organization, e.g., the Directorate of Studies and Program is listed as part of the former Ministry of Planning instead of the present Ministry of Economy and Finance. Table 4.1 summarizes the 9,570 government employees included in the 1979 printout.

One additional source is at least indicative. The Third Development Plan states that government employment grew from 4,100 in 1965 to about 9,100 in 1973^{1/}.

^{1/}Page 53 of the Plan.

According to the 1979 printout, the largest number of employees are found in those Ministries which generally provide services directly to the people; in fact, two Ministries, Education (with 37%) and Health, Labor, and Social Affairs (with 19%) together provide over half of total non-security Government Employment. Finance and Commerce is the next largest with 12% of the total. By far the greatest number of workers in the country is in the rural sector, but the Ministry responsible for assistance to this sector, the Ministry of Rural Development, has only 7% of the total. The Ministry of Interior, excluding security, i.e., primarily regional staffs, constitute 6% of that work force, while Justice and Islamic Affairs has 5%. The other ten ministries and categories each have 3% or less of the civil servants.

Of the grade levels, Category A, with only 619 employees is by far the smallest in terms of number and makes up only 6% of the non-military part of the government work force. Category B has triple that number, with 1,772 (19%). Both Categories C and D each have 31% of the total, with 2,927 and 2,990 respectively. Finally, the "Other" category includes 1,254 personnel, about half (638) are persons hired under contract rather than as regular civil servants; chauffeurs (265) and servants (111) also make up a large segment.

Actual educational attainment of each employee was not provided, but an approximation can be made from the 1979 printout. In the civil service's level, the sole criterion was a given level and type of education specialty. Therefore, there is a direct one-to-one relationship between grade levels and education levels. The civil service has five categories. A, B, C, D and other. Within each category there

are three general "tracks": administration, technical and education. Each track has from 1 to 3 grades. The grades do not exactly correspond between tracks, there being differences of both entrance requirements and compensation. They are however, roughly similar. A hand tally was made of the employees listed by grade. Individual occupations were ignored. From the civil service personnel book of regulations^{1/}, the minimum education required for each category and each grade was extracted. Each category and grade correspond to specific minimum entry levels of educational attainment summarized as follows.

<u>Category</u>	<u>Minimum Education</u>
A	Baccalauréat (High School Diploma), usually combined with some advanced education such as B.A., M.A., or Ph. D. or equivalent, or graduation from the highest level of Mauritanian post-secondary (cycle A) education.
B	Brevet (Junior High School Diploma), usually with some additional secondary, advanced, or technical education, or graduation from the next highest level of Mauritanian post-secondary (cycle B) education.
C	C.M.F. (Grade School Diploma), usually with some additional secondary, advanced, or technical education of a lower level than in Category B.
D	Some primary education and/or additional technical or job experience.
Other	Varies according to position. No single educational level applies.

^{1/} Textes Relatifs aux personnels et fonctionnaires et auxiliaires gérés par la Fonction Publique, GFRM, (Text relating to personnel, civil servants and auxiliaries administered by the civil service)

The manpower skills stock is derived therefore by counting the number of employees at each grade/educational level as follows:

619 with a high school diploma and higher education up to Doctorate level.

1,772 with a junior high diploma and advanced education or training.

2,927 with a grade school diploma and additional education or technical training.

2,998 with some combination of primary education, technical training and job experience.

1,254 with a wide variety of educational experience and skills.

4.3 Future Employment

Governments as employers differ in an essential aspect from the private sector. In the private sector new employment depends directly upon growth of the economy, while the government's budget is only indirectly dependent on the growth of the economy (through taxes and profits from government owned enterprises). If a government's budget is large enough, it can hire increasing numbers of people, but this becomes increasingly risky as it will contribute to inflation and at the same time frighten and discourage private investors at home and abroad. The consequences of giving free rein to government spending are visible in many developing countries.

In Mauritania the Government has put a freeze on hiring new employees because of financial restrictions. At least for the foreseeable future only students graduating from advanced studies in Mauritania or abroad will be hired and presumably all of them who do not enter the private sector will be absorbed by the Government. During the 1979-1980 school year there were 2,745 students in higher education studying abroad. If it is assumed that growth will occur in the nonsecurity part of the Government, the distribution of current employment by Ministry (see Table 4.1) gives a general idea of the types of occupations that are likely to be most in demand in the future. The demand for teachers is the largest and most obvious. Other social service-related occupations also appear likely to be in demand, e.g. health workers. If the role of the Ministry of Rural Development is to continue to grow, relatively large numbers of specialists in agriculture could be absorbed there. It can be assumed, that there will be a continuing need for administrator and office workers throughout the Ministries. It can also be postulated, based upon experience elsewhere, that there will be a continuing demand for a small but highly trained cadre of technicians and specialists.

Table 4.1

Number of Employees of the Government and Percent
Distribution by Ministry and Grade Level (1980)

Ministry	Employees						Total	% Distribution
	Category or Grade Level							
	A	B	C	D	Other			
Fundamental and Secondary Education	619	918	1,631	492	288	3,560	37	
Industry and Mines	11	17	28	35	18	109	1	
Rural Development	14	121	194	2,155	137	681	7	
Youth, Sports, Artisan, and Tourism	9	34	58	162	48	311	3	
Civil Service and Staff Training	17	21	33	30	49	158	2	
Interior	89	89	170	115	65	528	6	
Equipment and Transport	5	39	47	79	47	217	2	
Culture, Information and Telecommunication	8	7	9	45	13	82	1	
Planning and Fishing	7	12	7	23	11	60	1	
Finance and Commerce	135	174	157	556	132	1,154	12	
Justice and Islamic Affairs	11	47	117	147	121	443	5	
Foreign Affairs	17	9	11	22	11	70	1	
Health, Labor and Social Affairs	30	254	418	949	171	1,822	19	
Headquarters of the Military Committee of National Salvation	3	3	4	18	6	34	0.4	
Presidency	31	25	40	98	128	322	3	
Community Expense	2	2	3	4	8	19	0.2	
Total	619	1,772	2,927	2,998	1,154	9,570		
% Distribution	6	19	31	31	13		100	

Chapter 5

The Non-Structured(Informal) Business Sector

5.1 Introduction

As a large pool of mid-level technical and entrepreneurial manpower skills, the non-structured (or informal) business sector is most important. As the training ground for new entrants into the labor force, the contribution of this sector is underestimated.

Definitions of this sector differ among analysts. Generally, it includes economic activities other than agriculture performed by a single person or very small establishments in the traditional manner: artisans, small manufacturers, merchants, transport and construction workers. This "informal" sector (to use the term also used by the I.L.O.) is distinguished from the "formal" or modern sector by the lack of "structure" in its organization: the individual proprietor "does it all" unlike the separation of functions in the modern enterprise, it is also less subject to formal government regulations. It is also referred to as the intermediate sector and the urban artisanal sector. Sometimes it is equated with small industry. As in the case of traditional agriculture, it is considered to be a proper subject for a technology designed for its size and adapted to its uses ("appropriate technology").

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In this report, the nonstructured sector refers to activities and enterprises which:

1. Are located in urban Nouakchott.
2. Have one to five persons working in the establishment.
3. Commonly use family workers or apprentices.
4. Have a very small capital investment.
5. Generally use traditional hand tools and labor intensive methods and processes.

The 199 businesses with 5 or more employees which were classified as "modern sector" were surveyed first. All other businesses in Nouakchott (down to street vendors and shoeshine boys) were surveyed and classified in the nonstructured sector.^{1/}

^{1/} Previous surveys touching on the subject are:

1. A survey of five market places, 1972-74, by Jean-Robert PITTE, found Nouakchott: Capital de la Mauritanie. Department de Geographie de l'Université de Paris-Sorbonne, No. 5 Paris 1977, pp. 130-147.
2. A study of 34 small and medium industries conducted in 1975 by Jean DAFFICO found in Inventaire Industriel de la R.I.M., UNIDO 1975.
3. A study of modern and traditional artisans, conducted in 1975 for the Direction of Artisans, found in Etude Sectorielle Sur l'Artisanat Traditionnel en Mauritanie, Ministère de l'Artisanat et du Tourisme, 1975.
4. A census of 1,315 activities of the nonstructured sector and a survey of 214 selected establishments conducted by George NINAN and Robert JOSEPH in 1977 and found in Analyse Préliminaire de Résultats de Recensement du Système Nonstructuré de Nouakchott, R.I.M., Bureau International du Travail, Programme Mondial de l'Emploi 1977.

The methodology used consisted of walking or driving slowly along every street and alley of Nouakchott and in the interior of the eleven markets; identifying each business activity directly or by conversation with the proprietor; using a coding system to mark the type of each activity, its size and location. All activities were then classified according to the following categories:

Activities
Ward^{1/}
Market Place
Central Areas
Kebas^{2/}
Personal Services
Commerce
Manufacturing
Construction

The census was conducted entirely by Mauritians.

¹A "ward" is a political district, sub-division of the city called "Arrondissement". There are six wards in Nouakchott.

²"Keba" is the Arab word used to designate that area of the city where new settlers live in temporary housing, usually tents or wooden shacks. It is similar to "bidonvilles" or shanty towns" of other countries.

...03...

In the Keba areas, because of the paucity of landmarks and the complexity of roads and paths, the census was conducted by three surveyors working as a team. A total of 11,747 activities and business enterprises were identified. They were divided into four categories: services, manufacturing, commerce and construction.

Wherever practical the International Industrial Classification of all Economic Activities (1977) was followed in classifying individual firms and activities.

Each sector was further divided by activity or product.

1. Services

Personal Services

Repairing

Signs

2. Manufacturing

Wood

Metal

Cloth

Straw

Leather

Flour

Jewelry

Upholstery

Brick

3. Commerce

Wood

Hardware

Books and paper

Clothing, Cloth and Delux Items

Miscellaneous

4. Construction

General

Electrical

Plumbing

Tile setting

Painting

5.2: Location: Wards, Marketplaces, Central Areas, and Kebas

The nonstructured sector of Houakchott is scattered throughout the entire city, from fruit stands and tire repair in the heart of the downtown area to small stores and industries at the very ends of the Keba areas. They are in virtually every neighborhood, as well as in residential areas of every socio-economic and ethnic group.

Some types of business are more concentrated in some areas than in others. Table 5.1 presents a distribution of the businesses by the six wards of the city. The ward which apparently contains the largest number is the Fourth. Both the main Central Market and the Fish Market and numerous other businesses are found in this area. Moreover, if the 1,700 businesses of the keba areas beyond the boundary line, but adjoining the Fifth and Sixth wards were included, the Fifth ward would surely have contained the most businesses. The original northern part of the city has proportionately less because it does not contain a marketplace.

Best Available Document

Table 5.1

Commercial Business in the Non-Structured Sector
of Nouakchott by Ward and by Product Sold, 1980

	Ward I					Ward II					Ward III	Ward IV					Ward V				Ward VI			Ward V&VI	Total	
	Central	Main Market	Small Market	Keba	Sub-total	Central	Main Market	Market No. 2	Taxi Market	Sub-total	Central	Central	Capitol Market	Charcoal Market	Fish Market	Sub-total	Central	Main Market	Salt Market	Sub-Sector	Central	Keba Market	Sub-sector	Keba		
COMMERCE																										
Food (Sub-Total)	270	94	53	156	573	358	69	71	38	536	257	357	187	66	217	627	463	502	65	1,030	399	378	777	725	4,725	
Stores																										
Wholesalers and importers	3	-	-	-	3	32	2	-	-	34	17	49	4	-	-	52	-	-	-	0	-	-	-	-	-	107
Large retail general food stores	16	-	-	18	34	37	7	3	3	50	36	42	26	-	-	68	26	-	-	26	48	21	69	17	300	
Small retail general food stores	183	19	-	-	202	209	1	-	1	211	133	179	32	20	1	231	311	93	1	405	223	79	302	111	1,596	
Shops																										
Restaurants	20	4	-	3	27	53	-	-	3	56	23	45	-	4	-	49	48	-	-	48	50	3	53	19	275	
Vegetable shops	-	1	1	-	2	-	-	2	-	2	-	1	-	-	55	56	-	63	-	63	-	-	0	-	123	
Local food production shops	-	22	-	-	22	-	21	-	-	21	-	-	16	-	-	16	-	4	63	67	-	-	0	-	126	
Food shops attached to residence	19	-	-	135	154	14	18	14	23	69	29	14	-	-	-	14	59	-	-	59	51	31	82	529	936	
Stands																										
Fruit stands	-	-	-	-	0	-	-	-	3	3	-	-	25	-	-	25	-	-	-	0	-	-	0	-	28	
Grilled meat snack bar	1	-	-	-	1	9	-	-	-	9	6	10	-	1	-	11	10	1	-	11	14	-	14	4	56	
Fresh, Frozen and dried fish stands	-	13	14	-	27	-	-	22	-	22	1	-	-	8	62	70	-	88	-	88	-	61	61	7	276	
Ice Cream stands	-	-	-	-	0	-	-	0	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
Tables																										
Sidewalk vegetable tables	17	35	38	-	90	-	20	30	-	50	1	-	78	20	69	167	6	138	-	144	-	172	172	26	695	
Sidewalk tables of flour and cous-cous	-	-	-	-	0	-	-	-	-	0	-	-	-	13	8	21	-	11	-	11	-	6	6	0	38	
Sidewalk date and fruit tables	-	-	-	-	0	-	-	-	-	0	-	-	-	-	8	8	-	-	1	1	-	2	2	9	21	
Sidewalk tables of cola nuts	11	-	-	-	11	3	-	-	-	3	9	14	3	-	2	19	1	6	-	9	1	-	-	-	55	

Table 5 (continued)

Commercial Businesses in the Non-Structured Sector of Nouakchott
by Ward and by Product Sold, 1980

	Ward I					Ward II					Ward III	Ward IV					Ward V				Ward VI			Ward VII	Total		
	Central	Main Market	Small Market	Keba	Sub-total	Central	Main Market	Market No. 2	Taxi Market	Sub-total	Central	Central	Capitol Market	Charcoal Market	Fish Market	Sub-total	Central	Main Market	Salt Market	Sub-total	Central	Keba Market	Sub-total	Keba			
Vendors																											
Buttermilk vendors	-	-	-	-	0	-	-	-	-	0	-	-	-	-	4	4	-	3	-	3	-	3	5				10
Vendors of traditional foods	-	-	-	-	0	-	-	-	5	5	-	1	-	-	6	7	2	48	-	50	11		11				73
Ice Cream vendors	-	-	-	-	0	1	-	-	-	1	2	2	3	-	2	7	-	-	-	0	1		1				11
Hardware (Sub-Total)	3	5	0	0	8	22	2	0	11	35	1	39	28	1	0	68	15	41	0	56	21	6	27	0			195
Large wholesale and retail of construction and kitchen hardware	-	-	-	-	0	9	-	-	-	9	1	15	4	1	-	20	-	-	-	0	-						30
Retail shop of small inexpensive utensil and hardware items	1	5	-	-	6	-	2	-	-	2	-	-	-	-	-	0	-	23	-	23	-	5	5				36
Sidewalk table of kitchen utensils	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	0	-	6	-	6	-	1	1				7
Vendor of traditional stoves	-	-	-	-	0	-	-	-	-	-	-	-	24	-	-	24	-	1	-	1	-		0				25
Retail shops of construction materials	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	0	-	9	-	9	-		0				9
Retail shops of material for woodwork	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	0	1	1	-	2	-		0				2
Mattress sales	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	0		1	-	1	-		0				1
Large stores selling primary construction materials	-	-	-	-	0	-	-	-	-	-	-	21	-	-	-	21	-	-	-	0	-		0				21
Automobile parts store	2	-	-	-	2	13	-	11	24	-	3	-	-	-	3	-	-	-	14	21		21				64	

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Table 5.1 (continued)

Commercial Businesses in the Non-Structured Sector of Nouakchott
by Ward and by Product Sold, 1980

	Ward I					Ward II					Ward III	Ward IV					Ward V				Ward VI			Ward VII	Total	
	Central	Main Market	Small Market	Keba	Sub-total	Central	Main Market	Market No. 2	Taxi Market	Sub-total	Central	Central	Capitol Market	Charcoal Market	Fish Market	Sub-total	Central	Main Market	Salt Market	Sub-total	Central	Keba Market	Sub-total	Keba		
Bookstore and Paper Supply (Sub-Total)	0	0	0	0	0	4	0	0	0	4	8	5	13	0	0	13	0	5	0	5	0	0	0	0	0	35
Large store	-	-	-	-	0	-	-	-	-	0	1	-	2	-	-	-	-	-	0	-	-	-	0	-	3	
Arabic books and religious articles stands	-	-	-	-	0	4	-	-	-	4	-	-	9	-	-	9	-	5	-	5	-	-	-	0	-	18
Magazine and used book stand	-	-	-	-	0	-	-	-	-	0	7	5	2	-	-	12	-	-	-	0	-	-	-	0	-	14
Clothing, De. and Miscellaneous (Sub-Total)	0	42	5	0	47	13	105	8	41	167	20	29	774	25	28	836	1	624	92	717	0	6	6	112	1,927	
Large store selling imports-importer, wholesale and retail	-	-	-	-	0	4	3	-	-	7	-	16	19	-	-	25	-	-	34	34	-	-	-	0	-	76
Small shop selling imports only	-	-	-	-	0	-	-	-	-	0	14	-	16	-	-	14	-	-	54	54	-	-	-	0	-	84
Large cloth store-importer, wholesale and retail	-	-	-	-	0	-	-	-	-	0	-	-	45	-	-	45	-	-	-	0	-	-	-	0	-	45
Small cloth shop-retail only	-	-	-	-	0	4	33	-	-	37	1	2	43	-	4	44	-	37	3	40	-	1	1	1	1	129
Shoe store	-	-	-	-	0	-	1	-	-	1	-	1	-	-	-	1	-	-	-	0	-	-	-	0	-	2
Record store	-	-	-	-	0	-	-	-	-	0	-	1	1	-	-	2	1	1	-	2	-	-	-	0	-	4
Shoe stand	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	22	-	22	-	-	-	0	-	22
Women's clothes stand(Melahfa)	-	-	-	-	0	-	-	-	-	0	-	-	12	25	-	37	-	-	-	0	-	-	-	0	4	41
Cloth stand	-	-	-	-	0	-	34	-	-	34	-	-	153	-	-	153	-	20	-	20	-	-	-	0	16	223
Sidewalk table for cloth	-	-	-	-	0	-	-	-	3	3	-	-	7	-	-	7	-	167	1	168	-	-	-	0	-	178

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Table 5.1 (continued)

Commercial Businesses in the Non-Structured Sector of Nouakchott
by Ward and by Product Sold, 1980

	Ward I					Ward II					Ward III	Ward IV					Ward V				Ward VI			Ward VII	Total
	Central	Main Market	Small Market	Kaba	Total	Central	Main Market	Market No. 2	Taxi Market	Total	Central	Central	Capitol Market	Charcoal market	Fish Market	Total	Central	Main Market	Salt Market	Total	Central	Kaba Market	Total	Kaba	
Sidewalk costume jewelry table	-	41	5		46	-	20	2	-	22	-	-	225	-	5	230	-	190	-	190	-		0	90	578
Jewelry store	-	-	-		0	-	-	-	-	0	-	-	-	-	-	0	-	6	-	6	-		0		6
Sidewalk table of deluxe imported items	-	-	-		0	-	4	-	1	5	-	-	114	-	-	114	-	58	-	58	-	6	6	1	184
Sidewalk table of used clothing	-	1	-		1	5	-	6	-	11	-	9	18	-	19	46	-	59	-	59	-	1	1		118
Sidewalk table of shoes	-	-	-		0	-	-	-	-	0	-	-	-	-	-	0	-	2	-	2	-		0		2
Vendors of watches and sunglasses	-	-	-		0	-	-	-	-	0	5	-	11	-	-	11	-	2	-	2	-		0		18
Vendors of clothing	-	-	-		0	-	10	-	37	47	-	-	110	-	-	110	-	58	-	58	-		0		215
Miscellaneous Products (Sub-Total)	65	40	14	61	120	111	24	18	10	163	124	232	144	37	60	473	267	162	1	430	207	11	218	663	2,251
Stand of cigarettes, etc.	45	11	8	20	84	91	5	5	5	106	111	181	11	8	27	327	158	109	1	269	153	3	156	277	1,229
Charcoal importer, wholesale & retail	-	-	5	3	8	-	-	1	-	1	-	20	-	23	-	43	53	-	-	53	-	5	5		110
Charcoal-retail only	20	5	-	34	59	20	-	-	-	20	13	-	-	-	4	4	36	2	-	38	53	3	56	318	508
Sidewalk sellers of skins and mats	-	2	-		2	-	4	-	-	4	-	-	22	-	-	22	-	9	-	9	-				37
Salvage from the ocean	-	-	-		0	-	-	-	-	0	-	-	62	-	-	62	-	7	-	7	-				69
Sidewalk tables of traditional Black African beauty products	-	-	-		0	-	-	-	-	0	-	-	6	4	10	-	9	-	9	-					19
Sidewalk tables of local and imported traditional art objects	-	-	-		0	-	-	-	-	0	-	17	-	-	17	-	-	-	-	0	-				17
Sidewalk tables of wooden tooth brush sticks	-	-	-		0	-	1	-	-	1	-	7	5	-	3	15	-	5	-	5	-				21
Miscellaneous vendors	-	22	1	4	27	-	14	12	5	31	-	7	44	-	22	73	20	21	-	41	1	-			241
Total Commerce Sector	338	181	72	217	808	508	200	97	100	705	410	662	1,146	129	305	2,122	1,334	156	2,127	627	403	1,030	1,533	9,133	

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Table 5.1 (continued)

Manufacturing Establishments in the City of Lagos, 1960
by Ward and by District 1960

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	Ward I				Ward II				Ward III	Ward IV				Ward V				Ward VI				Ward VII		
MANUFACTURING																								
Wood																								
Woodwork and carpentry	10	5	-	4	19	15	-	-	15	4	18	-	5	1	24	23	23	-	46	15	4	14	14	141
Wood and metal work combined	1	-	-	-	1	10	-	-	10	6	4	-	-	-	4	-	-	-	0	-	-	-	-	21
Metal																								
Metal work and welding	2	-	-	-	2	14	-	-	1	15	7	-	-	-	7	3	-	-	3	1	-	-	-	29
Artisan metal work	21	5	-	-	26	6	3	-	9	3	3	-	1	-	4	22	-	-	22	7	-	-	-	71
Artisan aluminum foundry	-	-	-	-	0	5	-	-	5	-	2	-	-	2	4	9	3	-	12	-	-	-	-	21
Traditional stoves manufacture	-	-	-	-	0	-	-	-	0	-	-	-	-	5	5	-	5	-	5	-	-	-	-	10
Artisan workshop	-	-	-	1	1	-	-	-	0	-	-	-	-	-	-	-	-	0	-	3	3	21	-	25
Cloth																								
Dyeing	-	-	-	-	0	1	1	-	2	29	18	-	-	-	18	11	-	-	11	13	-	13	51	124
Machine embroidery	-	-	-	-	0	2	-	-	2	-	3	-	-	-	3	-	-	-	0	-	-	-	-	5
Hand embroidery	-	-	-	-	0	-	-	-	0	-	109	-	-	-	109	-	-	-	0	-	-	-	-	109
Tailor shop	-	-	-	-	0	19	-	-	19	13	-	-	-	-	0	43	-	-	43	-	-	-	-	75
Sewing machine operator	1	2	-	4	7	20	80	-	100	27	16	200	48	9	273	10	157	2	169	1	4	-	-	585
Traditional weaving	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	0	1	-	-	-	2
Tent manufacture	-	-	-	14	14	-	-	-	0	-	-	-	-	0	-	-	-	0	-	-	-	-	-	28
Straw																								
Straw mattress manufacture	-	-	-	-	0	1	-	-	1	-	-	-	-	-	0	3	-	-	3	-	-	-	-	4
Straw mats manufacture	2	-	-	2	4	-	-	-	0	-	-	-	-	-	0	-	-	0	2	-	-	-	-	21
Leather																								
Leather products manufacture	-	-	-	4	4	4	2	4	-	10	4	8	4	1	3	16	6	15	1	22	-	-	-	59
Tanning	-	-	-	8	8	-	-	-	10	-	-	-	-	-	-	-	-	8	1	-	-	-	-	17
Food																								
Flour mill	10	-	-	1	11	9	2	-	11	7	9	-	18	1	28	8	4	-	12	7	-	-	-	76
Cookie shops	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	-	-	-	0	-	-	-	-	2
Bakeries	-	-	-	-	0	-	-	-	0	-	-	2	-	-	2	1	-	-	1	-	-	-	-	5
Butcher shops	-	17	11	-	28	-	9	5	-	14	-	-	19	6	14	39	5	56	-	61	-	30	3	180
Other																								
Jeweler	-	-	-	-	0	1	-	-	1	11	24	-	16	-	40	11	1	-	12	8	-	-	-	72
Upholstery	-	-	-	-	0	5	-	-	5	1	3	-	-	-	3	3	-	-	3	-	-	-	-	13
Brick manufacturing	-	-	-	-	22	-	-	-	22	3	6	-	-	-	6	5	-	-	5	10	-	-	-	46
Total Manufacturing Sector	47	29	11	38	125	134	97	9	1	241	109	230	225	95	35	585	163	264	3	430	65	107	144	1,741

Construction Businesses in the Non-structured Sector
of Kouakouhete by Ward and by Trade 1990

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CONSTRUCTION

CONSTRUCTION ^{1a/}

	Ward I					Ward II				Ward III	Ward IV				Ward V			Ward VI			Ward VII	Total				
	Central	Main Market	Small Market	Kebe	Total	Central	Main Market	Market No. 2	Taxi Market	Total	Central	Central	Capitol Market	Charcoal Market	Fish Market	Total	Central	Main Market	Salt Market	Total	Central	Kebe Market	Total	Kebe		
General construction labor contractors	-	-	-	-	0	1	-	-	-	1	-	-	-	-	-	0	-	-	-	0	-	-	0	-	-	1
Electricity contractors	-	-	-	-	0	1	-	-	-	1	1	-	-	-	-	0	-	-	-	0	-	-	0	-	-	2
Plumbing contractors	-	-	-	-	0	1	-	-	-	1	0	5	-	-	-	5	-	-	-	0	-	-	0	-	-	6
Painting contractors	-	-	-	-	0	-	-	-	-	0	1	-	-	-	-	0	-	-	-	0	-	-	0	1	-	2
<u>Total Construction Sector</u>					0	3				3	2	5			5				0			0	1		11	

^{1a/} Only shops and workyards with an exterior sign or other identification were counted. Many other independent workers with their own tool shops exists but could not be located.

Table 1. (Continued)

Personal Business Services in the Non-manufacturing Sector of A. S. District,
by Ward and by Activity, 1980

SERVICES	Ward I					Ward II					Ward III	Ward IV					Ward V				Ward VI			Ward V&VI	Total	
	Central	Main Market	Small Market	Kuba	Sub-total	Central	Main Market	Market No. 2	Taxi Market	Sub-total	Central	Central	Capitol Market	Charcoal Market	Fish Market	Sub-total	Central	Main Market	Salt Market	Sub-total	Central	Kaba Market	Sub-total	Kuba		
Personal																										
Laundry	29	1	-	3	33	71	-	-	1	72	48	56	-	-	-	56	78	-	-	78	74	5	79	25	591	
Driving School	1	-	-	-	1	-	-	-	0	0	5	-	-	-	5	1	-	-	1	-	-	0	0	0	7	
Barber	2	3	-	-	5	9	1	-	10	9	21	-	-	-	21	2	19	-	-	21	1	-	0	0	70	
Beautician	-	-	-	-	0	-	-	-	0	0	-	-	-	-	0	-	-	-	-	0	-	0	0	0	2	
Photographer	1	-	-	-	1	5	-	-	5	2	5	1	-	-	6	1	-	-	1	1	1	0	0	0	16	
Photographer Framer	-	-	-	-	0	-	-	-	0	0	-	-	-	-	0	-	3	1	4	-	-	0	0	0	5	
Shoeshine Boy	-	-	-	-	0	1	-	-	1	-	-	9	-	-	9	-	-	-	-	0	-	0	0	0	10	
Traditional Dentist	-	-	-	-	0	-	-	-	0	-	6	-	-	-	6	-	-	-	0	-	-	0	0	0	6	
Repair																										
Radio Repair	2	4	-	1	7	5	3	-	8	13	3	1	3	-	7	16	4	-	20	15	3	18	9	62		
Soldering	1	-	-	-	1	1	-	-	2	2	2	-	-	-	2	-	-	-	0	-	-	0	0	0	5	
Refrigerator and stove repair	-	1	-	-	1	2	-	-	3	1	4	-	-	-	4	-	-	-	0	-	-	0	0	0	9	
Gas refrigerator repair	-	-	-	-	0	-	-	-	0	0	-	-	-	-	0	-	-	-	0	-	-	0	0	0	1	
Business machine repair	-	-	-	-	0	2	-	-	2	-	1	-	-	-	1	-	-	-	0	-	-	0	0	0	3	
Sewing machine repair	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	1	-	-	1	-	-	0	0	0	1	
Electrical installations and repair	-	-	-	-	0	-	-	-	0	-	1	-	-	-	1	-	-	-	0	-	-	0	0	0	1	
Carriage	16	-	-	4	20	57	-	-	57	4	5	-	-	-	5	21	-	-	21	24	-	2	2	2	133	
Cart repair	-	-	-	-	0	-	-	-	0	-	-	-	-	-	0	1	1	-	2	2	-	0	0	0	3	
Motorbike repair	1	-	-	-	1	-	-	-	0	1	2	-	-	-	2	-	-	-	0	-	-	0	0	0	3	
Bicycle repair	-	-	-	1	1	-	-	-	0	0	-	-	-	-	0	-	-	-	0	-	-	0	0	0	1	
Tire repair	4	-	-	-	4	25	-	-	26	2	3	2	-	-	5	9	1	-	10	6	-	6	6	6	57	
Watch repair	-	-	-	-	0	7	-	-	7	2	7	11	1	-	19	1	11	-	12	-	-	0	0	0	42	
Eyeglasses repair	-	-	-	-	0	1	-	-	1	-	1	-	-	-	1	-	1	-	1	-	-	0	0	0	3	
Signs																										
Sign making and decoration	-	-	-	-	0	-	-	-	0	1	-	-	-	-	0	-	-	-	0	-	-	0	0	0	0	1
Sign lettering	-	-	-	-	0	2	-	-	2	-	-	-	-	-	0	-	-	-	0	-	-	0	0	0	2	
Total Service Sector	57	9	0	9	75	123	4	0	4	196	83	121	25	4	0	150	131	40	1	172	123	8	131	55	862	

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The city contains eleven marketplaces. Within them are found 5,030 businesses, 43% of the total non-structured sector. Table 5.2 shows the distribution of those enterprises among the markets and by types of businesses. The main market in the Fifth Ward and the Central Market next to the downtown area are by far the largest in the number of business.

The markets appear to be quite fluid in terms of the businesses located there. Major changes in individual proprietors and in the mix types of businesses and products sold, occur frequently. Although no statistics could be kept, one of the fascinations of the past year has been the personal observations of changes in the market places. A phenomenon which is more recent than the RAMS census and which is still occurring at the time of writing, is the major shift of businesses to several marketplaces including an open-air covered market with concrete stalls just east of the gardens which specializes in cloth and traditional jewelry, on the dunes area just south of the Moroccan mosque, and a new one on the dunes west of the Ksar. It appears that these are businesses relocations rather than new businesses.

The "central areas" are the main areas of the city. ie., those parts of the city outside the markets which consists of permanent family residential areas. As indicated in Table 5.3, 4,753 businesses are found throughout these area, 40% of the total. In many cases business and the home are part of the same building, with the store or workshop in the front opening onto the street with the family living in the back or upstairs.

In terms of distribution, there is a higher amount of services in the central areas and somewhat lower distribution of commerce. Ten of the eleven nonstructured sector construction firms identified were found in the central areas.

Table 5.2

Markets of Nouakchott by Number of Businesses, 1980.

<u>Market</u>	<u>Number of Businesses</u>
Main market: Fifth Ward	1,590
Capital market: downtown, Fourth Ward	1,393
Keba market: Sixth Ward shanty town	499
Fish market: Fourth Ward	342
Main market: Ksar, Ward 11	301
Charcoal market: Fourth Ward	228
Main market: First Ward	219
Salt market: Fifth Ward	162
Market No. 2: Second Ward	106
Taxi market: First Ward	83
	<hr/>
Total	5,023

Table 5.3

Type of Businesses of the Non-Structured Sector in the
Central Areas of Nouakchott 1980

<u>Sector</u>	Wards						Total
	1	11	111	1V	V	VI	
Services	37	188	83	121	131	123	703
Manufacturing	47	134	109	230	163	66	749
Commerce	338	508	410	662	746	527	3,291
Construction	0	3	2	5	0	0	10
Total	442	833	604	1,047	1,081	824	4,753

On the periphery of major parts of the city are vast shanty towns called Keba, consisting of tents and wooden shacks and inhabited by recent arrivals to the city and relatives of land speculators. No population figures are available for this area and guesses vary widely, but it is probably safe to say at least a third of the population of Nouakchott lives there.

At first glance, the area appears to be just a bedroom community, contributing unskilled workers and unemployed to the part of the city. Closer inspection reveals an extensive active internal economy of 2,416 enterprises. Of all the businesses of the non-structured sector, 20% of them are located in the keba area. Most of the businesses are quite small, usually with one person or part of a family involved. By far (80%) the most establishments are in commerce. There are also 223 manufacturing enterprises including, for example, cloth dyeing, tent manufacturing, and butcher shops. (See Table 5.4)

5.3 Economic Sectors

All of the businesses, enterprises, and economic activities were classified by economic sector. Of the 9 sectors classified in the 1977 population census, only 4 were included in RAMS non-structured sector census viz:

Table 5.4

Types of Businesses of the Non-Structured Sector of Nouakchott, by Economic Sector and by Central Market and Keba Sections of the City

	Central		Market ^{a/}		Keba ^{a/}		Total	% Distribution
	No.	%	No.	%	No.	%		
Services	703	6	95	<u>b/</u>	64	<u>b/</u>	862	<u>b/</u>
Manufacturing	749	6	810	7	182	2	1,741	15
Commerce	3,491	28	4,125	35	1,717	15	9,333	78
Construction	10	<u>b/</u>	0	0	1	<u>b/</u>	11	<u>b/</u>
Total and Distribution	4,753	40	5,030	43	1,964	17	11,747	100

a/ The keba market is included in the market column and excluded from the Keba column.

b/ Less than 1%.

Comparison of Economic Sectors used in the 1977 Census of Population
with the 1980 RAMS Census of the Non-Structured Sector

<u>Population Census Classification of Economic Sectors</u>	<u>Economic Sector Included in Non- Structured Sector Census</u>
1. Agriculture	..
2. Extractive Industries	..
3. Modern Manufacturing	..
4. Artisan/Craft Manufacturing	Manufacturing
5. Construction and Public Works	Construction
6. Commerce, Restaurants and Hotels	Commerce (including restaurants)
7. Transport and Communications	..
8. Government and Financial Services	..
9. Household and Business Services	Personal and Business Services

Of the five sectors not included in the nonstructured census, extractive, modern manufacturing and government and financial services are excluded by definition. Urban commercial gardens and ocean-going traditional fishermen were excluded because of the limitation of time and means and because agricultural production and fishing are the subjects of other RAMS studies.

In transportation, taxis and horse-drawn carriages could not be included. It was not possible to devise a method of counting them in the time available.

A total of 362 enterprises were located in the services sector. By far the largest single group were laundries (391). Other services with significant numbers of enterprises included barbers (70), radio repair (82), garages (133), tire repair (57) and watch repair (42). The detailed presentation of the services sector is found in Table 5.1. All occupations require a skill of some kind; some are rather simple (eg., cart repair), while others are much more sophisticated (eg., refrigeration or watch repair). No study of the method of skill acquisition was made but, given the almost total lack of any formal or even non-formal training program in these occupations, it can be supposed that skills were acquired primarily through on-the-job experience or perhaps some type of apprenticeship. This assumption strongly suggests the advisability of initiating training programs to upgrade the skills and productivity of these workers. This also demonstrates that there are workers with a minimum amount of training capable of learning such skills and making a living through them. This also suggests that there is a pool of workers with modern skills working under difficult conditions who apparently have the motivation and capacity to work in more technically complex industries.

It is also important to note that at least 862 people in this sector are small, independent businessmen or businesswomen who have been able to put together sufficient capital to start a business and have been able to keep it going. This spirit and skill of entrepreneurship should definitely be encouraged.

It is clear from the number and variety of enterprises, dynamic and variable, found in this sector that they contribute significantly to the economy. There is evidently a demand for these services. For the most part, capital requirements are low, consisting of tools and a shop. The major input is the skill and labor of the individual. As the economy grows and becomes more complex and sophisticated, the demand for most of these services will also grow. Although individual firms are insignificant in terms of employment potential, as a group they demand attention.

Given the size of the sector, its potential for growth of employment opportunities, and the low cost of providing inputs and encouragements, the non-structured sector is an area which should receive priority in a human resources strategy.

By far the largest number of enterprises identified were in the business of buying and selling -- some 9,133 commercial establishments representing 78% of the total were counted.

It is debatable whether some of the larger stores belonged in the modern sector. On the one hand, they had a large inventory, but on the other hand, they had very few employees. The final decision in each case was admittedly judgmental.

The commercial sector is so vast and varied that it was necessary to sub-divide it into categories for presentation purposes:

1. Food
2. Hardware
3. Bookstores and paper supply
4. Cloth and deluxe items
5. Miscellaneous

Since the food category itself was so large, it was further sub-divided into sub-categories by approximate size of firms:

1. Stores
2. Small shops
3. Stands (waist-high with legs)
4. Sidewalk tables (sellers sitting on the ground with a small flat box in front of him/her.
5. Vendors (sellers moving from one location to another carrying merchandise).

In other categories, similar distinction by size were also made.

Of the various kinds of commercial establishments, one of the most frequently encountered is the small convenience store ("petite boutique") which primarily carries food items but also includes a variety of other small items frequently used in a household. There were 1,595 identified throughout the city except for market places. A similar but smaller shop, attached to or part of a residence was numerous (936) and were found particularly in the keba area. A large number (695) of sidewalk sellers of vegetables

are counted. These are readily identified as women who spread a variety of products over a smaller area on the ground in front of them.

Other numerically important types of food sales included larger retail general food stores (3000), traditional restaurants (275), fish seller (276), and shops usually found in marketplaces selling vegetables (123) or local food products (126).

It should be noted that butchers, bakers, and cookie shops were all included under manufacturing (food) processing rather than in commerce.

Besides food, there are a lesser but still significant number of stores carrying a variety of hardware items. Automobile parts, construction materials and assorted hardware items including kitchen utensils seem to predominate. In this category 195 stores and vendors were counted, Only 35 establishments were counted selling books, magazines, and assorted religious literature and articles. Sidewalk tables of assorted traditional articles such as bead and other jewelry, henna, pipes, etc., occupied 578 women, all of them in markets or the keba. Various kinds of cloth and clothing sales are also important. Vendors selling T-shirts on the street, stores of imported cloth, traditional and western clothing, even used western clothing, shoes, sunglasses, jewelry, all of these account for the major part of the 1,927 establishments in that category.

The miscellaneous category is larger with 2,251 stores and vendors. The roadside stands with a variety of goods such as cigarettes and matches, cookies, etc., make up 1,229 of this group. Another 618 merchants sell charcoal. Skins, mats, ocean salvage, traditional art, beauty products, and the wooden stick "tooth brushes" altogether add up to more than 150 sellers. Finally, 241 vendors of a variety

of products were counted walking along the streets.

It is obvious that commerce in the nonstructured sector is an important source of employment. Assuming conservatively two employees per enterprise there are more people working as vendors in this one sector than there are in the entire modern sector. In the normal course of events, as the economy expands in terms of gross sales and variety of products, the need for additional vendors would increase. However, the limiting factor for commerce is not the supply of products but rather the demand for them; this in turn, depends on the amount of disposable income available with which to buy these additional products.

On the other hand, caution is needed with respect to "redundant" commerce. The situation in which one person buys a product, and then, without adding anything to its value in terms of convenience, availability, packaging, etc., resells it to another person at even higher price and so on. While this may appear to be "employment creation" because more people are involved, in reality it is merely a form of redistribution of income; it contributes little or nothing to production and detracts from the efficiency of the sector.

Despite its limitations, the nonstructured sector is large and should not be overlooked in employment planning. A significant proportion of the labor force is already engaged in this area, and the number is almost certain to increase. Not only does it represent existing employment, it also represents a pool of available human resources which has skills in selling and many also have experience in various aspects of the managements of their own business. These are skills which should be further enhanced and which should be utilized in the most effective manner possible.

The importance of artisanal manufacturing is frequently overlooked. One tends to think in terms of large, modern factories and dismiss as unimportant anything less than that. That artisan manufacture is extensive and dynamic is evident from this census. A total of 1,741 enterprises were identified. Artisans are working with wood, metal, cloth, straw, leather, food, precious metals, upholstery material, cement, etc., and producing, improving and selling variety of products using different techniques, processes and tools and employing a wide variety of skills. This represents an important labor supply and stock of human resources.

Numerically the most important occupations in this sector are the sewing machine operators (585) and tailors (75). Over a third are in these two occupations. Other important activities include woodwork and carpentry (41), cloth dyeing (124) hand embroidery (09) jewelers (72) various metal workers (153), tent manufacture (28), aluminum foundry (21) straw mats (21), leather products (59), brick manufacturing (46) etc. (Table 5.1).

One of the disappointments of the census was that only eleven construction businesses were located. This apparent under-reporting may be explained by two factors. It is probably true that most construction companies were large and have at least five employees, hence were included in the modern sector. Of the remainder, most of them are apparently independent craftsmen who work by job contract but do not have an identifiable shop or workplace. That being the case it was difficult to locate them by going up and down individual streets. It is worth noting that Jourdain^{1/} experienced the same

1/ Robert Jourdain, Analyse Préliminaire des Résultats du Recensement de Systeme Non Structuré à Houakchott P.I.T. 1977.

problem in attempting to count this group in 1977.

Those contractors identified included electricians, plumbers painters and general contractors.

Despite the paucity of information about this group, it is clear that there is an opportunity for a considerable amount of employment creation in this sector. The need for adequate, low-cost housing for the thousands of newly arrived residents is obvious. Because of the low income levels of those residents, the most inexpensive materials and methods would have to be used, suggesting nonstructured sector contractors, rather than large sophisticated and expensive modern contractors.

The need for urban public work infrastructure is also obvious. Water lines, sewage systems, roads, and electricity all need to be installed. Given budget limitations of the national government, low-cost nonstructured sector contractors, perhaps with volunteers of a neighborhood cooperative system, may be the best way to meet these needs.

The demand is obvious, as are the opportunities for expansion of employment; the biggest block is figuring out how to pay for such activities.

5.4 Existing Labor Supply

No attempt was made to measure the number of employees in each enterprise. Until a survey is conducted which specifically counts employees, no estimate of current employment in this sector can be provided.

Merely for the purpose of suggesting possible orders of magnitude, Table 5.5 shows simple calculations of five alternatives with assumed employee per enterprise ratios ranging from 1 to 5.

5.5. Educational Level and Apprenticeship Training

The International Labor Organization conducted a special survey of Houakchott's informal business sector in 1977^{1/}. It concentrated on the trade of woodworking, metal working, electrical repair, refrigeration repair and construction which it saw as having a potential in respect to economic development and employment generation. The survey results contained interesting findings with respect to the educational and training background of these specific groups and of the method of formation and instruction of apprentices. It indicates that somewhat less than half (46.7%) had some experience with the formal school system (primary or secondary schools) while the rest had no instruction (22.1%) or had attended Koranic schools (31.2%). Specifically, 9.2% had 1-3 years of primary schooling, 17.6% had 4-6 years of primary schooling, and 7.6% had obtained the certificate from primary schools. (Table 5.5)

There were notable differences among the sub-sectors. Thus, no instruction was 32.1% in the production category. Secondary education was highest in construction at 24.3% and lowest in production at 7.2% and services at 3.2%

^{1/} "The 'Modern' Non-Structured Sector of Houakchott", Survey Findings and Analysis", by Georges Mihan with David Dviry and Robert Jourdain, Jan. 1978.

Table 5.5

Estimates of Numbers of Workers in the Non-Structured

Sector of Nouakchott, 1980

<u>Assumed Number of Workers per Enterprise</u>	<u>Approximate Total Number of Workers in the 11,747 Enterprises</u>
1	12,000
2	23,000
3	35,000
4	47,000
5	58,000

Table 5.6

Level of Education of the Entrepreneurs in the
Informal Business Sector , by Activity 1977

Level of Education	Activity			Total
	Artisans	Services	Construction	
No instruction	32.1	21.1	8.1	22.1
Alpha. + Koranic School	25.3	23.5	45.9	31.2
1-3 yrs. Primary School	8.9	13.2	5.5	9.2
4-6 yrs. Primary School	12.5	26.1	16.1	17.5
Cert. Primary School	12.5	7.9	..	7.6
1-4 yrs. Secondary School	3.6	2.6	16.2	6.9
Sec. Inf. Gen. Tech.	3.6	5.6	..	3.1
Sec. Sup. Gen.	8.2	2.3
Total	100.0	100.0	100.0	100.0

Source: International Labor Office, The "Modern Non-Structured Sector of Houakchott, Jan. 1978 . p. 124

The average duration of the instruction was 2.7 years among the entrepreneurs. For those who had gone through the formal school system (excluding those with no instruction and with Koranic education), the average duration was 5.8 years. It was highest in construction at 7.0 years and 5.3 years in services.

Still another interesting finding is the relative youth of these entrepreneurs when they started - 21.8 years. There was little difference between the sectors. They had an average of 11 years of being in business ranging from 8.5 years in the services, 11.3 years in production, and 13.2 years in construction.

The importance of the apprenticeship system in the informal business sector is indicated by the extent to which these entrepreneurs themselves had experienced apprenticeship training and the extent to which apprenticeship programs were installed in their own establishments. Most of the enterprises in the sample had themselves gone through an apprenticeship program in the informal sector and 25% had done the same in the modern sector. The balance had gone through a professional institute (5%) or had no training at all (12%). For those who had obtained their training in the modern sector, (12%) construction was highest (48.6%). This is evidently the other side of the coin - the relatively low figure for apprenticeship training in the construction sub-sector.

The importance of the apprenticeship system is indicated by the fact that 53.4% of the enterprises sampled had apprentices. The percentages was higher in production and services than in construction: 66.1%, 71.1% and 16.2%, respectively. More than 50% of the entrepreneurs had a personal hand in instructing the apprentices, and they spent about 10% of their time at it.

It is clear that the apprenticeship system is the most common way of imparting knowledge and training in the non-structured sector. The average length of time of an apprenticeship program is 4.5 years in the informal sector and 3.9 years in the modern sector.

5.6 Traditional Rural Sector

By far the largest number of workers in the economy are engaged in rural/traditional occupations. In addition to the some 445,000 people who follow a nomadic way of life, there are almost 200,000 rural sedentary workers engaged in a variety of occupations: almost all of them in the traditional occupations of farming, herding, commerce, handicrafts, or fishing. Despite low levels of literacy among these workers, there is an extensive network of diverse skills at various levels of proficiency. Many of these workers have learned their skills through family instruction and observation and through direct participation in the work. This also includes working under the supervision of other artisans. The well-known system of on-the-job training (with its well-deserved reputation for achieving results in the modern sector) is indigenous and natural in the rural setting and in the traditional occupations.

The knowledge and skills of this group is one of the most important reservoirs of human resources available to the country. The development of this resource could be the key to the economic development of the country and to the improvement of social conditions.

The processes by which these workers obtain their skills, the type and extent of skills they have available, and the possibilities for transferring these skills to other economic endeavors are all issues which have not been well understood. In an effort to fill

this gap, a "skills and qualification survey" of these five occupations, plus housewives in the rural sector was conducted. The survey also obtained information on the effectiveness of the system in providing additional formal and nonformal education to these occupation groups. The findings of the survey are reported separately in Volume III.

The results of that survey present a picture of the available skills of this essential component of the manpower supply. In addition, the interested reader should refer to RAMS studies on the social organization of agriculture, irrigated agriculture, rain-fed agriculture, livestock, oasis agriculture, inland fishing, and coastal fishing. Each of these includes discussions of the manpower supply as it relates to the relevant agricultural occupation.

The situation with respect to level of education and training among artisans throughout the country is also not encouraging.

The crafts included in the survey sample of 181 artisans in 23 villages (excluding the 8th Region of Nouadhibou and the 11th Region of Inchiri) were smiths, jewelrymakers, shoemakers, carpenters, weavers, and woodworkers. The method by which they learned their craft was very informal indeed, about half indicating that they learned by observing their parents and/or by working with them. About 20% learned as apprentices. The prevalence of apprenticeships is uneven geographically and appears to be common in the following Regions: 1st (Eastern Hodh), 5th (Brakna), 10th (Guidimakha), and 12th (Tiris Zemmour) and less in the 4th (Gorgol), the 7th (Adrar) and the 9th (Tagant).

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When apprenticeships exist, a test may be used by the master artisan for qualifying the apprentice.

On the whole, however, the traditional rural crafts are held back by an inability to obtain credit, tools and adequate raw materials. The survey also indicated that few artisans are members of cooperatives, or other organizations capable of assisting members through training, marketing or purchasing of material.

Chapter 6

Current School Population

This section deals with those who are currently in public school. By definition, students are inactive and outside of the labor force. The next section will project the current school populations to show the impact these students will have on the labor force as they become active members of it. The educational delivery systems, formal and non-formal, will be discussed in detail in Volumes II and III of this report. Complete statistical information on the formal school system is provided in the 46 Appendices to Volume II. The presentation of the present school population in this Volume is therefore limited to three summary tables.

As seen in the discussions of the rural/traditional occupations, most of the existing manpower supply was trained by traditional family practical training rather than in the formal public school system. That is still the case of the estimated 1980 school age population (6-12 years) of 299,800 children, only 85,000 (28%) were in school. Of the 189,100 youths (13-18 years) only 17,000 (9%) were in school. Thus there are 214,700 children age 6-12 and 172,000 youths age 13-18 who are not in school, and who constitute an important component of the existing labor force. Many are already apprentices, regular employees or family workers.

During the school year 1979-1980, approximately 85,000 students were enrolled in primary school. The distribution of enrolled students by grade level and by region is presented as Table 6.1.

During the same period over 17,000 students were enrolled in secondary school: 12,402 were in the first cycle and 4,742 are in the second cycle: 80% of them are male. Every region has secondary school students.

Only 5% of the 12 regions have a second cycle. 40% of all secondary students are in Nouakchott. Data are presented as Table 6.2.

The number of university students studying abroad is increasing rapidly. In the school year 1979-1980, 2,745 were reported studying in 31 different countries, an increase of over 300% since 1976-1977. The importance of this small, currently inactive component of the manpower supply, is obvious. A list of the number of students by country is presented as Table 6.3. Current information regarding subjects being studied was not made available. However, Volume II, Appendix 40, gives a breakdown to six fields of studies (and "others") for the 874 students abroad in the year 1977-1978.

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Table 6.1

Estimated Primary School Enrollment for the School
Year 1979-1980 by Region and by Grade Level

(number = number of students)

Region	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	Reported Total ¹	Total
Hodh Charghi	803	1,224	1,128	1,095	686	738	5,664	5,600
Hodh Charbi	724	1,119	931	851	605	711	5,011	5,309
Assaba	769	1,099	728	928	487	669	4,680	4,674
Gorgol	1,476	1,062	1,155	1,433	780	1,266	8,638	8,877
Beakna	1,419	1,596	1,696	1,491	1,266	1,167	8,638	8,877
Kenba	2,021	1,612	1,490	1,897	1,712	1,461	10,193	13,035
Ahour	668	726	931	893	700	522	4,430	4,898
Bal. et Boudhibou	737	856	659	506	401	509	3,608	3,839
Tegant	577	812	809	601	681	487	3,907	3,781
Gulufaka	440	878	953	619	337	494	3,721	3,744
Tria Zemmour	738	352	634	525	311	306	2,866	2,844
La. el	511	256	307	207	230	227	1,538	1,550
Labchott	3,769	3,231	3,151	3,054	2,534	3,266	19,004	18,865
Total National	14,518	14,823	14,572	14,060	10,730	11,624	80,307	85,141

Source: Aggregated from individual statistical questionnaire by individual schools.
Over 50 of the 543 school failed to submit a completed questionnaire.

Source: Estimate by the Technical Counselor to the Ministry of Primary and Secondary Education.

Table 6.2

Secondary School Enrollment for the School Year
1979 - 1980 by Region and by Class Level.

Region	First Cycle				Second Cycle				Total
	1st Year	2nd Year	3rd Year	Total First Cycle	4th Year	5th Year	6th Year	Total Second Cycle	Secondary
Hodh Chargi	322	161	167	650	-	-	-	-	650
Hodh Garbi	339	220	172	731	277	162	73	512	1,243
Assaba	335	174	111	620	-	-	-	-	620
Goygol	495	252	212	959	191	154	224	569	1,528
Braïka	499	234	260	993	-	-	-	-	993
Taruna	1,001	549	433	1,983	312	188	137	637	2,620
Adrar	710	236	201	1,147	160	65	17	242	1,389
Daklet Bouadhibou	201	119	43	363	-	-	-	-	363
Taganant	240	119	97	456	-	-	-	-	456
Ouidimaka	123	65	42	230	-	-	-	-	230
Tiris Zemmour	-	-	-	-	-	-	-	-	-
Essaïf	141	56	-	197	-	-	-	-	197
Wahbiyeh	1,918	1,158	947	4,023	1,072	821	889	2,782	6,805
Total National	6,374	3,343	2,685	12,402	2,012	1,390	1,340	4,742	17,144

Table 6.3

University Scholarship Students Studying Abroad During School
Year 1979 - 1980 by Country in which Studying

Arab Countries	:No. of Students:	Non-Arab African Countries	:No. of Students:	Europe	:No. of Students:
Morocco	870	Senegal	157	France	140
Iraq	634	Ivory Coast	36	USSR	233
Tunisia	74	Mali	5	Romania	45
Saudi Arabia	164	Upper Volta	3	Bulgaria	26
Syria	50	Gabon	6	Spain	22
Libya	75	Cameroun	1	Poland	6
Lebanon	60	Zaire	1	Portugal	20
Egypt	24	Togo	2	Belgium	4
Qatar	20			West Germany	21
			Total 211	Great Britain	1
Total	1,971			Yugoslavia	1
		<u>Americas</u>			Total 519
		Canada	40		
		U.S.A	3		
		Total	43	Grand Total all students:	2,744

Chapter 7

Projected School Population

7.1 Projected School Outputs

Previous chapters have discussed in detail the existing educational levels of the population, and the labor force, and summarized the present school population.

This Chapter projects the primary and secondary school population to the year 2,000. See Annex A for the methodology employed.

7.2 Constraints

Three methodological problems need to be noted at the outset. First, the data base for public schools generally is accurate only for up to three years. That is too short a period from which to make adequate projections. Indications are furthermore that the education situation is changing and expanding rapidly. Initial projections, using the very high current rates of change, quickly ran out of school-age populations. The current rate of increase in enrollments, if continued unabated, means that before 1992 all school age children would be in school. Given constraints of costs, and lack of teachers, that is a very unlikely event. Therefore, lower and more realistic rates of growth were used. The result is an estimation based on our judgment of reasonable growth rates. It should be used as a basis for discussion rather than as blueprint of what will be.

The second matter involves labor force participation rates. No data exist to indicate the percentage of school dropouts and graduates which enter the labor force. Presumably some who exit from the

education system become inactive. What can be supposed to be the case, for example, of significant numbers of females and of younger males, and perhaps of some older males. The labor force participation rates found in the census are not sufficiently detailed to be indicative here. The assumption was made that 100% of those exiting the school system, as dropouts or as graduates (who do not continue their education) will immediately enter the labor force.

Thirdly, is the lack of adequate information and historical data for the technical/professional education and the university level education. The data base is so feeble that only general projection for university education were possible.

7.3 Primary School Graduates and Dropouts

It is estimated that the annual number of graduates entering the labor force from 1977 to 2000, from primary school, increase six-fold and those dropping out will increase seven-fold.

In absolute terms, annual dropouts increase from 1,522 to 11,245 while the graduates not going on to secondary school increase from 3,218 to 21,083. This corresponds with enrollment increases from 59,452 to 345,436 and with increases of graduates going on to secondary school from 1,486 to 12,050.

Whereas in 1977 somewhat less than 5,000 new entrants to the labor force came with some primary education (ranging from 1st grade dropout to primary graduate) by the year 2000 the number entering with at least some primary school education will have increased to over 33,000.

If these trends do in fact occur from 1977 to 2000, about 147,329 dropouts and 231,820 graduates, or a total of 428,000 former primary school students will enter the labor force. The data are presented Table 7.1.

7.4 Secondary General Education Graduates and Dropouts

The increase in the number of secondary graduates is even more dramatic because of the higher rates of increase used. From a negligible output of 139 BAC degree holders (high school graduates) in 1978, the projection indicates that the annual output will increase to 12,059 by the year 2000.

Whether or not funds can be, or will be, made available for such an increase is unknown. The lack of qualified teachers could be overcome by continuing to import expatriate teachers. A greater constraint is the lack of physical plant facilities and buildings and the lead time and money to construct them.

If in fact these projections were to materialize, 278,450 former secondary students entering the labor force (immediately or after further education) during that 23 year period, will have a major impact on the structure and characteristics of the labor force.

It should be noted that at the present time, almost all students who receive the BAC (including some unsuccessful candidates) do not immediately enter the labor force. They eventually enter programs of advanced education either in Mauritania or abroad. That of course does not lessen their impact on the labor force; it merely delays their entry into it.

Projections of the secondary enrollments and outputs are presented as Table 7.2

Table 7.1

Projections of Annual Primary School Enrollments, Dropouts, Graduates entering the Labor Force, and Graduates continuing on to Secondary School, by Grade Level, and by Year (1977-2000)

Year	Class	1st Grade		2nd Grade		3rd Grade		4th Grade		5th Grade		6th Grade		Total Graduate but not going to secondary	Total number of graduate going on to secondary	Total Primary School		
		Enrollments	Dropouts															
t	76-77	15,674	44	13,840	-226	8,775	525	7,714	309	7,930	301	5,529	423	569	3,218	1,486	59,452	1,522
t + 1	77-78	17,241	48	15,290	-299	13,544	810	18,506	341	7,602	289	6,455	423	666	3,488	1,878	72,183	1,855
t + 2	78-79	18,966	53	16,827	-318	15,460	925	12,525	502	8,153	310	6,277	494	647	3,338	1,798	78,208	2,119
t + 3	79-80	20,862	58	18,511	-350	17,086	1,022	14,808	594	11,393	433	6,683	481	689	3,583	1,930	89,343	2,446
t + 4	80-81	22,948	64	20,362	-385	18,806	1,125	16,540	665	13,823	525	9,179	512	946	5,149	2,772	101,658	2,938
t + 5	81-82	25,243	71	22,397	-423	20,689	1,237	18,249	732	15,661	595	11,218	703	1,157	6,083	3,275	113,457	3,369
t + 6	82-83	27,136	76	24,637	-466	22,756	1,361	20,086	805	17,362	660	12,772	859	1,317	6,887	3,977	124,749	3,753
t + 7	83-84	29,171	82	28,319	-555	24,932	1,491	22,095	886	19,134	727	14,175	978	1,461	7,628	4,108	137,826	4,112
t + 8	84-85	31,359	88	28,769	-544	28,615	1,711	24,322	975	21,055	800	15,461	1,086	1,613	8,412	4,530	149,761	4,643
t + 9	85-86	33,711	94	30,722	-581	29,494	1,764	27,614	1,107	23,175	881	17,215	1,198	1,775	9,258	4,965	161,931	5,040
t + 10	86-87	36,239	101	33,001	-624	31,359	1,875	28,923	1,106	26,165	994	18,948	1,319	1,454	10,189	10,189	174,635	5,460
t + 11	87-88	38,051	107	35,473	-670	33,644	2,012	30,673	1,230	27,786	1,056	21,355	1,451	2,202	11,506	5,665	186,982	5,937
t + 12	88-89	39,954	112	37,347	-706	36,155	2,152	32,843	1,317	29,475	1,120	22,773	1,636	2,348	12,213	6,012	198,547	6,353
t + 13	89-90	41,952	117	39,228	-741	38,160	2,282	35,272	1,414	31,505	1,197	24,166	1,744	2,492	12,955	5,976	210,613	6,761
t + 14	90-91	44,05	123	41,191	-779	39,106	2,339	37,339	1,497	33,805	1,285	25,817	1,851	2,662	13,848	7,456	221,308	7,127
t + 16	91-92	46,253	130	43,250	-817	41,988	2,510	38,481	1,543	35,877	1,363	27,693	1,978	2,855	14,859	8,001	233,542	7,584
t + 16	92-93	48,565	136	45,413	-858	44,087	2,635	40,405	1,620	37,671	1,431	29,354	2,121	3,026	15,724	8,483	254,495	7,990
t + 17	93-94	50,993	143	47,684	-901	46,292	2,767	42,425	1,701	39,554	1,503	30,821	2,243	3,178	16,403	8,992	257,769	8,391
t + 18	94-95	53,543	150	50,068	-946	48,606	2,906	44,546	1,786	41,532	1,578	32,363	2,360	3,337	17,225	9,441	270,658	8,811
t + 19	95-96	56,220	158	52,571	-993	51,037	3,051	46,774	1,876	43,609	1,657	33,981	2,479	3,503	18,085	9,914	284,192	9,252
t + 20	96-97	59,031	165	55,200	-1,043	53,588	3,203	49,112	1,969	45,789	1,740	35,680	2,602	3,679	18,990	10,409	298,400	9,713
t + 21	97-98	61,982	174	57,960	-1,095	56,268	3,364	51,568	2,068	48,079	1,826	37,464	2,809	3,862	19,863	10,930	313,321	10,199
t + 22	98-99	65,081	183	60,858	-1,150	59,081	3,532	54,147	2,171	50,482	1,918	39,337	2,869	4,056	20,936	11,476	328,986	10,709
t + 22	99-2000	68,395	192	63,901	-1,207	62,035	3,708	56,854	2,280	83,007	2,014	41,304	3,013	4,258	21,983	12,050	345,436	11,245

Total entering the labor force:

:281,820 :

:147,329 :

Table 7.2

Projections of Annual Secondary General Education Enrollments, Dropouts and Graduates by School Grade and by Year (1980-2000)

Year	Class	Enroll- ments	Drop- outs	BAC	Enroll- ments	Drop- outs										
t + 1	77-78	3,145	260	2,262	113	1,919	131	1,469	47	487	10	378	164	189	9,660	725
t + 2	78-79	3,900	322	2,818	114	2,146	146	1,717	55	1,370	29	489	213	245	12,450	905
t + 3	79-80	4,836	399	3,453	172	2,656	181	1,924	61	1,623	34	1,338	582	669	15,830	1,429
t + 4	80-81	5,996	495	4,280	213	3,256	222	2,371	76	1,820	38	1,635	710	816	19,358	1,754
t + 5	81-82	7,435	614	5,305	264	4,033	275	2,908	93	2,238	47	1,790	778	850	23,709	2,071
t + 6	82-83	8,551	706	6,579	328	5,000	341	3,600	115	2,746	58	2,186	950	1,093	28,662	2,498
t + 7	83-84	9,833	812	7,595	378	6,200	423	4,463	143	3,398	71	2,682	1,166	1,341	34,171	2,993
t + 8	84-85	11,308	934	8,737	435	7,167	490	5,535	177	4,213	88	3,317	1,442	1,653	40,279	3,566
t + 9	85-86	12,439	1,027	10,047	500	8,271	564	6,432	206	5,224	110	4,113	1,788	2,057	46,526	4,192
t + 10	86-87	13,683	1,130	11,078	552	9,512	649	7,404	236	6,080	128	5,255	2,412	2,625	53,007	5,107
t + 11	87-88	15,051	1,243	12,187	607	10,516	717	8,522	271	7,000	148	6,141	2,669	3,071	59,417	5,655
t + 12	88-89	16,556	1,367	13,406	668	11,572	789	9,374	298	8,056	170	7,062	3,065	3,538	66,020	6,361
t + 13	89-90	18,212	1,504	14,747	734	12,729	868	10,311	328	9,257	196	8,121	3,529	4,069	73,377	7,159
t + 14	89-90	20,033	1,655	16,222	808	14,004	955	11,343	361	10,646	225	9,346	4,059	4,679	81,588	8,063
t + 15	91-92	22,036	1,820	17,844	889	15,404	1,050	12,477	397	11,711	248	10,741	4,668	5,381	90,213	9,072
t + 16	92-93	24,240	2,002	19,628	978	16,945	1,155	13,725	436	12,882	272	11,815	5,135	6,188	99,225	9,733
t + 17	93-94	26,664	2,202	21,591	1,075	18,639	1,271	15,097	480	14,170	299	12,997	5,648	6,807	109,158	10,975
t + 18	94-95	29,331	2,422	23,750	1,183	20,503	1,398	16,607	528	15,587	329	14,296	6,213	7,487	120,074	12,073
t + 19	95-96	32,263	2,664	26,126	1,301	22,553	1,538	18,268	581	17,145	362	15,726	6,834	8,236	132,081	13,280
t + 20	96-97	35,490	2,931	28,738	1,491	24,809	1,691	20,094	639	18,860	399	17,298	7,518	9,060	145,289	14,609
t + 21	97-98	39,039	3,224	31,612	1,574	27,290	1,860	22,104	703	20,746	438	19,028	8,270	9,966	159,819	16,069
t + 22	98-99	42,943	3,546	34,773	1,732	30,019	2,047	24,314	773	22,821	482	20,931	9,097	10,962	175,801	17,677
t + 23	99-2000	47,237	3,901	38,251	1,905	33,121	2,251	26,746	850	25,103	530	23,024	10,006	12,059	193,382	19,443
Total entering the labor force														103,041	175,409	

7.5 Secondary Technical Education Graduates and Dropouts

If post-primary technical education continues to grow at the recent slow pace, and given the much lower base from which it starts, its projected impact will be considerably less than either primary or general secondary education. Starting from the estimated 117 graduates and dropouts of 1977, the total entrants are projected to grow to an annual rate of 1,026 by the year 2000. Although that is an eight-fold increase, the actual number is still relatively quite low. For that 23 year period it is still only 10,000, which hardly compares to the 706,000 projected entrants from primary and secondary general education.

Table 7.3 below presents the projected outputs of the technical education system.

7.6 Total Public Education

The foregoing suggests that over 700,000 students will exit from the school system between 1977 and the year 2000.

Of the current sedentary labor force of some 300,000, roughly 10% have some formal education. Of the nomad labor force of around 150,000, the number with any formal education is negligible. Given the age distribution, roughly 300,000 or three-fourths of the current labor force will still be in the labor force by the year 2000.

If a major portion of the projected 700,000 former students enter the labor force, their impact in terms of structure and size of demand requirements will be strongly felt. Their entry into the labor market should be planned and programmed.

The summary of those projected outputs is presented as Table 7.4.

Table 7.3

Projections of Annual Secondary Technical Education Dropouts and Graduates (1980-2000)

Years	Grades	Dropouts				Graduates		Dropouts				Graduates		Total + Graduates
		1 C	2 C	3 C	4 C	CAP	1 L	2 L	3 L	4 L	BAC	Dropouts		
t	: 1979-80	: 21	: 24	: 7	: 4	:	: 23	: 9	: 3	: 16	:	:	:	117
t + 1	: 1980-81	: 23	: 25	: 7	: 4	:	: 72	: 24	: 8	: 3	: 19	: 23	:	185
t + 2	: 1981-82	: 25	: 27	: 7	: 4	:	: 71	: 27	: 8	: 3	: 19	: 28	:	219
t + 3	: 1982-83	: 28	: 30	: 8	: 4	:	: 72	: 30	: 10	: 3	: 18	: 28	:	231
t + 4	: 1983-84	: 31	: 33	: 8	: 5	:	: 70	: 32	: 10	: 4	: 18	: 26	:	237
t + 5	: 1984-85	: 34	: 36	: 9	: 5	:	: 87	: 35	: 11	: 4	: 20	: 26	:	267
t + 6	: 1985-86	: 37	: 40	: 10	: 5	:	: 97	: 38	: 12	: 4	: 22	: 29	:	294
t + 7	: 1986-87	: 41	: 44	: 11	: 5	:	: 106	: 41	: 13	: 4	: 25	: 31	:	321
t + 8	: 1987-88	: 45	: 48	: 13	: 6	:	: 118	: 45	: 14	: 5	: 26	: 35	:	355
t + 9	: 1988-89	: 50	: 50	: 14	: 7	:	: 129	: 49	: 16	: 5	: 29	: 37	:	386
t + 10	: 1989-90	: 55	: 54	: 15	: 7	:	: 143	: 53	: 17	: 6	: 31	: 41	:	422
t + 11	: 1990-91	: 60	: 60	: 16	: 8	:	: 151	: 58	: 19	: 6	: 33	: 44	:	455
t + 12	: 1991-92	: 66	: 66	: 18	: 9	:	: 166	: 63	: 20	: 7	: 37	: 48	:	500
t + 13	: 1992-93	: 72	: 72	: 20	: 9	:	: 182	: 69	: 21	: 7	: 40	: 52	:	544
t + 14	: 1993-94	: 80	: 79	: 22	: 10	:	: 200	: 75	: 22	: 7	: 43	: 56	:	594
t + 15	: 1994-95	: 88	: 88	: 24	: 11	:	: 219	: 82	: 23	: 8	: 48	: 61	:	652
t + 16	: 1995-96	: 96	: 97	: 26	: 11	:	: 241	: 90	: 24	: 9	: 53	: 67	:	714
t + 17	: 1996-97	: 106	: 106	: 29	: 12	:	: 264	: 98	: 26	: 9	: 57	: 73	:	856
t + 18	: 1997-98	: 117	: 117	: 32	: 13	:	: 290	: 106	: 27	: 10	: 64	: 80	:	856
t + 19	: 1998-99	: 128	: 129	: 35	: 14	:	: 319	: 116	: 29	: 11	: 71	: 87	:	939
t + 20	: 1999-2000	: 141	: 141	: 39	: 14	:	: 350	: 126	: 30	: 12	: 78	: 95	:	1,026

Total entering the labor force

10,094

Table 7.4

Projected Outputs from the Public School System,
by Type of Institution and by Five Year Periods 1980 - 2000

(Thousands)						
	<u>1977-80</u>	1981-85	1986-90	1991-95	1996-2000	Total 1977/79-2000
Primary School						
Dropouts	7.9	18.8	29.5	39.9	51.1	147.2
Graduates	13.6	34.1	56.1	78.0	99.8	281.6
<u>1978/9-80</u>						
Secondary General						
Dropouts	3.0	12.8	28.4	49.9	81.0	175.1
BAC Graduates	1.1	5.7	15.3	30.5	50.2	102.8
<u>1979-80</u>						
Secondary Technical						
Dropouts and Graduates	less than 1	1.2	1.9	2.8	4.3	10.2
Total	25.6	72.6	131.2	201.1	286.4	716.9

7.7 Projected School Enrollments

The previous sections have examined the outputs of the school system in order to assess its impact on the labor force. Until they exit from the school system and begin producing and earning income, students are one of the most expensive parts of the dependent population and must be maintained by those who are working.

Based on the previously assumed growth rates of initial enrollments and of population, it is projected that school enrollments in primary school will increase from 26% of the school age population to 65% by the year 2000, while the percentage enrolled in secondary education increases from 5% to 54%. These data are presented as Tables 7.5 and 7.6.

7.8 Other Technical and Professional Education and Training Graduates

In addition to the public general and vocational school systems, there are sixteen other educational institutions which are, or soon will be, training students at various levels in a variety of technical and professional subjects. These have been described in some detail in other chapters. In this section an attempt is made to project future outputs of this group.

Accurate records of drop-outs, repeating and even enrollments, in some cases, have not been kept. It is therefore somewhat risky to make projections of outputs from schools and training centers. Table 7.7 (derived from Table 7.8), gives projected numbers of graduates from the country's professional and technical schools. Table 7.8 gives a broader range of data, including teacher-student ratios and levels of instruction.

...III...

Table 7.5

Projected School Age Population 6-12, by Sex, Primary
School Enrollment and Percentage School Age Population
Enrolled (1977-2000)

Year	Projected School Age Population (6-12) (000's)			Projected Enrollment in Primary Schools (000's)	Projected Percentage of School Age Population Enrolled in School
	Male	Female	Total		
1977	141.4	133.4	274.8	72.1	26
1980	154.3	145.5	299.3	101.6	33
1985	178.4	168.3	346.7	140.7	43
1990	205.7	194.0	399.7	210.6	52
1995	236.6	223.2	459.8	270.6	58
2000	271.7	256.4	528.1	345.4	65

Table 7.6

Projected School Age Population 13-18 by Sex, Secondary
School Enrollment, and Percentage School Population
Enrolled (1977-2000)

Year	Projected School Age Population (13-18) (000's)			Projected Enrollment in Secondary School (General only) (000's)	Projected Percent- age of School Age Population Enrolled in School
	Male	Female	Total		
1977	88.1	83.2	171.3	9.6	5
1980	97.3	91.3	189.1	15.8	8
1985	114.7	106.2	222.9	40.2	18
1990	134.6	126.9	261.5	73.3	26
1995	157.4	146.5	305.9	120.0	39
2000	183.4	173.2	356.6	193.3	54

Table 7.7

Projected Technical
and Professional School Outputs (1977-2000)

to suppress (number of Graduates)

Education or Training Institution	1977-1982	1977-1987	1977-1992	1977-2000
Hamadou Toure	512	1,223	1,734	..
SHIH: Professional Training Centers	1,000	2,000	3,000	..
SHIM: CATM	230	560	840	..
SHIM: CAPAT	325	510	675	..
SOMELEC	100	200	300	..
CFPP	..	1,575	3,150	..
MEFVA	95	190	285	..
CFAT	250	500	750	..
ENECOFAS	240	480	720	..
ENA	400	800	1,200	..
ENI	320	1,640	2,460	..
ENS	150	300	450	..
GHFCJS	..	250	500	..
CESC	375	1,750	2,625	..
ENISF	..	-	.. ⁺	..
Institut Soumare	500	1,000	1,500	..
Total	5,447	13,018	20,189	35,000

⁺ Data unavailable

As seen in Table 7.7, over 35 000 graduates with various kinds of technical and professional skill are projected to enter the labor force between 1977 and the year 2000 given current enrollment rates. Unlike the primary and secondary systems, it can be assumed that the labor force participation rate of these graduates will in fact closely approach 100% because many of them are already under a working contract for a specific job as a condition of having their schooling provided.

7.9 University Students

The data indicate that in 1980 there were 2,744 university students studying in 30 countries (Table 6.3). Until a manpower planning system which reflects the country's development needs has been instituted, projections of the number of students by field cannot be made. At present, the projections could only be based on the number of scholarships anticipated. This important issue is discussed in Chapter 8 Towards a Human Resources Planning System in Mauritania.

Table 7.8

Summary Data and Cumulative Projections of Sixteen Technical and Professional Education and Training Institutions (1977-1992)

Type of School	Number of Schools	Enrollments: 1979-80	Number Specialization or levels	Number of Teachers		Ratio: Students/Teacher	Average No. Annual Diplomas or Workers Produced	Projected Output of Diplomas or Workers		
				Foreign	National			1977-78 to 1981-82	1977-78 to 1986-87	1977-78 to 1991-92
Technical	1 lower ("college")	437	4	40	0	11/1	143 ⁺	575 ⁺	1,282 ⁺	
High School		242	4	38	0	6/1	51 ⁺	191 ⁺	396 ⁺	
Centre Mamadou Touré	1	96	22	11	3	7/1	102	512	1,223	1,734
Société Nationale Industrielle et Minière (SNIM):										
- 1) Professional Training Centers	2	400	various, 2 levels	20	4	17/1	200	1,000	2,000	3,000
- 2) Apprentice and Skilled Worker Training Center (CARPM)	1	163	various 2 levels	24	2	6/1	56	280	560	840
National Utilities Company School (SONELEC)	1	20	various	2	0	10/1	20	100	200	300
Professional Training and Skilled Improvement Center (CFPP)	1	105	6	0	13	8/1	315	-	1,575	3,150
National Agricultural Training and Extension School (ENFVA)	1	120	4	0	6	10/1	19	95	190	285
Center for Carpet Weaving (CFAT)	1	100	1	?	?	?	50	250	500	750

* Base year = 1979-80.

Towards a System for Human Resources

Development in Mauritania

8.1 The System Concept

National human resources development can be viewed as a system for effective improvement of the actual and potential human resources of a country, and their rational utilization in accordance with the politically determined national objectives of the country. The elements of the system are its objectives, policies, organizations, plans, procedures, programs, projects and evaluation/feedback mechanism.

It should be emphasized that the system should be a continuous process, not a one-time production of a "plan". Even though such a plan document should be produced and periodically up-dated, it is only one, albeit an important, input into a continuous process of data gathering, analysis, decision-making and implementation.

The human resources planning element must be comprehensive. The planning should not to be done within one organization, but should integrate the efforts of all the ministries, especially those concerned directly with economic development. The planning should not be limited to upper- and middle-level government civil servants, but assist in establishing government policies and programs which address the problems of urban and rural employment and development of employment-related skills. Solutions to manpower training problems should not focus only on the formal educational system but include non-formal education, training on-the-job, and improved utilization of personnel.

8.2 Human Resources Development Experience in Africa

The beginning of comprehensive human resources development in Africa was the manpower planning programs of the 1960's. By the mid-1970's, the majority of sub-Saharan African countries had a manpower plan, often as part of the national development plan. Many such countries also had an organization devoted to the manpower planning activity, usually as part of the Ministry of Planning. One country, Tanzania, now has a Ministry of Manpower Development.

Although their manpower plans and planning units were primarily concerned with upper and middle-level manpower, some of the lessons learned are applicable to a comprehensive system. Some examples are:

8.2.1 In the typical government setting, although all ministries are concerned, four are continuously involved: Planning, Education, Civil Service, and Labor. Effective coordination among these, and with the other ministries and the private sector in developing and implementing the manpower plan, is essential to its success. An interministerial human resources development committee at the operating level has been found useful.

8.2.2 Experience in a number of countries in Africa has demonstrated the need for both a professional human resources unit and a broadly-based, high level, human resources committee for proper functioning of a human resources development system. The committee is used to establish or change policy and to arbitrate jurisdictional problems. It may meet infrequently but it represents the high-level governmental support which is essential.

8.2.3 The most difficult policy area concerns implementation of the manpower plan. The fundamental issue is whether or not a "manpower approach" is to be taken to human resources planning. A "manpower approach" raises crucial issues such as:

- .. limiting investments in secondary and higher education when not required by development
- .. channeling students to fields of need by tight control of scholarships;
- expanding instruction in science and mathematics and relating this to scholarships, since persistent skill shortages have occurred in science/math-based professions.

8.2.4 A special and complex relationship exists between educational planning and manpower planning. Education has other purposes than training for employment and the linkage between the two cannot exclude other considerations. Educational planning is a specialized professional field with its own ethos and methodologies. Yet, educational policy and philosophy are the foundations of a human resources development plan, and close and frequent coordination between educational and manpower planning is vital to the success of both.

The basic distinction is that the educational planner is responsible for detailed planning of the formal school system--numbers of students in the educational streams, teacher/student ratios, curriculum, school locations, etc. and the manpower planner is responsible for making certain that the educational system will produce the numbers and types of graduates (science-based, for example) needed by the plan, that adequate attention has been paid to training the numbers of teachers needed, and other factors which will affect the accomplishment of the manpower plan objectives. Both planners are concerned with the accuracy and completeness of the educational statistics data base.

8.3 The Opportunity for Systematic Human Resources Development in Mauritania

The four RAMS volumes in this series could give the country a strong impetus towards developing the breadth and depth of data needed for creating and maintaining a comprehensive human resources development (HRD) system. A decision could be made on the organizational responsibility for human

resources planning. A high level policy committee could be established. The RAMS volumes could be reviewed and decisions made concerning which surveys and data would become a part of the system. The experience of the Mauritians who have participated in the RAMS surveys and studies could be tapped for staffing a human resources planning unit.

The situation is ripe for creating an innovative HRD system. The magnitude of the problem is probably manageable. The necessity of addressing the basic needs of the majority of the population is accepted. These needs center on improved productive activities and in increasing numerative employment. RAMS work in Phase II will suggest courses of action in the various productive sectors. The human resources consequences of these alternatives can be reasonably determined. When the policy decisions are made, human resource programs and projects can be formulated to help achieve the production and human objectives. Most important of all, these programs do not have to be imposed from the top. Experience in the last decade of economic development has demonstrated the validity of broad participation in planning and in the use of local organizations and institutions in implementation.

In drawing this visionary picture we are aware of the very real constraints to success at every level. Accordingly, it is appropriate to conclude by two quotations from the Strategy and Programme for Drought Control in the Sahel, OECD, May, 1977:

"The team designing the economic production program, after recognizing that training was a bottleneck restraining the pace of development, tend, quite understandably, to consider that training should be provided on demand and should be significantly accelerated to meet needs identified for staff. However, training occurs at its own pace and not only involves policy decision but also sociological evolution. It would be deceiving to think that training can be given on demand at an imposed speed.

...120...

Population dispersal, low population density, various natural conditions, life style and languages all work against massive participation by the rural dwellers. Information and ideas are poorly disseminated and communicated; there are many obstacles that, because of inadequate channels of communications and relatively underdeveloped mass media, cannot be easily overcome".

Appendix A

Methodology Used For Projecting Primary and Secondary
School Graduates, 1977 to Year 2000

The Following steps were taken to project the number of persons entering the labor force during each year 1977-2000 from the primary and general secondary school system and from the collège and Lycée Technique of Houakchott.

1. Establish a base year for each grade where the actual student population is known:

t = 1976-77 for primary school populations;

t = 1977-78 for general secondary school populations;

t = 1979-80 for Collège and Lycée Technique populations.

2. Derive from these figures three specific movements (tracks) as outlined in Volume II (report on Formal Education) of this report:

a. promotion to following grade

b. not promoted, staying back one grade

c. not promoted, dropping out of school

3. Apply the percentage rates for three movements derived for each grade. (See appendices 14-bis, 20, 29 of Volume II.)

4. Beginning with the base year enrollment figures, calculate the actual number of students following one of the three tracks. Repeat calculations for each class and for each year $t + 1$, $t + 2$, $t + 3$). etc.

ex. For Collège Technique:

$$\begin{aligned}
 \text{Enrollment for } t+1 : E_1 &= .14 C_{t+1} + .16808 \\
 & \quad (.8609 C_1^t + .0903 C_2^t) + \\
 & \quad .0619 (.7343 C_2^t + .0515 C_3^t) + \\
 & \quad .1333 (.2474 C_2^t) + .6392 (C_3^t)
 \end{aligned}$$

5. Total the dropout number of each class (for école fondamentale, école secondaire, collège technique and lycée technique) plus those graduating with diplomas but not continuing in secondary. The sum for one year equals the population entering the labor force from the school system.

6. The yearly growth rate of first year students entering the first class of each type of school system is calculated as follows:

a. For "Ecole fondamentale":

Actual growth 1976-77 through 1978-79 then projected rates of 10% through 1981-82, 3.5% from 1982-83 through 1986-87, and 5% between 1987-88 to the year 2000.

b. For "Secondaire Général"

A calculated growth rate of 24% for first year students from 1979-80 through 1980-82, 15% between 1982-83 to 1984-85 and 10% between 1984-85 to the year 2000.

c. For Secondary Technical (1st cycle, Collège)

A straight growth rate of 10% based on first year students between 1975-76 and 1979-80.

d. For Secondary Technical (2nd cycle, Lycée)

A growth rate of 5.24% based on first year students between 1975-76 and 1979-80.

The following assumptions were made when calculating the number of ex-students entering the labor force.

- a. All dropouts entered the labor force as of January.
- b. All students CAP (Certificat d'Aptitude Professionnelle) after Collège Technique entered the labor force the year of graduation.
- c. Of those in the sixth year of primary school, 10.31% dropped out and entered the labor force. Of those who remain, 7.66% repeat. The 82.03% which are left obtain diplomas. Sixty-five percent of these enter labor force, and 35% go on to secondary education.
- d. The labor force participation rate of dropouts and graduates is assumed to be 100%, i.e., all students including females who dropout or graduate are assumed to immediately start looking for work and enter the labor force. It is necessary to make this assumption until such time as actual data on labor force participation rates of existing students are established.