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LABOR FORCE AND EMPLOYMENT

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ANNEX V

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ANNEX V

LABOR FORCE AND EMPLOYMENT

I. Summary and Conclusions

1.01 The Egyptian labor force now numbers approximately 11.8 million, 27.9% of the total population. It is overwhelmingly male (92%) and young (75% are under 45). Open employment is not a serious problem; disguised unemployment, particularly in the public sector, is a large and growing problem, however. Due to migration and structural change in the labor force, underemployment in the rural areas, a serious problem in the 1960's and early 1970's, is now a minor factor.

1.02 Over the next 10 years, the economy must generate roughly 3 million jobs to maintain the progress made during the last decade. Based on costs during the early 1970's, this will require an investment level of \$750 million annually, only slightly more than the investment during that period, which resulted in the creation of 240,000 jobs annually. This supports the view that the needed jobs can be generated during the next decade without employment - generation schemes such as land reclamation. Ministry of Planning projections for growth actually would create a serious labor shortage early in this decade, if met.

1.03 This optimistic prognosis could be greatly affected by any one of several factors. First, if the 1 million workers abroad return, either suddenly due to a political move or over a period of one to two years due to a slowdown in Gulf expansion, the economy will

not be able to absorb them. Second, a significant drop in public sector employment, currently as much as 2.3 million including the military and public sector companies, would create an untenable situation. Third, if previous growth sectors with a low cost per job, such as commerce and service, cannot continue to expand employment without a drop in productivity, the investment needed to create the necessary employment in industry alone would be more than the economy can be expected to generate or absorb. Agriculture, which has not provided additional employment on farms since 1970, is unlikely to be a source of significant numbers of new jobs. The labor force in agriculture appears to be declining and greater intensity, if achieved, would slow this lead rather than reverse it. Off-farm employment, agriculture-related and otherwise, offers better promise for real employment growth.

1.04 The general investment strategy suggested by this situation would emphasize labor-intensive investment in industry, in rural as well as urban areas. Past experience indicates that private sector investment is much more efficient than the public sector in generating employment, and therefore the former should be encouraged.

1.05 Reaching the level of investment needed to generate the jobs does not guarantee that the jobs will materialize, however. A considerable effort will be needed to resist the pressures created by interest groups and the momentum of past investments favoring capital-intensive programs that would not provide the employment required. The economy cannot afford to repeat the experience of the sixties,

with a large share of investment creating a very few jobs while the public sector was forced to bear the burden of ever-increasing numbers of unproductive workers without the investment needed to make them productive. If these trends cannot be reversed, then much higher investment levels would be required to achieve the target of 300,000 new jobs per year.

1.06 The requirement for new or improved skills poses less clear choices. Government vocational training programs run by both educational and industrial agencies have had little relevance to the demand size of the labor market. Out-migration to the Arab states had a seriously disruptive effect on the supply of some key skills through the mid-70s, although evidence suggests that these distortions in manpower supply have largely been offset by the capacity of local enterprises to recruit and train replacement cadres internally. It remains to be verified that there is a continuing need for skills in areas which cannot be met by in-house training on the part of employers, but it is clear that public investment in skills training has had little, if any, impact on the quality of the manpower base in Egypt. Improvements in industry-based technical training may represent an area for potential investment.

1.07 Investment should be especially encouraged in the newer urban centers within the rural governorates. These are currently growing the most rapidly and will have the largest need during the next decade.

II. National Overview:

A. Data Base:

2.01 The last census for which complete data has been made available was conducted in 1966. The last reliable agricultural census was held in 1961. Several data gathering efforts are underway, just completed, or being planned. These include the national census, conducted in 1976, and the agricultural census, planned to begin in 1980. Thus policy-makers are forced to rely on projections based on the earlier censuses or on smaller surveys. An important source of labor data is the CAPMAS labor sample survey, conducted approximately triennially. Smaller surveys conducted by AID and others have shed light on some aspects of the manpower situation. Overall, however, the statistical base is wholly inadequate for a confident analysis of the situation. Crucial pieces of data, such as numbers of workers overseas, remain conjectural. Thus what follows must be regarded as indicative, rather than definitive, and in some areas largely speculative.

2.02 While full-scale censuses are clearly beyond AID resources, the Mission is planning or conducting several smaller studies to assist policy-making in areas related to manpower.

B. Current Labor Force:

2.03 Egypt's population in 1980 is approximately 42.3 million. The total manpower base (those over 10 years of age) is 30.4 million. Of these, 11.8 million are actively in the labor force, working or seeking work. This constitutes 27.9% of the total population. These figures are based on projections of 1966 and 1976 census data by the University of Chicago and others, and are subject to question. Assumptions made on the age of entry into the labor force and the role

of women are particularly sensitive. Unpaid family members are not counted in the official labor force statistics. Thus, while it is known that substantial numbers of children 6-10 years old and larger numbers of women, particularly in the rural areas, are economically active, reliable estimates are not available. Officially women account for only 8% of the labor force implying a participation rate of only 6.3% for those over 10 years compared to 71% for males. More careful surveys of rural women's activities suggest that as many as 80% of farm wives have some participation in productive enterprises.

1. Economic Sectors

2.04 Agriculture, despite its declining position in contribution to GNP, remains the dominant employer. Projections indicate that the agricultural sector currently employs 6.1 million workers, or 52% of the labor force. Industry employs 2.4 million (20%) and services 3.3 million (28%).

ii. Location of Labor Force

2.05 Data on the proportion of the labor force in rural areas is not available. Preliminary data for the 1976 census shows 56% of the population living in rural areas (as opposed to 62% in 1960), and it may be safely assumed that the labor force figures are similar. 21.2% of the economically active population lived in the four urban governorates, according to the census, while 44.0% lived in Lower Egypt and 33.9% lived in Upper Egypt. Less than 1% lived outside the Nile Valley.

ii. Occupational Structure

2.06 The most recent data for occupational structure, a 1974 CAPMAS survey, show, not surprisingly, that 46% of the labor force (4.1 million workers) were farmers. 22% (2.0 million) were employed in transport, crafts and production, while 6.7% worked as professionals and administrators. 13.1% were chemical or sales workers, and 11.6% worked in services or other areas.

C. Employment and Unemployment

2.07 Official unemployment rates are very low. CAPMAS figures for 1977 show an overall unemployment rate of only 1.4%. This is well below the level generally regarded as necessary for labor mobility and, if accurate, would imply that the labor force is at full employment. The official rate declined from 5.1% in 1957 and 4.8% in 1960. None of the major economic sectors registered official unemployment rates of over 1 percent. The average figure results from the inclusion of an "unclassified" group with a rate of 65% unemployment in 1972. The composition of this group is not specified, but it may represent in part recent migrants to urban areas who have not yet found work. This group amounts to less than 2% of the labor force, in any case.

2.08 Disguised unemployment and underemployment are more significant than open unemployment in the Egyptian situations. The nature of these phenomena makes it impossible to arrive at reliable measurements of how prevalent they are, however, and few estimates exist. Disguised unemployment exists primarily in the urban services sector,

where large numbers are employed by government and public sector companies with little or no production of services resulting. The private sector also provides unproductive employment to large numbers of peddlers, messengers, etc., in keeping with traditional hiring practices.

2.09 Underemployment, in contrast, exists primarily in the agricultural labor force, among farm family members and casual laborers. Seasonal variation characterizes agricultural demand for labor, with a peak in demand during the spring and fall and a sharp dip during January. Researchers using data from the mid-1960's estimated underemployment as high as 50% and as low as 7%. At the present time, following the departure to work overseas of up to 18% of the agricultural labor force and other reductions in rural labor availability, the lower figure is perhaps closer to the truth for a year-round average. Recently-expanded activities that are classified officially as non-agricultural work, such as cleaning the irrigation drains, also employ large numbers during precisely the off-peak seasons.

D. Projections of the Labor Force

2.10 The future size of the labor force may be projected by making assumptions about mortality, age-specific participation rates and migration. Two such studies are available to the Mission covering the period through 1990. These are the "Illustrative Functional Projections" prepared by Tsui of the University of Chicago and the figures in the Clatanoff Report based on Ministry of Planning data. Clatanoff

projects employment, while Tsui projects the labor force. The studies differ in other ways as well and, in particular, are not sufficiently comparable to estimate possible employment rates. The two estimates are presented below in Tables V-1 and V-2.

Table V-1

	<u>Projected Labor Force</u> (thousands)				<u>Annual Growth Rate</u>
	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	
Agriculture	5742	6114	6504	6889	1.2%
Industry	1984	2405	2900	3472	3.8%
Services	<u>2852</u>	<u>3306</u>	<u>3830</u>	<u>4421</u>	<u>2.9%</u>
Total	10578	11825	13234	14782	2.2%

2.11 While the rates of growth used in the Chicago study seems reasonable, the base figures, particularly that for agriculture, are probably too high. Employment in 1974-76 averaged 9.3 million, implying an unemployment rate of nearly 12%. Even allowing for the large number in the military, this is too high.

Table V-2 *

	<u>Projected Employment</u> (thousands)				<u>Annual Growth Rate</u>
	<u>1976</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	
Agriculture	4424	4567	4812	5328	1.34%
Other	<u>5204</u>	<u>6597</u>	<u>8542</u>	<u>11296</u>	<u>5.69%</u>
Total	9628	11164	13354	16624	3.98%

*These figures are estimated from Clatanoff's projected average annual increases in employment.

If, as Clatanoff's projections assume, the GOE succeeds in reaching their growth targets, the demand for labor will exceed the supply between 1980 and 1985. Industry and services will drain labor away from agriculture, while women and others whose participation rates are currently very low will be pulled into the labor force.

2.12 Two groups generally not counted in the labor force are the military and the workers overseas. It is not clear whether they were included in the labor force projections, but it appears they were included in this estimate and excluded from the employment estimate. The military currently number approximately 450,000, of whom 300,000 are in the Army. There have been no indications that a large demobilization is planned and it is extremely unlikely that the government would demobilize, regardless of security needs, unless jobs were believed to exist for those leaving the armed forces.

2.13 Estimates of the number of workers overseas vary greatly, but center around 1 million. The probability of this number remaining abroad is difficult to gauge. It is safe to assume, however, that the GOE will continue to encourage outmigration unless a serious labor shortage develops at home. It is possible, but overall unlikely, that the workers will be ejected by their host countries due to policy disputes with Egypt. A more likely cause of worker return is displacement of nontechnical personnel by workers of other nationalities (Pakistanis, Chinese, and Indians) who undercut the Egyptian price or better suit the political preferences of the host countries. Continued demand also depends on a continuation of the rapid economic growth of the Gulf States, particularly in the construction sector.

2.14 Adding the 1.4 million workers from these two groups back into the employment demand, it can be seen that full employment could be achieved in 1990 with only 60% of the projected employment level for that year. Assuming the numbers of military and overseas workers remain unchanged, the projected need for 3 million new jobs by 1990 could be met if 43% of the jobs that are projected to result from growth during the 1990 with only 60% of the projected employment level for that year. Assuming the numbers of military and overseas workers remain unchanged, the projected need for 3 million new jobs by 1990 could be met if 43% of the jobs that are projected to result from growth during the 1980s actually are created. If no jobs are created in agriculture, full employment of the increased labor force could be achieved if 69% of the projected non-agricultural jobs are created.

2.15 These figures imply that the job-creation needs during the next decade are not beyond reasonable hope of achievement. The implications of the projected increase in employment with regard to investment needs, past performance and skills mix required are further discussed in sections 1A and 1B below.

III. Major Factors Affecting Manpower Use:

A. Landlessness and the Rural Poor:

3.01 In 1976 there were 4.2 million workers in agriculture, working on 2.8 million holdings. This suggests a maximum number of landless laborers of 1.4 million. Official figures, however, classify anyone over 6 who works as a member of the labor force. Thus many of these "landless" are members of land-holding families. In 1961, the

last year in which a figure is available, there were 2.1 family members per holding. Thus it is theoretically possible, if unlikely, that there are no landless laborers at all.

3.02 Preliminary data from an in-depth study underway in Sharkia, shed some light on this subject. The survey found that landless laborers accounted for 14% of the heads of household in the seven villages studied. This compared to 55% landholders, 8% employed in agriculture-related off-farm work, 16% government employees, and 6% employed in other non-farm work. The numbers employed as landless laborers in each village ranged from less than one percent to 31 percent, with a tendency for smaller villages to have a higher proportion in this group. Projecting the number of landless nationwide from these figures gives an estimate of 535,000 landless heads of household and 3 million total landless. These estimates are much lower than those based on data from the early 1970's. Although projections from such a small sample must be treated with caution, it is also revealing to note that the number reported to be working abroad, equivalent to 13% of the total, nearly equaled the total number of landless heads of household found in the survey. If added back into the landless labor pool, this gives an estimate of total landless that is very similar to earlier estimates of 1-1.2 million families.

3.03 A second group contributing to the rural poor is the near landless, many of whom must rely on work as casual laborers for a large share of their income. It is difficult to define how small a holding

must be to place its manager in the "near-landless" group. If we set one feddan as the upper limit, then there are 1.1 million families in this group based on 1975 data. They represent 40% of the landholders and over one-fourth of the total agricultural labor force, even without taking into consideration other family members. Their holdings average only two-thirds of a feddan, placing a ceiling on their farm income of roughly LE 400.* This is above the poverty line of LE 50 per capita for a typical family. Clearly most farmers with one feddan or less are unable to reach this maximal level, however.

3.04 Another sector of rural society with a high proportion of individuals in poverty is the group consisting of unskilled non-agricultural laborers. This group, including tinkers, peddlers and similar marginal occupations, is generally poorer than either the landless or the near-landless. It includes as well the aged or handicapped who are not supported by other family members. These latter occupy the lowest income, but are not potential members of the labor force and are thus outside the consideration of this section. There were estimated to be as many as 1 million individuals in this group or 6% of the manpower over 6 years of age.

3.05 Statistics differentiating clearly among these groups are generally not available. A study of 116 villages conducted in 1974-75 by ORDEV provides the most thorough information on this question. This indicates that 7 percent of the households are headed by an unskilled

*The income from 2 crops of vegetables and a water buffalo.

non-agricultural worker and 16 percent by a landless agricultural worker. 12 percent fall into the near-landless group. The resulting estimates of families and individuals are shown in Table V-3.

Table V-3

Estimates of the Rural Poor by Occupation*

Category	Avg. Annual Expenditure (LE)	<u>Households</u>		
		% of total Rural HH	Number (000)	Individuals (000)
1. Non-skilled non-agric.	138	7	252	439
2. Landless agric.	151	16	577	3290
3. Near-landless	<u>187</u>	<u>12</u>	<u>433</u>	<u>2467</u>
Total	---	35	1262	7196

3.06 A CAPMAS study for the same year indicates that there are 7.3 million individuals and 2.036 million households living below the expenditure poverty line of 50/capita. (The larger number of households is due to their finding of a smaller household size in the poorest groups, compared to our assumption of a standard household size. Recent studies are contradictory as to whether poorer households are smaller or larger than the average).

3.07 According to the ORDEV study, the remaining income groups are ranked as follows:**

* Based on a total rural population of 20,560,000 in 1976 and a household average of 5.7 individuals.

** The ranking considered distribution of income within the class as well as average income.

Self employed (avg. annual expenditure LE 256), non-agricultural wage labor (LE 244), farm operators of 1-3 feddans (LE 238), farm operators of 3-5 feddans (LE 291), operators of 5-9 feddans (LE 377) and those operating 10 or more (LE 748).

3.08 The study also found that those with more than one source of income (e.g., farm laborers who also did occasional construction work) were generally much better off than those with only one source.

3.09 Thus, access to land is a critical determinant of income, but not the only determinant. Even farmers possessing less than 3 feddans, the most-often-cited subsistence level farm, are able to out-earn both the non-agricultural wage-earners and the small shop keepers. Those lacking access to any productive factor, including their own labor, are the worst off.

B. Migration

1. External Migration

3.10 Migration of Egyptian workers overseas has only achieved a significant level since 1973. Prior to 1973, most of the immigrants were professionals, providing teaching and administrative services. They numbered less than 100,000. At this time, the rise in oil prices fuelled a rapid expansion in the other Arabian economies and attracted large numbers of workers overseas, skilled and unskilled. The implications of this were slow to be realized. Even as late as 1978, an AID-sponsored study was able to report that "External migration has been a negligible factor in recent Egyptian history."*

*"Landlessness and Near Landlessness in Developing Countries," prepared by Milton Esman and Assoc., Cornell University, February 15, 1978, p. 597.

3.11 Data on the number of migrants, their professions, and their length of stay are extremely weak. The 1976 census identified the total number abroad as 1.4 million, based on passport renewals and border information. This number includes students and dependents, but the census authorities nonetheless regard it as an underestimate. Other estimates of the number of workers abroad range from a low of 400,000 to a high of 1.4 million. The MIT Migration Project, financed by AID, puts the number at 1 million in 1978. This represents nearly 10% of the total labor force. The final census results are expected to produce a more reliable estimate, when they are released.

3.12 MIT estimates that 60% of the workers are in Libya, 20% are in Saudi Arabia, 10% are in Kuwait, and the remainder are in other countries, primarily in the Middle East.

3.13 The Egyptians share with the Palestinians a virtual monopoly on highly-trained Arab-speaking personnel. They have traditionally served as the conduit through which Western technology enters the Arab countries. The Arab countries have come to depend on the Egyptian workers to fill this role. Thus, this flow is relatively insulated from shortrun shifts in Arab politics. Only a sudden reversal of internal development policies, involving a rejection of Western technology, would seriously reduce demand for this group. The Saudis, in particular, have frequently reiterated their policy not to extend their boycott of Sadat to the punishing of Egyptians as individuals by expelling them from the kingdom.

3.14 The same cannot be said for Egyptian nonskilled or low-skilled workers. The recent entry of East Asians (Chinese, Koreans, Thais, etc.) into the international labor market, offering work crews complete with translator-foremen, demonstrates the vulnerability of this market to other suppliers. Pakistani and other labor-surplus countries have made a less dramatic entry in recent years.

3.15 Data on length of stay is not available, but it is believed that few of the migrants will stay abroad more than 5 years. Many stay for a year or less.

3.16 Construction workers now form the largest occupational group within the migrants, accounting for 38-67% of the total, according to MIT estimates. The same study estimates that the number of construction workers represents 88-154% of the Egyptian construction workforce. This supports what other less rigorous commentators have concluded: a large portion of the construction migrants come from outside the construction sector, or migrated after a short apprenticeship in Egypt.

3.17 This highlights the impact of immigration on the internal labor force structure. Migration of workers from a relatively high-paid occupation drains workers from lower-paid areas. Over time this tends to equalize salaries in the various sectors. In Egypt, the largest pool of manpower is the rural landless (agricultural and non-agricultural). Anecdotal evidence suggests that movement between the sectors, direct or indirect, has been strong. The MIT models of migration estimate an increase in rural wages of 7.6-19.6%, with free

mobility between sectors. In reality, wage increases have been much greater than this, as shown in the following table.

Table V-4

Wage Increases in Selected Sectors
(Avg. Wage per Worker, in Pounds)

<u>Year</u>	<u>Construction</u>	<u>Agriculture</u>	<u>Services</u>	<u>Mining & Industry</u>
1960	161.6	30.2	164.5	147.6
1965	155.6	44.6	208.4	181.3
1970	184.6	53.9	238.6	187.6
1974	233.2	70.8	295.0	297.0
1975	376.2	106.5	314.8	292.4
1976	378.7	107.0	327.1	305.9
1977	328.3 ^{a/}	107.6	340.0	320.0
1978	354.7 ^{a/}	108.0	353.4	334.7
Increase:	119%	258%	115%	127%
Avg. Annual Increase:	4.4%	7.1%	4.2%	4.5%
Increase 1974-78	52.1%	52.5%	19.8%	12.7%

^{a/} Projected

Source: Ministry of Planning, as quoted by MIT, Migration and Employment in the Construction Sector, 1978

3.18 The effects of external migration on the economy are the subject of considerable debate. The arguments center around two issues:

the adequacy of the remaining labor force to achieve domestic production goals and the net impact on domestic resource availability.

3.19 With regard to the former, fragmentary evidence suggests that the effect of the migration has now worked its way through the economy, at least in the nonprofessional area. The shortage of skilled construction workers has been filled by workers newly trained on the job. A large amount of the surplus rural labor has been absorbed, to the point where a shortage of agricultural laborers may have developed. Union officials estimated in 1978 that as many as 785,000 agricultural workers, nearly 20% of the total, were overseas. More data is needed before a definitive conclusion can be reached in this area.

3.20 The shortage of professional workers, the classic brain drain, is less obvious but perhaps more serious. Egypt has a nominal surplus in most professional areas. Nonetheless, the outflow of the most experienced and talented individuals has left a void in many areas, particularly in government, that has yet to be filled.

3.21 The impact of migration on domestic resources is equally problematic. Migration makes unavailable a large amount of Egypt's human capital stock, which represents a considerable past investment. Simultaneously, it provides training to the migrants at no cost and removes a demand for domestic social services. More importantly, it generates a very large inflow of foreign exchange, estimated at almost \$2 billion. This is equivalent to one-third of Egypt's commodity exports and makes labor Egypt's second-largest export after petroleum,

surpassing cotton and tourism. The World Bank estimates that each worker returns \$1000 per year. It is unlikely that the workforce overseas would generate these savings if employed at home.

2. Internal Migration

3.22 There is a steady flow of population migrating from rural areas to urban centers within the governorates, and from rural governorates to the major cities, Cairo and Alexandria. In recent years the flow to Cairo proper has tended to slow, as further crowding becomes unattractive and new migrants stop at the rapidly growing suburbs in Giza and Qalyubia. The cessation of hostilities with Israel has also enabled canal-cities refugees to return and Port Said, Suez and Ismailia are again growing rapidly.

3.23 Evidence is somewhat conflicting as to whether Cairo is growing faster than the provincial cities. The situation is obscured by the transformation of several rural centers into urban ones by national population increase in situ.

3.24 Table V-5 below shows the development of Egypt's rural and urban populations since 1960. If we assume that the natural rate of increase was the same in both rural and urban areas, these figures imply annual outmigration from rural areas of .9% between 1960 and 1966, or 150,000 individuals annually, and .7% from 1966 to 1976, or 120,000 annually. Thus, at the end of the 16-year period, the rural population was 2.4 million less than it would otherwise have been. Assuming equivalent participation rates among rural, urban, and immigrant groups (admittedly an unlikely situation), migration would thus have removed 750,000 individuals from the rural workforce.

Table V-5

Rural and Urban Population, 1960 - 1976

<u>Year</u>	<u>Urban</u>		<u>Rural</u>		<u>Total</u>
	<u>%</u>	<u>'000</u>	<u>%</u>	<u>'000</u>	<u>'000</u>
1960	37.4	9720	62.6	16260	25980
1966	40.5	12120	59.5	17820	29950
1976	43.9	16090	56.1	20570	36660
<u>Rate of Increase</u>	<u>(%)</u>				
60 - 76	3.2		1.48		2.18
60 - 66	3.75		1.54		2.40
66 - 76	2.87		1.45		2.04

Source: CAPMAS 1976 Census

3.25 Migration has also taken place from Upper to Lower Egypt, as well as toward growth poles within Upper Egypt such as Sohag. Lower Egypt grew at 2.2%, a rate that has remained constant since 1947 despite the drop in nationwide population growth, while the former has grown at only 1.8%. This migration is in response to the better employment and social conditions in the Delta relative to Upper Egypt. Significantly, farmers in Upper Egypt do not appear to complain of a labor shortage as vociferously as do their Delta colleagues (except near tourist areas).

3.26 A recently-completed CAPMAS study of internal migration shows that employment is the principal motivation for migration from rural to urban areas. 49% gave this as their reason for migrating. Because the study unfortunately does not discriminate according to when respondents migrated, it is not possible to distinguish any trend from their data. Among urban destinations, those migrating to Cairo and Alexandria gave work as the reason more frequently than those migrating to other urban areas (59% compared to 41% for Minia, for example, and 33% for Damietta).

3.27 It is notable that the rate of urban migration has slowed. Migration now accounts for less than 20% of Cairo's growth and 41% of national urban growth, compared to 64% and 50% respectively in the 1940's.

3.28 The implications for manpower planning are clear: the population is now more urban than rural and job creation strategies must acknowledge this reality. At the same time growth in Cairo is slowing and this trend should be encouraged by creating jobs outside the primary cities, where social services are not as overburdened as they are in Cairo.

3.29 Work possibilities are cited as the most important reason for migrating, but social reasons (marriage, education, housing, etc.) still appear to be significant factors in the decision to migrate. Thus, from the viewpoint of manpower planning, migration is a tide that must be dealt with, rather than one that can be stemmed by planning alone.

C. Public Sector Overemployment

3.30 The GOE does not release data on the levels of government employment. The latest figure available shows 1,035,000 government employees in 1966/67. This was the result of rapid growth in the previous two decades, averaging over 6% per year. Growth was particularly rapid during the second decade.

3.31 Projecting these levels and growth rates forward provides an estimated level of 2.265 million government employees in 1979/80. This level would represent 20% of the total employment. This figure, of course, requires further verification before it can be used for policy analysis.

3.32 Employment in public-sector enterprises is believed to be similarly inflated. The latest estimate available shows roughly 526,000 employed in these companies in 1974. Together with the military, estimated at 450,000, total government employment thus may reach as high as 3,241,000. 2 million may be regarded as a lower bound, assuming no growth in the central government's work forces since 1967.

3.33 The increase in government employment is in part a natural outgrowth of the increasing level of services and the greater government regulation of the economy. A large number of new employees, however, have been brought in under the guaranteed employment scheme inaugurated by Abdel Nasser. This program prevents the buildup of an unemployed college graduate sector, which is politically destabilizing. Once established, it is nearly impossible to dismantle as long as

white-collar jobs are not available in sufficient numbers. The problem is circular, since the jobs act as an incentive for greater enrollment in universities. The latter increased seven-fold between 1953 and 1976.

3.34 An important caveat to the general statement that government is overstaffed is the situation of undersupply in some critical areas. These include teachers, professionals working in rural or remote areas (irrigation district managers and extension agents, for example) and several types of technicians. Individuals in these skill groups are not being produced by the educational systems as rapidly as they are needed. Furthermore, those graduating prefer to take higher-paid jobs in the private sector or abroad. Because the government resources for salaries are spread across such a large base of low-productivity employees, insufficient funds remain to attract or retain adequate personnel in critical areas.

3.35 The government shows indications of growing concern over this problem. Consideration has been given to reducing the numbers hired each year. To date, however, no concrete steps have been taken in this regard, due primarily to the strong political opposition any such move would surely generate. At present, the only solution in sight is encouragement of rapid growth in non-governmental employment, plus a restructuring of the education system. Neither of these moves will completely eliminate the problem and neither one is politically costless, however.

D. Participation Rates

3.76 Compared to international levels, Egyptian participation rates are quite low. This is due in large part to the extremely low levels recorded for women. Table V-6 shows historical labor force participation rates in Egypt.

Table V-6*

Labor Force^{1/} Participation Rates
(Percent)

Year	(a) Females %	(b) Males %	(c) Total % (a + b)
1937	7.9	65.1	37
1947	7.8	62.8	37
1960	4.8	55.2	30
1966	4.2	50.8	28
1970	3.5	49.5	26
1972	4.0	50.7	27
1976	9.2	52.9	31.5

Sources: Population Census 1937, 1947, 1960, 1966 and 1976, and Labor Force Sample Surveys, CAPMAS.

* Defined as people age 6 and over.

3.37 We can only speculate on the factors underlying the decline in the rates for males through 1970. Greater school enrollment has probably been the major factor reducing participation. The percentage

attending primary school rose from 46% in 1953 to 67% in 1977. (Attendance actually peaked at 74% in 1967 and has declined since then. The reasons for this, including rapid population growth, are discussed elsewhere in the CDSS). University attendance increased seven-fold during the same period. Other demographic changes have tended to lower the rate artificially. These include longer life expectancy (put bluntly, workers live long enough to retire) and a growing proportion of the population in the 6 to 20-year age range, where participation is naturally lower.

3.38 The undercounting of female participation is well-documented for Middle Eastern countries. Female employment is frequently in the form of unpaid family labor or casual wage labor, both of which are not included in the labor force count. The rise in female participation in recent years reflects the gradual improvement in the status of women and their increasing success in finding formal employment. Despite these gains, unpaid labor is still the general rule. An FAO survey of women's work in agriculture found participation rates for specific activities ranging from 36% for ploughing to 80% for poultry-raising.

3.39 Migration overseas has affected female participation in several ways. First, the tightening labor situation has led to the commercialization of the labor market, so that more women are being paid for work they previously performed as part of the mutual-support system in rural areas. Secondly, the absence of male family members

who previously managed family resources has encouraged women to take over this role, though the extent of this change is not known. Finally, the shortage of men in traditionally male professions has created an opportunity for women to enter such previously-closed areas as irrigation engineering.

E. Population Growth

3.40 Permanent migration into and out of Egypt is believed to be minor. Natural increase accounts, for all practical purposes, for the population growth rate of 2.8% per year. There is a 10-20 year lag between entry into the population and into the labor force (depending on the age of entry into the labor force). This implies that it is past population growth rates that determine the potential labor force during the next 10 years or more, not present or future rates. This is not to say that current growth rates do not affect the labor force. Birth rates affect female participation rates and mortality/morbidity rates may have a large impact on labor force growth, for example. Overall, however, if we assume that mortality rates in the 10-64 age cohorts will remain fairly static, the labor force can be predicted with fair certainty for at least 10 years, regardless of future changes in population growth.

3.41 Manpower trends, conversely, are believed to have a significant impact on population growth, through such mechanisms as demand for family labor, entry of women into the labor force and delayed primiparity due to longer education. These factors are

discussed in the population section.

IV. Major Strategy Issues

A. Job Creation Needs

4.01 Section 2D outlines the projected future levels of the labor force over the next ten years. These suggest that 3 million jobs must be created during the 1980's to maintain the current employment level. Military demobilization, a return of overseas workers or a policy of reducing disguised unemployment would raise this requirement.

4.02 This level of job creation requires a 2.2% annual growth in employment. This compares to a 1.45% annual increase in employment during the 10-year period 1966-76 and an annual rate of 2.75% from 1971 to 1976. Thus this rate of increase does not appear at all unreasonable, as long as the government succeeds in maintaining the relatively rapid expansion of the 1970's. The government projects employment to grow by nearly 4% per year, but this is doubtlessly overly-optimistic.

4.03 The first between job creation projections by sector expansion of the labor force, and historical performance, however, is not as close. The leading sectors in employment during the late 1960's and the 1970's were services, commerce and construction. Industry, agriculture and utilities grew very slowly, and all declined as a percentage of the labor force between 1966 and 1976. Employment in agriculture stagnated and possibly declined absolutely during this period, while industry grew at only 1.06%. Industry's performance during the early 1970's was better, producing a 3.1% annual growth in employment.

4.04 More than half of the new jobs created between 1966 and 1976 were in the "other services and unspecified" category. This pattern is overall typical for a developing country. Personal and private services have actually declined, indicating that workers have left such low-productivity jobs as ironer and doorman in favor of higher-paying employment. The growth of services is thus largely due to government employment, and the prospect for creating 3 million productive jobs during the next decade is consequently dimmer.

4.05 Investment levels will probably not be a constraining factor in employment creation in general. An analysis of investment and employment during the period 1971-76 yields an estimate cost per job of LE 2500. Table V-7 presents the results in more detail.

Table V-7

Estimated Cost of Job Creation for Selected Sectors

	<u>Over- all</u>	<u>Mining & Manuf.</u>	<u>Construction</u>	<u>Commerce</u>	<u>Trans- port & Comm.</u>
1971-1976 Employment increase ('000)	1222	165	239	213	98
Investment 1971-75 (LE Million)	3073	1042	49.8	31.7	875
LE/job created	2514	6310	208	148	8929
Rate of annual job creation (%)	2.9	3.1	17.3	5.3	6.0

4.06 These calculations must be regarded as indicative only. The level of aggregation is too high to apply these estimates to any given project. More importantly, other factors affecting job creation have not been accounted for and no effort has been made to correct for inflation. Nor is the assumed one-year lag between investment and job creation likely to be appropriate for all cases. Furthermore, the analysis assumes that the technological and price relationships remain constant. By choosing more labor-intensive technologies and encouraging others to do so by removing capital subsidies, the government can lower the cost of creating a job.

4.07 Agriculture is excluded from these figures because employment declined during the period. If the figures are accurate, this implies that investment in agriculture displaces labor. While it is tempting to see this as an indication of mechanization reducing employment, it must be remembered that nearly all of the investment has been in the New Lands, where the employment impact has been minimal. The latest figures suggest a slight increase in agricultural workers since 1976 at a rate of 83% per year. At present the only possible conclusion on agricultural employment is that no conclusions can be drawn without better, disaggregated data.

4.08 Despite these caveats, the costs of job creation estimated above are suggestive of likely investment needed to reach the projected employment levels. The 3 million jobs needed by 1990 would cost roughly LE 7.5 billion, in 1971-76 pounds, or LE 750 million/year. This is not

out of line with the LE 615 million invested during the period studied. Creation of these jobs in industry and transport would cost LE 20 billion or more, which represents a 50% increase in annual investment. This would be much harder to attain. The low figures for commerce and, particularly, construction are noteworthy, not only because these areas showed rapid growth. They also indicate the possibility for employment creation by the private sector when a comparatively free market prevails or a black market nudges capital goods prices toward world levels.

B. Education Strategy

4.09 There is a growing awareness on the part of educational leaders within the GOE that the education system is out of tune with the skill needs of the Egyptian economy. In 1974, for example, the enrollment in universities (301,000) was nearly as high as that in all secondary technical schools (349,000) and over 10 times as high as that in technician training (30,000). The number in secondary technical schools was barely more than the number in secondary general schools (340,000). Furthermore, in 1974, only 6.7% of the labor force worked in jobs requiring a higher education, compared to the 12% of the population receiving such an education.

4.10 In the 4-year period since 1974, education has continued to grow rapidly, expanding in all areas. An official ministry report, summarized below, indicates that overall the higher levels have grown more rapidly. The primary level has failed even to keep pace with population growth.*

* Thus the enrollment rate must be viewed with skepticism. Since total population is growing at 2.8%, and the primary age group's growing more rapidly, it is clear that enrollment is not growing as fast as the population to be served. This is supported by later data suggesting an enrollment figure of 67%, which represents a decline from the early 1970's.

Table V-8

Enrollment in Formal Education**

	<u>1974/75'000</u>		<u>1978/79 enrollment rate (%)</u>	<u>1974-78 Growth rate</u>
<u>Primary</u>	4074	4300	75	1.36
<u>Preparatory</u>	1200	1500	55	5.74
<u>Secondary</u>	722	975	40	7.80
Sec. General	340	440	18	6.66
Sec. Technical	349	493	20	9.02
Sec. Ind.	98	131	5	7.53
Sec. Agri.	38	50	2	7.10
Sec. Comm.	213	312	13	10.01
Primary Teacher Training	33	40	2	4.93
<u>Technical & Higher Technician Training</u>	381	500	12	7.03
Higher Technical Institute	50	NA	-	-
Higher Education (including university)	301	NA	-	-

* Ministry of Education

4.11 This pattern of education has led to a surplus of individuals qualified for white collar jobs and a shortage of those with technical training. Simultaneously, the rapid swelling of college enrollment has led to a deterioration in the quality of the education provided. Laboratory and other facilities needed for a thorough grasp of the material are wholly inadequate in technical and academic areas alike.

4.12 The emphasis on higher education has both encouraged and been encouraged by the official policy of guaranteeing employment to

college graduates, as noted elsewhere. While the government indicated in 1978 that this policy would be discontinued, this decision has apparently not been implemented. The two-to-three year delay between graduation and assignment has tended to reduce the numbers relying on government employment, but the political cost of scrapping this program is viewed as prohibitive.

4.13 The Clatanoff Report, prepared under AID sponsorship, identified the areas of skill shortage and surplus. The results are summarized in Table V-9.

Table V-9

Areas of Skill Shortage and Surplus 1979-1984
('000)

<u>Area</u>	<u>Annual Output (1978)</u>	<u>Annual Demand</u>	<u>Surplus/ (Deficit)</u>
Less than Secondary	625*	313	312
General Secondary	47	10	37
3-Year Technical	115	149	(34)
Industrial	31	67	(36)
Agricultural	12	12	-
Commercial	72	70	2
5-Year Technical	5	45	(40)
Industrial	2	28	(26)
Agricultural	-	4	(4)
Commercial	3	13	(10)
Teaching	7	9	(2)
University and Higher	<u>80</u>	<u>51</u>	<u>29</u>
	999	771	228

* Of which, primary or less 504,000.

4.14 This table highlights several areas of concern. First, it indicates that, based on Ministry of Planning expectations, the annual demand for new workers cannot be met unless their average participation rate is 77%, more than twice the current overall average. These figures also imply that roughly half of those "leaving" the system (including those who never entered) will do so as illiterates or near-illiterates.*

4.15 These estimates also reveal a large deficit in the technical areas, amounting to 76,000 workers annually. This deficit is almost perfectly matched by the surplus graduates from secondary and university academic programs (66,000 annually). Based on these findings, Clatanoff recommends increasing technical training, which the GOE also strongly favors, and reducing the academic programs, to which the GOE is decidedly lukewarm due to the expectation that reduced university enrollment would meet strong political opposition.

4.16 The Ministry of Education has made strides toward expanding technical education. Registration (in both 3 and 5-year schools) was raised 81% to 492,000 between 1970 and 1978 and annual graduates increased 11.7% to 120,000. Quality of training, particularly practical ability, remains a problem, due to a mixture of academic biases and lack of resources. Planned GOE programs to make up the deficit stress

*50% of those finishing their education leave the system with a primary education or less, including 23% who have no formal schooling at all. Since the Arabic written language requires a minimum of 5 years of schooling to attain literacy, it is clear that most "school-leavers" are illiterate or nearly so.

expanding public school systems. GOE strategy places little emphasis on encouraging private sector training programs. Thus, the technical training programs in place are subject to the problems that bedevil many government-sponsored vocational and technical programs; low prestige relative to academic tracks, programs that do not meet industrial needs (or are not perceived to do so), and equipment that is not comparable to what industry uses.

C. Changing Relative Factor Prices

4.17 Until the 1970's energy remained the unnamed fourth factor in the economists' traditional land-labor-capital production triad. As long as energy remained plentiful (and therefore cheap) there was no need to include it explicitly in the equation. This situation has now changed dramatically. As long as the current scarcity of energy continues (that is, unless and until new sources are put to widespread use), the value of the other factors will be greatly affected.

4.18 The implications for development are only beginning to be understood. The recently-concluded Egyptian New Lands study provides some discouraging indications of the likely impact on investment and growth. The return to capital is reduced, causing it to become more scarce and to be combined with greater amounts of labor. Investment falls but what does occur is more labor-intensive. The effect on employment growth is indeterminate, but labor productivity clearly falls (or grows more slowly). This implies in turn that the real wage will fall, or grow more slowly, while the wage bill may increase or decrease. Inflation tends to support these trends.

4.19 Egypt is somewhat insulated from these pressures by her status as a net energy producer. To date, government "cheap energy" policies have served to keep capital returns artificially high enabling labor productivity to rise, at least in some sectors. Egypt could resist the imperative to change this policy as long as surplus labor is absorbed by other countries, as long as the oil supply keeps up, and as long as the foreign exchange foregone is replaced by third parties. The government thus buys time to avoid painful transitions being made by other nations. If the three conditions just mentioned persevere until new energy technologies become available, the transition may not have to be painful at all. The slower economic growth in world-price terms may be judged by Egypt's leaders to be well-worth the higher returns to labor and capital and the greater political stability that implies.

V. The Need for Further Information

5.01 Every commentator on the Egyptian manpower scene is forced to lament the lack of reliable data. The current vacuum is expected to be filled in large part during the next two years. The data from the 1976 census is now partly available. CAPMAS plans a labor survey based on this census, to be completed in 1980. The first complete agricultural census since 1961 will be undertaken in 1980 as well. Data from a variety of surveys, including the Ford Farm Management Survey, are slowly becoming available.

5.02 Nonetheless, at present there remains a need for better information, particularly on the informal, rural, and governmental

sectors. AID has several activities underway or planned to begin soon that will address this need. These include the on-going study of the tarahiil (migrant workers), which should be completed in 1980, the MIT migration study, and the Michigan State study of small-scale manufacturing in rural areas, scheduled to begin this year.

5.03 Most of the projects underway include a data-gathering component and many will soon begin to produce information useful for broader planning purposes. Two projects already providing a wide range of data are the Water Use Project and the MIT Project in economic planning. The MIT work on migration, for example, presents some of the only analysis available on this critical issue.

5.04 To date, AID has not participated in or directly supported larger government censuses. This omission is partially justified by GOE sensitivity on data-gathering issues, but overall it is simply an area that AID has not been active in. This decision might well be reconsidered when the benefits of reliable information, both to the GOE and to the donors, are taken into consideration.

5.05 The analysis presented in this annex must be regarded as high, tentative, and greatly in need of further verification. AID will need to make a concerted effort during the CDSS period to gather the data needed to monitor developments in this area more effectively. In particular, analysts must be alert to catch early on any signs that cast doubt on the optimistic conclusions presented here regarding Egypt's ability to absorb the labor force increases of the 1980's.