

UNEMPLOYMENT AND UNDEREMPLOYMENT IN LIBYA

*By William C. Wedley**

At any given time, the resources and skills available to a country place some type of ceiling on the number of development projects which can be undertaken. Capital is needed to provide the private and social overhead investments which increase or aid the productive capabilities of the society. Inputs of natural resources are necessary so that consumption and investment goods can be produced. Foreign exchange is required if an insufficiency in the domestic supply of natural resources, goods, and capital necessitates a supplementation from external sources. Labor, with the correct skills and attitudes, is needed so as to combine the productive factors and to operate in the economic system. Finally, improvements in the effectiveness of this economic system are achieved by advancements in technology and by betterment of educational standards. One of the major features of development planning is to identify those resources or skills which are limiting the potentialities for growth. With such knowledge, positive steps can be taken to alleviate the bottleneck.

In Libya, it is generally conceded that two resources are in particular scarce supply. The first of these is water. This natural resource has traditionally been of prime concern to the people of Libya. Periodic droughts have resulted in poor agricultural yields, the decimation of large portions of the animal population, and the necessity to import emergency foodstuffs. A major part of the government's current attempts to expand

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and improve the agricultural sector is contingent upon either the discovery of underground water which is not too saline for irrigation purposes or a major technological breakthrough in desalinization techniques. Reforestation, cistern improvement, and schemes to utilize the water which escapes through wadis are justified in a major part by the need to conserve this scarce resource. But water is not just for agricultural purposes. As part of the current economic boom, industrial expansion has been substantial. Industries such as agricultural canneries, soft drink plants, and motor vehicle garages all use large amounts of water. The extensive public and private construction activity also requires significant amounts of good-quality water to make various concrete products. Finally, it must be remembered that as incomes occur in incomes and standards of living, there will be greater human consumption of water. All this indicates that water conservation and development will have to be given important consideration in Libya's economic planning.

The second resource which is in very short supply is labor. This is an unusual contention because in most less developed countries, labor is generally considered to be one of the most abundant resources. In Libya, labor is very scarce. One renowned development economist has gone so far as to argue before the Libyan Institute of Public Administration that "... the pattern of Libya's development depends solely on the rate at which the supply of human skills can be built up."¹ The International Bank for Reconstruction and Development and the Bank of Libya are other bodies which feel that labor supply problems will be the chief obstacles to Libya's growth.² To augment the domestic supply, Libya has resorted to the importation of foreign labor. While this is necessary in the short run, there is a strong desire by Libyans to limit the number of alien workers and to reserve the better jobs which accompany development for citizens. Given the general shortage in the supply

1. Quote of Benjamin Higgins in "Expert Urges 10 Year Plan to Meet Labour Needs," *Sunday Ghibli*, (March 13, 1966), p. 1.

2. See International Bank for Reconstruction and Development, *The Economic Development of Libya* (Baltimore: The John Hopkins Press, 1960), p. 300; and Bank of Libya, *Eighth Annual Report of the Board of Directors* (Tripoli: Multi Press, 1964) p. 20.

of labor and the desire of Libyans for better positions, manpower planning assumes a position of prime importance.

Recently, the Census and Statistical Department of the Ministry of Economy and Trade released the findings of the *General Population Census* of 1964.³ This census collected data on the labor force of Libya. Included are unemployment figures; one of the few times that such information has been collected in Libya. The labor force figures represent the labor supply as of July 1964, the time when the census was conducted. The unemployment figures represent that portion of the labor force which is seeking work. The latter figures are of particular importance because they represent a potential supply which could ease the bottleneck in Libya's labor scarcity. It is the purpose of this paper to investigate the unemployment figures and to pass judgment on their validity for policy purposes. In particular, the problem of actually defining unemployment will be considered, the general degree of unemployment will be illustrated, and some of the different causes of unemployment will be explained. In the process of explaining the causes of unemployment, further data will be presented and an attempt will be made to determine which causes have relevance for Libya. Finally, the possibility of underemployment of employed labor will be explained.

The concept of unemployment.

The measurement of unemployment has always been a highly debated matter. The usual process is to divide the total population of a country into two sections: those who are economically inactive and those who are economically active. The latter group represents the labor force. Then, the economically active (i.e. the labor force) must be divided into the employed and unemployed sections. The rate of unemployment is the ratio of the unemployed to the labor force expressed as a percentage. The problem of measurement arises over establishing definitions of who is in the labor force, and of this labor force, who shall be the

3. Kingdom of Libya, Ministry of Economy & Trade, Census & Statistical Department, *General Population Census, 1964* (Tripoli: Census and Statistical Department, 1966.)

employed and unemployed. Unfortunately, the distinctions have always been somewhat arbitrary.

The words used in the Population Census to define the labor force and the unemployed are "economically active" and "seeking work" respectively. Included in the economically active are all persons aged six years and over who are either employers, workers on their own account, employees, unpaid family workers, other unpaid workers, or people seeking work. Breakdowns and cross-classification tables are given according to age, sex, geographic area, occupation, and economic activity. The age of six was chosen as the lower limit to the economically active group because a large number of children are members of the labor force. Many countries place both an upper and lower limit on the age of the labor force⁴ on the grounds of statutory requirements to attend school or else on the grounds that any of the very young or very old who are employed will contribute very little to output. It should be noted, however, that the latter justification is a problem of underemployment or underutilization of the labor rather than a question of whether or not the person can contribute some economic utility. When the concern is for the personal welfare of individuals or the productive capabilities of the society, the whole workable population should be considered. Such is the case for Libya. In the future when most of the children of the country attend school, a raising of the lower age limit will enable the collection of any unemployment statistics to be simplified.

The term "seeking work" gives an indication of the type of people who would be considered as Libya's unemployed. Presumably, the person who does not have work and has given up hope of finding a job would be considered as not seeking work and therefore would be excluded from the unemployed and the labor force. Similarly, a person who was absent from the job because of an industrial dispute, sickness, vacation, or a temporary layoff would not be seeking work and consequently would not be considered as unemployed. Such people would, however, be classified as part of the employed labor force. The situation where

4. For various age definitions of the economically active, see Yong Sam Cho, "Disguised Unemployment" in *Underdeveloped Areas; with Special Reference to South Korean Agriculture* (Berkeley: University of California Press, 1963), p. 58.

a part-time worker who wants a full-time job, or a full-time worker who wants to change jobs, is slightly different. Such a person may be actively seeking work, but it is assumed that his employment would take precedence over his seeking work. In calculating the economically active group a person cannot be counted both as being employed and unemployed (i.e. seeking work). Other definitional problems are confronted when considering the casual laborer who has just worked a very short time. From these few examples it can be seen that the person classified as "seeking work" in the Population Census was probably a person who did not have employment at the time of the census, but who was actively looking for a job.

In spite of the somewhat arbitrary definition of a person who is seeking work, the term implies that there are people available and willing to become part of the employed labor force. Even though one may argue that the definition is not appropriate or that the census was imprecise, the fact that people replied that they were looking for work, enables generalizations to be made about the supply of labor which is not being utilized. In addition, sufficient data is available to point out some of the possible areas of error. Still, caution must be exercised in the interpretation of the following census figures. There are many sources of minor errors which can enter into the measurement of the labor force in an underdeveloped country.⁵ Thus, the distribution of the labor force and the rates of unemployment should not be considered as exact irrefutable figures. What the figures and discussion do indicate is the general nature of the Libyan labor force.

5. For an explanation of why developed countries' measurements are not strictly appropriate for underdeveloped countries, see Peter T. Bauer and Basil S. Yamey, *The Economics of Under-developed Countries* (Chicago: The University of Chicago Press, 1957), pp. 32-42. While Bauer and Yamey's contentions do have validity, the overall impact would not vitiate the use of the usual measures of the labor force; only caution in interpretation of the results. Some of the possible sources of error in the Population Census are (1) incorrect collection of data by the enumerators, in spite of the fact that all enumerators attended an extensive training course which lasted over a week, and (2) false reporting by residents as being unemployed because (a) they feared income taxes if they reported themselves as employed and (b) they believed they would receive some state assistance if they said they were not working. This would tend to indicate that the unemployed figures are inflated. However, a well designed census questionnaire and properly trained enumerators would minimize the above type of errors.

The degree of unemployment.

Of the 1,564,369 people in the Kingdom of Libya as of mid-1964, 1,223,582 were six years and older. Of these, 405,258 or 26% of the total population were classified as economically active. Table I shows the number of the economically active people who are seeking work according to sex and according to alien or citizen status. As can be

TABLE I

Unemployment Amongst the Economically Active Population (Citizens and Aliens), Six Years and Over, by Sex, 1964^a

	CITIZENS			ALIENS			TOTAL		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Seeking Work	31,717	1,879	33,596	333	193	526	32,050	2,072	34,122
Economically Active	367,834	19,865	387,699	14,533	3,026	17,559	382,367	22,891	405,258
Percentage Unemployed	8.6	9.5	8.7	2.3	6.4	3.0	8.4	9.0	8.4

a. Calculated from : Kingdom of Libya, Ministry of Economy & Trade, Census & Statistical Department, *General Population Census, 1964* (Tripoli: Census & Statistical Department, 1966), p. 31.

seen, the overall rate of unemployment is 8.4% of the economically active. The rate for male aliens is 2.3% and for male citizens, 8.6%. The corresponding figures for females are higher: 6.4% for female aliens and 9.0% for female citizens. Given the fact that complete social emancipation has not been achieved yet for the women of Libya, these higher unemployment rates are expected. The overall figures illustrate that there are many people seeking work; an unexpected phenomena when there is supposed to be a shortage of labor. Not only does the existence of such unutilized labor mean that the productive output of the country is not as high as it could be, but also "... the failure to find a job involves one of the most serious of human frustrations — a man is deprived of the opportunity of earning his own living and

of finding a meaningful place for himself in society."⁶ A problem of unemployment exists, and the most logical solution will require a pinpointing of the causes.

Before going on to explain the possible causes of unemployment, the reader must be cautioned that two aspects of the economically active labor force will not be analyzed in any greater detail. The first ignored factor is the alien portion of the work force. There are three reasons for this. First, the Population Census does not give detailed enough information about the alien work force to enable the significance of various causes of unemployment to be analyzed. The Census only gives detailed statistics for citizens. Second, the number of aliens and the rates of unemployment amongst them are much smaller. This means that the unemployment problem for aliens is not as serious. Third, Libyan citizens should be given precedence over aliens in reaping the benefits of economic development. At present, all alien workers enter the country on the basis of temporary work permits. This indicates that Libyans have a strong desire to improve themselves so as to replace foreign workers in the more advantageous positions and to assume a more important role in the economic development of the country.

The second factor which will not be considered in the subsequent analysis is the female portion of the labor force. Detailed data on the female population was presented in the Population Census, but it was felt that the 19,865 female citizens⁷ classified as economically active was a gross underestimate. As an indication of the underestimation, consider the agricultural sector shown in Table II. Notice that 144,853 or 35.74% of the economically active are engaged in agriculture. This is far below the amount usually estimated to be working in the agricultural sector. For example, the *1960 Census of Agriculture* reported that 279,970 persons aged 15 years and more were working in agriculture.⁸ Of this number, 189,788 were males and 90,182 were females.⁹ The

6. Abba P. Lerner, *Economics of Employment* (New York: McGraw-Hill Book Company, Inc., 1951), p. 22.

7. See Table I.

8. United Kingdom of Libya, *1960 Census of Agriculture* (Tripoli: Ministry of Agriculture, February, 1962), p. 494.

9. *Ibid.*

TABLE II

Economically Active Population, Six Years and Over, by Division of Economic Activity and by Sex, 1964^a

DIVISION OF ECONOMIC ACTIVITY	MALE		FEMALE		ECONOMICALLY ACTIVE	
	No.	Percentage of Sector	No.	Percentage of Sector	No.	Percent of Total
Agriculture, Forestry, Hunting, & Fishing	141,781	97.92	3,072	2.08	144,853	35.74
Mining & Quarrying	13,881	97.35	378	2.65	14,259	3.52
Manufacturing	21,464	73.06	7,913	26.94	29,377	7.25
Construction	31,237	99.39	197	.61	31,434	7.76
Electricity, Gas, Water & Sanitary Services	5,962	98.32	102	1.68	6,064	1.50
Commerce	26,086	97.57	649	2.43	26,735	6.60
Transport, Communication & Storage	22,548	99.22	200	.88	22,748	5.61
Services	76,307	92.46	6,224	7.54	82,531	20.36
Activities Not Adequately Described	43,101	91.21	4,156	8.79	47,257	11.66
TOTAL	382,367	94.35	22,891	5.65	405,258	100.00

a. Source: Kingdom of Libya, Ministry of Economy & Trade, Census & Statistical Department, *General Population Census, 1964*. (Tripoli: Census & Statistical Department, 1966) pp. xxxi and 53.

comparable 1964 Population Census figures were 141,781 males and 3,072 females. While it is admitted that there has been a rural migration of agricultural workers to the urban areas, it is inconceivable that the number of female agricultural workers decreased from 90,182 to 3,072 in four years. It would appear that the 1964 figure of women agricultural workers is far too low. It is known that more males than females migrate to the urban areas. It is also known that the veiled life which the Libyan woman leads would prevent her from telling an enumerator that she was working. It would thus appear that the number

of economically active males in the agricultural sector represents a more realistic value. In addition to eliminating females from the discussion on the grounds that the figures are underestimated, the calculation of percentages on the basis of a small number of females in the finer breakdowns would yield distorted values. Although the subsequent studies will not discuss the female component, the data for females is included in the tables because they illustrate broad trends and a few isolated figures of validity. It must be remembered, however, that the information about females is suspect to grave errors.

Causes of unemployment.

Not only is the concept of unemployment a very perplexing thing, but the causes of unemployment are equally complex. Basically, anything which causes a decrease in labor demand or an increase in labor supply can potentially lead to a higher rate of unemployment. While many words have been coined to describe the types of unemployment, the terms used in this paper will be cyclical unemployment, seasonal unemployment, frictional unemployment, technological unemployment and structural unemployment.

1. Cyclical Unemployment.

Cyclical unemployment occurs during a time of recession or depression. It results from a general insufficiency of effective demand for products, with a consequent general lack of demand for labor. Such an insufficiency affects all industries to varying degrees. According to Keynesian theory, cyclical unemployment occurs whenever the equilibrium level of consumption and investment expenditures is lower than that required for full-employment. In such a case, the amount of full-employment saving is not offset with sufficient intended investment. The deficiency of intended investment is called a "deflationary gap," because, through the multiplier effect, it tends to deflate the output of the economy. It is generally agreed today that a deflationary gap and the resulting cyclical unemployment can be overcome by appropriate fiscal

and monetary policy which stimulates an increase in either consumption or investment or both.

The opposite situation exists when intended investment exceeds full employment saving. As a result, more goods and services are demanded than the economy can produce. This is called an "inflationary gap" because the excess effective demand causes prices to rise. Cyclical unemployment and inflation are not compatible because, by definition, they are caused by opposite tendencies; cyclical unemployment by insufficient effective demand and inflation by excess effective demand.

The present situation in Libya is one of inflation rather than deflation. Both private and government investments have increased much faster than the productive capabilities of the economy.¹⁰ Increased expenditures and money incomes have resulted in greater purchasing power without a corresponding increase in domestic production. The government has been keenly aware of the repercussions of the resulting inflation, especially when it means that each year the cost of development projects is increasing.¹¹ To counteract inflationary tendencies, the government has recently tightened its monetary system¹² and over the years it has modified its commercial policy to allow easier importation of goods and skills.¹³ But such measures are hardly undertaken to combat the insufficiency of effective demand which causes cyclical

10. This is particularly true of the government development expenditures which have been mainly for infrastructure purposes. While in the short run these do not add to the output capabilities of the economy, in the longer run, they provide external economies for agriculture and industry. Given the large geographic size of Libya, infrastructure investments have had to be substantial.

11. Inflation has been particularly acute in the construction sector, where the pace of growth is abnormally high. This means that more and more of the development revenues are being expended for inflationary increases instead of real output. In the future with construction of the coastal road, the gas plant at Marsa el Brega, new oil pipelines, the Idris Housing project, and other private and public building, the inflationary pressure on this sector will be even greater.

11. "Banks Tighten Credit," *Sunday Ghibli* (June 12, 1966), p. 1.

13. Dr. Ali Attiga points out that while low tariffs will tend to combat inflation, the incentive for domestic production is also lessened. This could eliminate potential employment opportunities and prevent the establishment of local industries. See Ali A. Attiga "Inflation and Economic Development in Libya," *National Bank of Libya, Monthly Economic Bulletin* (Vol. III, No. 3; March, 1963), p. 258.

unemployment. Rather, they are intended to control the inflationary pressures of excessive effective demand and to reduce the inflationary gap. It would thus appear that the economic boom which originated from petroleum discoveries rules out the possibility of cyclical unemployment.

TABLE III

Unemployment of Citizens, Six Years and Over, by Economic Activity, 1964^a

DIVISION OF ECONOMIC ACTIVITY	MALE CITIZENS			FEMALE CITIZENS ^b		
	Seeking Work ^c	Econom- ically Active	Percent Unem- ployed	Seeking Work ^c	Econom- ically Active	Percent Unem- ployed
Agriculture, Forestry, Hunting & Fishing	285	140,517	.2	6	3,036	.2
Mining & Quarrying	17	11,575	.1	—	52	—
Manufacturing	90	18,763	.5	9	7,784	.1
Construction	159	29,876	.5	—	170	—
Electricity, Gas, Water & Sanitary Services	7	5,571	.1	—	77	—
Commerce	24	24,605	.1	2	209	1.0
Transport, Communication & Storage	64	21,463	.3	—	104	—
Services	59	73,023	.1	48	4,624	1.0
Activities Not Adequately Described	31,012	42,441	73.1	1,814	3,809	47.6
TOTAL	31,717	367,834	8.6	1,897	19,865	9.5

a. Calculated from: Kingdom of Libya, Ministry of Economy & Trade, Census & Statistical Department, **General Population Census, 1964** (Tripoli: Census & Statistical Department, 1966), pp. 61 & 62.

b. As previously mentioned, unemployment rates for females are unreliable. Thus, these figures are not analyzed. They are only included to give a general impression of the sectors in which female employment is prevalent.

c. The Population Census entitled this column "Not Classifiable by Status." Since the totals of this column equaled the total for the "Seeking Work" columns of all other tables, it was assumed that the "Not Classifiable by Status" title was a mistake.

A second proof that cyclical unemployment is not important in Libyan is illustrated by Table III. Notice that in all divisions of economic activity which have a definite title, the rate of unemployment for males is less than one percent. This indicates that those people who are seeking work in a particular sector can readily find work. In other words, there is a strong derived demand for labor in every sector of the economy. Unemployment is almost entirely limited to activities which are not adequately described by the usual sectoral definitions. If cyclical unemployment caused by a general insufficiency of effective demand did exist, it would be expected that the rates of unemployment would be significant in all sectors.

2. Seasonal Unemployment.

A second cause of unemployment is seasonal variation in the demand or supply for labor. The weather cycle, annual style changes, yearly holidays, and production changeovers are all factors which occur on a seasonal basis. The most commonly known industry which has seasonal variation in employment is agriculture. While Libya undoubtedly has such unemployment in the agricultural sector, it is unlikely that much of the unemployment in the Population Census was of this type because the census was conducted in mid-July, a time which is towards the end of the peak of the harvest season. However, 1964 was a year of slightly less than average rainfall, and as a consequence, there still could have been agricultural unemployment even in the peak season. But the low rate of unemployment in the agricultural sector as indicated in Table III does not lead to this conclusion.

A second type of seasonal unemployment which could have substantial effects is the large number of students who are on summer vacations and looking for work. Since the Population Census was conducted during July 1964, there is a serious possibility that the unemployment may be amongst students. But observe Table IV. While it is evident that the rates of unemployment are much higher among the young, only 18.4% (6.6 + 11.8) of the number of economically

active males who are seeking work, are under 20 years of age. Since the remaining 81.6% of the male citizens who are seeking work are over 20 years of age and therefore are less likely to be unemployed students, it appears that this type of seasonal unemployment does not reach major proportions.¹⁴

TABLE IV
Unemployment of Citizens, Six Years and Over, by Age Groups, 1964^a

AGE GROUP	MALE CITIZENS				FEMALE CITIZENS ^b			
	Seeking Work		Econom-ically Active	Percent Unem-ployed	Seeking Work		Econom-ically Active	Percent Unem-ployed
	Number	Percent of Total			Number	Percent of Total		
6 - 14	2,104	6.6	11,764	17.9	318	16.9	3,123	10.2
15 - 19	3,740	11.8	23,616	15.8	205	10.9	2,577	7.9
20 - 24	4,869	15.4	49,601	9.8	136	7.2	2,525	5.4
25 - 29	4,504	14.2	58,110	7.7	153	8.1	2,405	6.4
30 - 34	3,234	10.2	47,160	6.9	132	7.0	1,888	7.0
35 - 39	2,969	9.4	43,186	6.9	158	8.4	1,686	9.4
40 - 44	2,314	7.3	32,625	7.1	183	9.7	1,618	11.3
45 - 54	3,671	11.5	47,702	7.7	321	17.1	2,347	13.7
55 - 64	2,612	8.2	31,608	8.3	153	8.2	1,094	14.0
65 - 74	1,213	3.8	16,415	7.4	78	4.2	424	18.4
75 & over	465	1.5	5,810	8.0	33	1.8	134	24.6
Not Stated	22	.1	237	9.3	9	.5	44	20.4
TOTAL	31,717	100.0	367,834	8.6	1,879	100.0	19,865	9.5

a. Calculated from: Kingdom of Libya, Ministry of Economy & Trade, Census & Statistical Department. **General Population Census, 1964** (Tripoli: Census & Statistical Department, 1966), pp. 36 & 37.

b. Data on female citizens is only presented to illustrate general tendencies. It is not reliable enough for detailed analysis.

14. Of course there are many students who are older than 20 years of age. From figures presented in the Population Census (p.24), 300% of the male citizens attending school are over 20 years of age. But this percentage is too high because it includes people who attend evening classes and work during the daytime. It must also be remembered that many of those seeking work and under 20 do not attend school.

3. *Frictional Unemployment.*

Frictional unemployment is the name given to unemployment which arises from the random imperfections in the operation of the economic system. It is a permanent but short-run phenomena which goes on continually. Two subclasses of frictional unemployment can be identified, depending on whether the imperfection is in the supply of labor or in the demand for labor.

The more commonly acknowledged type of frictional unemployment may be called volitional unemployment.¹⁴ As its name implies, it arises from time lags in reallocation of that portion of the labor supply which changes jobs for personal reasons. At all times there are some people who are unhappy with their jobs and desire something better. Frequently, they will quit before they have found a new position. In Libya where independence and the nomadic spirit are highly prized social values, there is a strong impulse for the worker to periodically quit his job and escape the routine and rigorous schedule of an industrial enterprise. In the present boom conditions, the ease of finding another job makes this practice all the more prevalent. Indeed, most oil companies have experienced very high rates of labor turnover. But just because a worker quits his job does not mean that he will be unemployed. Many times, he has arranged beforehand so that he is immediately able to assume another position. Even if another job is not pre-arranged, the general scarcity of labor and the boom conditions enables any person with needed skills to readily find another job. Also, the sectors in which volitional unemployment is likely to be found—mining and quarrying, manufacturing, and construction—comprise only 18.5% of the economically active population.¹⁶ Thus, while volitional unemployment exists, it, by itself, is not a substantial cause of the overall rate of unemployment.

15. This term is borrowed from Neil W. Chamberlain, *Labor* (New York: McGraw-Hill Book Company, Inc., 1958) as is "transitional unemployment," the term used for the second type of frictional unemployment.

16. See Table II.

The second type of frictional unemployment is called transitional unemployment. It arises from imperfections in the demand for labor. Workers who are left jobless because of the usual business failures would come under this category. So would the workers who are out of a job while their factory is retooling or changing over to another production process. Since there are few business failures in Libya and since the sectors which retool or change production processes do not employ a very large portion of the labor force, this type of unemployment is not very important.

4. Technological Unemployment.

A fourth general type of unemployment is caused by technological changes. No decline in output is involved. Improvements in production techniques enable the same or greater output to be produced with fewer workers. Two different types of technological unemployment can be distinguished. The first, and more commonly acknowledged, occurs when workers are displaced by new types of machines. In other words, capital is substituted for labor. The second type of technological unemployment occurs when improvements made in managerial and business techniques lead to changes in the production process which require fewer workers. There may be no capital investment in this type of change. It is purely related to the ability of business managers to structure their operations and to improve their methods so as to achieve greater productivity from workers when investments are held constant. While it is possible to distinguish between the two, most technological advancements involve both capital and administrative improvements.

Agriculture is the sector in which Libya will probably experience the greatest technological unemployment. With the finding of petroleum, capital has become abundant and labor has become scarce. Thus, the most logical effect on the Libyan economy would be the replacement

of labor-intensive techniques by capital-intensive techniques. The petroleum and manufacturing industries are new and modern. Thus, there is little likelihood of technological displacements in these sectors. While the construction industry could make drastic improvements in its methods, it is unlikely that the strong demand for this activity has resulted in displaced workers. It is in agriculture where technological unemployment will be the strongest. The attempts to increase agricultural output by introducing tractors, harvesters, seed drills, water pumps, and irrigation systems to farms which were formerly operated solely on the basis of animal and human power will obviously result in fewer required workers without necessarily lowering the total agricultural output. Indeed this partly explains the reason for the rural migration to the urban areas. But probably a more important reason for the migration was the moderate drought and the existence of better job opportunities, health facilities, suitable dwellings, electricity, potable water, educational services, and recreational centers in the cities.¹⁷ Also, the large increases in agricultural machinery occurred after 1964, and therefore, the major technological displacements had not yet occurred. Finally, the figures of Table III do not indicate a large amount of unemployment in the sectors which could experience technological displacements. Thus, while a small amount of technological unemployment can be said to exist in the figures of the Population Census, the major repercussions of this type of unemployment will be felt in the future.

5. Structural Unemployment.

Structural unemployment, like frictional unemployment, is frequently used as a catch-all term for all types of unemployment except that caused by the recessive or depressive phases of the business cycle.

17. Kingdom of Libya, National Planning Council, *First Annual Report on Development Activities for The Year Ending 31st March 1964* (Tripoli: Multi press), p. 10.

In this paper it is given a more restricted meaning by referring to structural maladjustments in the demand or supply for labor. While frictional unemployment refers to short run imperfections, structural unemployment refers to imperfections which are more permanent in nature. Like frictional unemployment, two subclasses of structural unemployment can be indentified, depending upon whether the imperfections are in the demand schedule or in the supply schedule.

The demand type of structural unemployment occurs when there is a decline in the production of a particular industry or location. Fewer workers are required because that industry or region produces less. This may at first appear to be similar to cyclical or technological unemployment. But, whereas cyclical unemployment affects all industries and localities to varying degrees, demand structural unemployment affects only certain localities or regions. Similarly, technological unemployment is different in that the same or more output is produced with fewer workers, whereas for structural unemployment, fewer workers are used because less output is produced.

The incidence of this unemployment, caused by a decreased demand for the products of an industry or region, does not seem to be too prevalent in Libya. There has been continual strong demand for the output of all industries and as is indicated by Table III, there is little unemployment within definable sectors. In regards to the decline in the production of a particular region, it is useful to refer to Table V. Two facts stand out. First, the rates of unemployment of the muqataas of Gebel Akhdar and, to a lesser extent, of Sebha are well above the country's average. Since the main occupation of the people of these areas is agriculture, and since there was a strong demand for agricultural products, it is unlikely that structural unemployment existed in these areas. The reason for the high geographic rates of unemployment must lie elsewhere, possibly in the nature of the people. The second point to note is the below average levels of relative unemployment in the muqataas of Tripoli and Benghazi. Although the absolute levels are fairly high, the low rates of unemployment tend to

TABLE V

Unemployment Amongst Citizens, Six Years and Over by Muqataa, 1964^a

MUQATAA	MALE				FEMALE ^b			
	Seeking Work		Econom- ically Active	Unem- ployed Percent	Seeking Work		Econom- ically Active	Percent Unem- ployed
	Number	Percent of Total			Number	Percent of Total		
Tripoli	4,197	13.2	81,094	5.1	193	10.3	3,234	6.0
Benghazi	4,232	13.4	68,794	6.1	228	12.1	2,160	10.5
Sebha	1,611	5.1	11,231	14.3	87	4.6	811	10.7
Gebel Gharbi	3,274	10.3	43,562	7.5	74	4.0	1,007	7.3
Zawia	3,401	10.7	42,715	7.9	156	8.3	1,190	13.1
Homs	3,741	11.8	34,625	10.8	87	4.6	656	13.3
Misurata	4,116	13.0	38,369	10.7	354	18.8	7,544	4.7
Derna	1,882	5.9	18,738	10.0	197	10.5	622	31.7
Gebel Akhdar	4,566	14.4	20,989	21.7	360	19.2	1,088	33.1
Ubari	697	2.2	7,717	9.0	143	7.6	1,553	9.2
TOTAL	31,717	100.0	367,834	8.6	1,978	100.0	19,865	9.5

a. Calculated from: Kingdom of Libya, Ministry of Economy & Trade, Census & Statistical Department, **General Population Census, 1964** (Tripoli: Census & Statistical Department, 1966), pp. 33 & 34.

b. The data on females was included for the benefit of the interested readers. While the figures are not to reliable and therefore are not analyzed, they do point out certain facts. Notice that the Muqataa of Misurata has the largest number of females in the labor force. Perhaps this is because Misurata has a predominance of small scale manufacturing establishments. In Kingdom of Libya, Ministry of Economy & Trade, Census & Statistical Department, **Report of the Industrial Census 1964** (Tripoli: Census & Statistical Department, 1965) p. 58, it was estimated that 57.30% of the people engaged in small manufacturing establishments, came from the Muqataa of Misurata.

indicate that the widespread fear of unemployment amongst the rural farmers after they migrate to the two principle cities is not well founded.¹⁸

The second type of structural unemployment relates to the people who are in the labor force. Certain persons will have more difficulty finding a job than others. This includes the unskilled, the illiterate, the handicapped, the discriminated minorities, the inexperienced young, and the feeble aged. As seen in Table IV, the rates of unemployment amongst the very young and very old are high, but there are still high rates of unemployment and absolute numbers of work seekers in the middle-aged groups. Thus, this could only be a partial explanation. Illiteracy seems a major possibility because 57% of the males six years and over were classed as illiterate in 1964.¹⁹ Yet, it is very difficult to judge how much of a handicap this would be in getting a job. Minorities must be excluded as a factor because, while discrimination is said to exist, it certainly is very insignificant. While Libya has a large number of people with infirmities, many are of a type which would exclude the person from being classified in the labor force or else many are of a type which would still enable them to work.²⁰

An idea of the skills of the workers can be discerned from Table III. Notice that 31,012 or approximately 98% of the 31,717 males who were unemployed did not classify themselves as seeking work in one of the regularly defined sectors. The question then raised is whether or not these people were really qualified to seek work in one of the regular sectors. Of the economically active male citizens, 41,380 were not classified by occupation in the Population Census.²⁰ In preparing Table III, all these would be classified under the title "Activities Not Adequately Described". Of the 42,441 male citizens in the "Activities Not Adequately Described," only 1,061 males²² were actually classified

18. This does not rule out the possibility of large-scale underemployment in the cities.

19. See Kingdom of Libya, *General Population Census, 1964*, p. xxxviii.

20. See *Ibid.*, p. 70

21. *Ibid.*, p. 40.

22. This is derived by subtracting the 41,380 not classified by occupation from the 42,441 who were in activities which were not adequately described to be classified into sectors.

by occupation but excluded from the usual sectors. Within the group of "Workers Not Classified by Occupation," presented in the Population Census, 23,917 male citizens were classified as new workers who were seeking work.²³ Since these new workers were not classified by occupation, they also would be included under the title "Activities Not Adequately Described" in Table III. Thus, of the 31,012 male workers described as seeking work in the "Activities Not Adequately Described," 7,095 (31,012 - 23,917) were former workers looking for work. This also means that of the total male labor force, 7,800 (31,717 - 23,917) are former workers without a job who are looking for work. This information enables the division of the overall rate of unemployment into new worker and former worker sections.

New workers, without jobs, seeking work

$$(23,917/367,834) \times 100 = 6.5\%$$

Former workers, without jobs, seeking work

$$(7,800/367,834) \times 100 = 2.1\%$$

All workers, without jobs, seeking work

$$(31,717/367,834) \times 100 = 8.6\%$$

As can be seen, the major component of the overall rate of unemployment consists of new workers who do not have a definable occupation. It must be pointed out that many of the 7,800 former workers seeking employment were also not classified by a definable occupation because there were 1,061 such males²⁴ who were classified by occupation in the category "Activities Not Adequately Described." In other words, most of the unemployed were looking for work, but they did know in which sector they desired a job. This tends to indicate that these men did not have the requisite skills to say that they were looking for a job as a truck driver, plumber, electrician, clerk, salesman, tractor driver,

23. Kingdom of Libya, General Population Census, 1964, p. 52.

24. See page 75.

mechanic, well driller, postman, toolmaker, bricklayer, policeman, or carpenter. They were just looking for work, wherever that may be. Such a trait is usually an indication that the unemployed has no special skills to assume a definite position or else that the country is witnessing a severe depression. It is quite clear that Libya is not experiencing the latter ailment and the only thing which can be concluded is that the majority of the unemployed has not acquired the necessary skills to fill the new positions which have been created by the current boom in the Libyan economy.

Underemployment of Labor.

An unemployed worker contributes nothing to the output of the economy. In other words, the marginal productivity of unemployed labor is zero. But what is the marginal productivity of those who are working? Individually, do they contribute a great deal to output or do they contribute very little? This is the question of the utilization and efficiency of the employed worker. If the existing workers could be utilized to a greater extent or if the efficiency of their operations could be improved, then an additional source could be found for easing the pressure on the Libyan economy caused by the scarcity of labor.

The terms underemployment, disguised unemployment, and partial unemployment are all used to connote the inadequate utilization of the employed work force, whether this is from locating the worker in the wrong job or not utilizing the capabilities of the worker in his correct job. All the terms refer to the portion of the labor force which would be classified as employed and, therefore, excluded from the "seeking work" group. Since the person is classified as employed but there is not complete utilization of his capabilities, the word "underemployment" will be adopted for these terms so as to avoid confusion with different types of unemployment.

Almost all factors which cause unemployment can also cause underemployment. The only distinction is that the person remains employed, but in a job which does not use his capabilities in the most

optimal manner. Cyclical underemployment occurs when a lack of effective demand causes a worker to remain idle for part of the day or when a worker is forced to assume a less important job which does not make the best use of his skills.²⁵ Seasonal underemployment can occur when employers maintain their skilled work staff during the yearly lull in demand or during the annual change-over. The maintaining of displaced workers until new positions open up in the firm after a new method or machine is introduced is a case of technological underemployment. Transitional underemployment and demand structural underemployment can occur whenever displaced workers assume a job where their marginal productivity is less.

Notice that in all the above types of underemployment, there is a problem of definition. What is the correct job for a worker? Is a worker who only desires partial employment utilized to his full capacity? How long must a worker be on the job each day to be fully utilized? How fast must a worker perform his job to be working at the correct efficiency? What is the optimal manner of employing a person? Clearly, all these different questions imply some type of standard. While underemployment exists to varying degrees in all economies, different cultures, public holidays, and labor laws will necessitate different approaches to its measurement. Like unemployment, definitions will have to be somewhat subjective. This makes the degree of underemployment an equally controversial issue.

In Libya, there are no figures available on the amount of underemployment, although its existence is generally acknowledged. There are many potential areas for increasing the output of the economy by reallocating workers or restructuring the work environment. Employers could receive greater real returns from utilizing labor in other occupations. The fact that labor is not utilized in other occupations is caused by a lack of information about job opportunities, a lack of technical

25. Joan Robinson calls the latter type of cyclical underemployment "disguised unemployment." Joan Robinson, *Essays in The Theory of Employment* (Oxford: Oxford University Press, 1947), pp. 83-84.

knowledge about ways to improve operations, and cultural barriers to changes. Consider what would happen if none of these obstacles existed in the agricultural sector. Farmers would make improvements in methods and invest in labor-saving machinery. Workers would then be redundant. The excess would be discharged and they would find jobs in other sectors in which there is a strong demand for labor. All this could be done without a decrease in the total agricultural output. Indeed this is what the government's agricultural extension service is trying to accomplish. At present, workers are leaving the farm not only because they are being technologically replaced, but also because job opportunities and living conditions are better in the cities. Indeed, technological improvements in agricultural methods are hard pressed to keep up with the rate of migration so as to prevent a decline in agricultural output. The success of the improvements in agriculture are indicated by the fact that farm output has not decreased along with the decrease in the size of the farm population.²⁶ That these two changes can go hand in hand illustrates that underemployed labor exists on the farm. Underemployment also exists in some governmental departments and firms where the hiring policy is still based on a time when labor was in abundant supply. While underemployment is very difficult to measure and very subjective in nature, it is probably safe to contend that its prevalence in Libya is more than that of unemployment.²⁷

Conclusions.

At first, it may appear paradoxical that in a country which is supposed to have a scarcity of labor, there is a high rate of unemployment and there are indications of large amounts of underemployment. The existence of such people represents an unutilized and underutilized segment of the labor supply which could be reallocated so as to increase

26. Kingdom of Libya, *First Annual Report on Development Activities for the Year Ending 31st March 1964*, p. 9.

27. For estimates of pre-petroleum rates and types of unemployment and underemployment, see Benjamin Higgins, *Economic Development; Principles, Problems and Policies* (New York: W.W. Norton & Company, Inc., 1959), pp. 31 & 32.

the real output of the economy. The problem of redirecting such labor will depend upon the causes or obstacles to the present misallocation.

It has been shown that cyclical unemployment is not the cause of high unemployment rates (8.6% for male citizens) derived from the 1964 Population Census data. The existence of inflation and the low levels of unemployment in all the usual sectors of the economy ruled out this possibility. A moderate drought during the census year would decrease the number of workers required at the end of the harvest season, and this, along with a few students who are looking for work, would yield a small amount of seasonal unemployment. The two types of frictional unemployment would also contribute to the unemployed figure, but their significance would be minor. Volitional employment is not significant because the strong demand for labor and the small size of the modern organizational sectors do not allow a large amount of unemployment in spite of the cultural traits which result in high levels of turnover. Transitional unemployment is also insignificant because of the very few business failures. Technological unemployment is a serious threat in the agricultural sector, but its force will be mainly felt after 1964. Structural unemployment caused by lack of demand for the products of a particular industry or location is ruled out because there has been a uniformly strong demand for nearly all products in all localities.²⁸ Structural imperfections in the supply of labor are another matter. It appears particularly evident that most of the unemployed did not have the requisite skills to assume particular positions. Most classified themselves as new workers seeking work in any sector of the economy but, presumably, in a job with a money wage. These new workers were not merely the young; they came from all age groups. They also tended to come from the rural areas. Thus, the unskilled worker seems to account for the bulk of the unemployment. The typical unemployed would be an unskilled person, perhaps seasonally or technically displaced from the farm, who is looking for employment

28. One exception is the foreign demand for esparato grass which grows wild in the Gebel Nefusa. Not only has demand declined, but so has the natural supply. However, as Table V illustrates, unemployment was not high because of this.

of any type, but, preferably, with a money wage. A small residual of unemployed would comprise the frictional component.

The solution to the high level of Libya's unemployment is not merely the training of skills. This paper has only concerned itself with the unutilized and underutilized segment of the labor supply. Even in this area there is much to be desired in data. But little has been said about the demand for labor or the wage rate structure. Before practical suggestions can be made on a manpower policy for Libya, more data should be collected in these areas. There is no sense in training people for jobs for which there is no demand. Also, it is quite possible that the solution to the unemployment problem is obstructed by disparities in wage rates or downward rigidities in wage rate changes. Finally, there is insufficient information available of the influences of culture upon the labor supply. Information on vacancies, wage rates and cultural influences would assist the policy formulation a great deal. So would additional information from other studies on labor supply; particularly a study which has the collection of employment data as its sole objective, rather than a project, such as the Population Census, which collects employment information as a subsidiary part of a larger undertaking.

Nevertheless, Libya cannot wait to get extra information before decisions are made. Action is currently needed and it will have to be taken under a situation of risk. Thus, the lack of adequate information is no ground for begging the question. There is a certain amount of information available to allow generalizations about the unknowns. That foreigners are filling many jobs illustrates that vacancies exist for Libyans if they have the necessary skills. There is a minimum wage rate, but this only applies to the sectors where rates are more than the statutory minimum.²⁹ Cultural blocks exist, but the response of unpaid rural

29. International Bank for Reconstruction and Development, *The Economic Development of Libya 1960*, pp. 316 & 317. The law does not apply to family workers, agricultural workers, domestic servants, or people subject to the Libyan Marine Code. See *The Libyan Labor Law*, Mimeographed translation of the Official Gazette No. 17, November 24, 1962, p. 1 Labor unions could also account for downward rigidities in the wage structure, but they do not because of their relative weakness as a bargaining power.

workers to the higher incomes of the urban areas indicates that cultural traits can be overcome or else modified to suit the new conditions. It thus appears that there are available job vacancies for the Libyan people and that there are no serious cultural blocks in the short run which would prevent some of the people from responding to new job opportunities with better pay.

A substantial degree of unemployment and underemployment exists in Libya and the means can be devised to deal with it. Training facilities can be provided to prepare a worker for a job or to retrain him if his skills become obsolete. Given the large number of unskilled in Libya, this is the most important approach. Seasonal industries can be coordinated so as to utilize the same men for greater periods of the year. Information on job openings can be supplied to workers who are displaced by transitional, technological or seasonal changes. Financial assistance can be given to induce a person to find a job in a new locality. Discriminations and restrictions to entry of certain occupations can be removed. The hiring practices of employers can be improved so as to achieve greater regularity and continuity. These are just some of the ways of increasing the vertical and horizontal mobility of the labor force. The problem in Libya is mainly to make the unemployed people into employable people. Certainly the government and private and foreign firms would make greater use of Libyan personnel. By improving the skills of citizens and assisting them in getting a job, more Libyans would replace the foreign workers which, at present, are required to fill the more skilled positions. This would, in turn, increase the real incomes of Libyans. This is the major objective of economic development. In addition, the mobilization of the unutilized and underutilized sections of the labor force would ease the bottleneck created by the scarcity of skilled labor and thereby ease the inflationary pressures which are evident in the economy. Government and industry would like to spend more money on investment, but there are just not enough suitable people available to do so without causing inflation. By creating more of the proper people, output will be increased, inflation will be eased,

and a higher, more equitable, and desirable level of economic development will be achieved.

Although Libya is allowing entry of foreign workers, there is no evidence that Libya lacks sufficient numbers to carry out its fast pace of economic development. What Libya lacks is the manpower with the proper skills to carry out the required functions. Economic progress involves displacements, tensions, and frustrations amongst the populace. People will complain but action must be taken to assure that they are assisted in their adjustment and that they do not hinder improvements. As King Idris said on the Tenth Anniversary of Independence,

The struggle ahead will not be less than during the past ten years. Prosperity has its own problems, and we all ought to face and solve them in such a way as to ensure progress and prosperity for all Libyans.³⁰

With a manpower policy which increases the skills and mobility of labor, the peculiar problems which accompany development can be solved so as to raise the real incomes of the Libyan populace.

30. Cited by Kingdom of Libya, Ministry of Planning and Development **Five-Year Economic and Social Development Plan, 1963-1968** (Tripoli: Poligrafico Libico, n.d.) p. 9.