Small Enterprises in Egypt: A Study of Two Governorates

by

Stephen Davies, James Seale,
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Nadia El Sheikh, and Abdel Rahman Saidi

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Foreword

This paper is one of a series of reports produced by Michigan State University's Small Enterprise Approaches to Employment Project, which is funded by the Office of Rural and Institutional Development, Bureau of Science and Technology, U.S. Agency for International Development. Previously completed studies on small enterprises in developing countries generated by this project, as well as by M.S.U.'s earlier Off-Farm Employment Project, include:

1. Carl Liedholm, "Research on Employment in the Rural Non-Farm Sector in Africa," African Rural Economy Paper No. 5, 1973.

2. Carl Liedholm and Enyinna Chuta, "The Economics of Rural and Urban Small-Scale Industries in Sierra Leone," African Rural Economy Paper No. 14, 1974.

3. Enyinna Chuta, "The Economics of the Gara (Tie-Dye) Cloth Industry in Sierra Leone," African Rural Economy Working Paper No. 25, 1978.

4. Adwale Mabowonku, "An Economic Evaluation of Apprenticeship Training in Western Nigerian Small-Scale Industry," African Rural Economy Paper No. 17, 1979.

5. Steve Haggblade, J. Defay and Bob Pitman, "Small Manufacturing and Repair Enterprises in Haiti: Survey Results," Michigan State University Rural Development Working Paper No. 4, 1979.

6. Enyinna Chuta and Carl Liedholm, "Rural Non-Farm Employment: A Review of the State-of-the-Art," Michigan State University Rural Development Paper No. 4, 1979.

7. Omar Davies, Yacob Fisseha and Claremont Kirton, "Small-Scale Enterprises in Jamaica: Initial Survey Results," Michigan State University Rural Development Working Paper No. 8, 1979.

8. Enyinna Chuta, "Techniques of Production, Efficiency and Profitability in the Sierra Leone Clothing Industry," African Rural Economy Working Paper No. 30, 1980.

9. Middleton Wilson, "Some Problems in Operating a Loan Program for Craft and Emerging Small-Scale Non-Farm Enterprises in Jamaica," Michigan State University Rural Development Working Paper No. 15, 1981.

10. Yacob Fisseha and Omar Davies, "The Small-Scale Manufacturing Enterprises in Jamaica: Socioeconomic Characteristics and Constraints," Michigan State Univeristy Rural Development Working Paper No. 16, 1981.

11. Enyinna Chuta, Carl Liedholm, Ola Roberts and Joseph Tommy, "Employment Growth and Change in Sierra Leone Small Scale Industry: 1974-1980," African Rural Economy Working Paper No. 37, 1981.

12. Peter Kilby, "Small Scale Industry in Kenya," Michigan State University Rural Development Working Paper No. 20, 1982.

13. Mahmoud Badr, Nadia El Sheikh, James Seale, Stephen Davies, Abdel Azim Mostafa, Abdel Rahman Saidi, "Small Scale Enterprises in Egypt: Fayoum and Kalyubiya Governorates Phase I Survey Results," Michigan State University Rural Development Working Paper No. 23, 1982.

14. W. P. Strassmann, "Employment in Construction: Multi-Country Estimates of Costs and Substitution Elasticities for Small Dwellings," Michigan State University International Development Working Paper No. 3, 1982.

15. Donald C. Mead, "Subcontracting in Rural Areas of Thailand," Michigan State University International Development Working Paper No. 4, 1982.

16. W. Paul Strassmann, "Employment and Housing in Lima, Peru," Michigan State University International Development Working Paper No. 7, 1983.

17. Stephen Davies, James Seale, Donald C. Mead, Mahmoud Badr, Nadia El Sheikh, and Abdel Rahman Saidi, "Small Enterprises in Egypt: A Study of Two Governorates," Michigan State University International Development Working Paper No. 16, 1984.

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SMALL ENTERPRISES IN EGYPT:
A Study of Two Governorates

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1. Introduction

1.1. Background and Goals of the Study

Commentators on the Egyptian economy have noted the domination of the industrial sector by a limited number of large public sector firms, on the one hand, and a mass of small private producers, on the other. While much has been written about the giants, it is only in recent years that serious attempts have been made to understand the smaller enterprises. This study is a contribution to that effort.

The goals of the study are three:

1) to determine the "big picture" of small enterprises in selected locations in Egypt: the number of firms, the levels of employment, and some basic enterprise characteristics by industry group;

2) to examine in more detail a sample of firms in selected industries in order to determine their production and distribution patterns, their economic viability, their constraints, and their potential for future growth;

3) to suggest to the Government of the Arab Republic of Egypt and to the United States Agency for International Development the types of policies, programs, and projects that might effectively support the development of small enterprises in these areas.

1.2. Coverage of the Study

There are three questions to be addressed in this section: industry coverage, firm type and size, and geographical focus. In

terms of industry coverage, the scope of the study includes manufacturing as well as repair of manufactured goods.[1/] This is consistent with the coverage of the manufacturing sector in published Egyptian censuses. The first phase enumeration also included laundries, barber and beauty shops, photographic studios, painters, and construction enterprises, although information from these five industries is only included in the addendum to table 2. There was considerable discussion concerning the inclusion of producers of fool and ta'miya (two common Egyptian food products) in the survey; these enterprises could be considered either as producers of food products (manufacturers) or as restaurants (producers of services). Again, these producers were covered in the survey; data concerning them are shown separately in the addendum to table 2, but are excluded from all other tables.

With regard to firm types and size, the study focused on those enterprises with less than 50 workers and with a fixed work place. Mobile and itinerant producers -- those without any fixed place of work -- were excluded from the survey, as were all producers with more than 50 employees. Special efforts were made to include manufacturing activities taking place within the household (sometimes called "cottage industries").

In terms of geographical coverage, while other studies of small producers in Egypt have focused primarily on major urban areas, this study has taken a different approach; the universe to be explored was

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[1/] ISIC codes 31-39 plus 951.

defined in terms of governorates: their cities and towns as well as villages.[1/] Two governorates were chosen for study: Fayoum, and Kalyubiya.

1.3. Other Related Studies

Concurrently with the work of this project, two other studies were also under way, each focusing on the development of small enterprises in Egypt. It may be useful at the outset to contrast the coverage and approach of these other studies.

One of these studies, undertaken for USAID by Arthur D. Little International Incorporated,[2/] focused on those enterprises with 10 to 200 employees and less than LE 300,000 of fixed assets (excluding land and buildings). It listed a number of qualitative characteristics of small firms, but in practice these were used to describe the sector rather than to delimit it. The study approach involved assembly and analysis of secondary data, plus intensive interviews with 50 producers and briefer questionnaires for an additional 200 firms. With the

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[1/] One exception was made to this "whole governorate" approach: in Kalyubiya, it was decided to exclude from the study Shubra el Khayma, a large and highly industrialized area which is immediately adjacent to and in many ways an extension of the greater Cairo metropolitan area.

[2/] Arthur D. Little International Incorporated, in association with Arab International Consultants, "Phase I Draft Report: Review and Evaluation of Small-Scale Enterprises in Egypt" (January 26, 1982); and "Phase II Final Report: A Strategy for Support of Small Enterprises in Egypt" (March, 1982); both submitted to United States Agency for International Development.

exception of three brief paragraphs, there is no reference to geographical or locational questions; the authors presumably concentrated the bulk of their efforts on the regions where they contend most of the firms are located, Cairo and Alexandria.

The second parallel study was undertaken by the Checchi Company, with funding from the World Bank, on behalf of the Handicrafts Industry and Productive Cooperatives Organization (HIPCO).[1/] This study was limited to producers with less than 50 workers; beyond that, it included only enterprises "which could be identified from the street by signs or other indicators of productive activity. Thus the survey takes no account of cottage industries where production takes place entirely within the home" (p. 2). The report is based primarily on the results of an 11-page questionnaire administered to all small manufacturers in sample locations; these latter comprised a 20% sample of urban locations in greater Cairo and in Alexandria, Assiut and Damietta governorates, plus a 5% sample of rural locations in the latter two governorates. In most cases, the results are reported broken down by governorate, with urban and rural locations combined.

In summary, the A. D. Little study focused on somewhat larger firms; it undertook relatively little primary data collection, and was probably primarily concentrated in Cairo and Alexandria. The Checchi study covered the country's two major urban areas plus two other governorates

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[1/] Checchi and Company, "Artisan Sector Studies Project: Enterprise Survey Analysis: A Profile of Artisanal Establishments in Greater Cairo, Alexandria, Assiut, and Damietta" (November 5, 1982).

(urban as well as rural) with an extensive one-shot survey administered to all small firms identified in sampled locations; but it excluded all production for sale taking place within households.

2. Phase I Results

The first phase of our study, undertaken between April and July of 1981, was designed to provide an overview of small enterprises in the two governorates under examination. The results have been described in detail in a previous report.[1/] Tables 1-3 summarize the major findings in terms of numbers of enterprises and employment by locality size, by industry group, and by employment categories. Among the major findings of this first phase of the study are the following:

a) The numbers involved are large: 94,000 establishments, employing nearly 140,000 people, in the two governorates combined. Approximately one person in fifteen in the total population of these governorates -- men, women, and children -- is involved at least on a part-time basis in small manufacturing activities.

As indicated in Table 1, these activities are widely dispersed in different-sized localities. On a per capita basis, they are most heavily concentrated in smaller communities. The industry composition differs

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[1/] M. Badr, J. Seale, A. A. Mostafa, N. el Sheikh, S. Davies, and A. R. Saidi, "Small Scale Enterprises in Egypt: Fayoum and Kalyubiya Governorates: Phase I Survey Results," MSU Rural Development Series Working Paper No. 23, March, 1982.

Table 1. Sampled and Estimated Total Number of Enterprises and Employment in Fayoum and Kalyubiya by Location Size -- 1981

Province and Town Size (Number of People)	Sampled Enterprises		Sampling Proportion Inverse	Estimated Total		Employment per Enterprise	Employment per 100 in Population
	Number of Enterprises	Employment		Number of Enterprises	Employment		
FAYOUM:							
0-2,999	772	891	10.13	7,819	8,472	1.1	10
3,000-5,999	3,452	3,869	4.76	16,429	17,586	1.1	8
6,000-11,999	5,385	6,396	2.58	13,916	16,955	1.2	6
12,000-19,999	9,054	11,229	1.39	12,544	15,671	1.2	10
20,000-39,999	3,686	4,948	1.00	3,686	4,948	1.3	6
40,000+	2,818	7,487	1.00	2,818	7,487	2.7	4
TOTAL	25,167	34,820	2.27	57,212	71,119	1.2	7
KALYUBIYA:							
0-2,999	1,624	2,752	4.76	7,730	13,152	1.7	11
3,000-5,999	1,981	3,076	5.10	10,108	15,356	1.5	6
6,000-11,999	1,738	3,111	4.76	8,273	14,809	1.8	3
12,000-19,999	2,880	4,798	2.50	7,220	12,078	1.7	5
20,000-39,999	1,364	3,429	2.00	2,728	6,858	2.5	3
40,000+	1,064	3,900	1.00	1,064	3,900	3.7	2
TOTAL	10,651	21,066	3.49	37,123	66,153	1.8	5
GRAND TOTAL	35,818	55,886	2.63	94,335	137,272	1.5	6

Source: Survey Data, Phase I

rather widely by locality size: in smaller villages, the main activities are household-based (e.g., dairy products, knitting of hats, embroidery, making baskets), while in larger locations they are more sophisticated, often with hired workers and more capital invested. Even within one industry, product lines change as one goes from smaller to larger localities: in smaller villages, tailors and dressmakers make the same traditional outfits year after year, while urban firms make more modern clothes, with annual style changes.

b) The average firm size is small: 1.5 workers per establishment, including owners and family members. Nearly 60% of all establishments had only one worker; less than 1% had ten or more workers. Again, this differed somewhat by location and even more clearly by industry type; but the overwhelming characteristic is one of many small, privately owned firms.[1/]

c) The composition of small scale industries is detailed in table 2. Perhaps the most striking feature is the dominant role of makers of dairy products; in each of the two governorates, over 50% of all reported employment is in this activity, generally involving the making of butter and cheese in village households, partly for own consumption, partly for sale. Aside from dairy products, over 40% of all small enterprise employment is in textiles, broadly defined: tailors and dressmakers, needlework and knitting, spinning, the making

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[1/] Over 99 percent of all firms with less than 49 workers were privately owned.

Table 2. Distribution of Estimated Total of Enterprises and Employment in Fayoum and Kalyubiya by Industry
-- 1981 --

Subsectors	Fayoum		Kalyubiya	
	Number of Enterprises	Employment	Number of Enterprises	Employment
Food:				
Dairy Products	36,555	37,622	23,415	34,519
Bakeries	133	1,042	165	1,213
Butchers	986	1,477	806	1,466
Flour and Rice Mills	84	313	90	345
Other Food Products	160	311	623	1,575
TOTAL	37,918	40,765	25,099	39,118
Textiles, Leather, and Wearing Apparel:				
Tailors, Dressmakers	4,095	5,568	4,594	7,831
Clothmaking	196	280	176	776
Knitting by Machines	22	22	109	272
Needlework, Hand Knitting	2,131	2,320	552	716
Spinning, including Ropes	2,560	2,832	305	711
Rugs	34	192	259	1,193
Mats	832	1,705	341	1,020
Shoemaking, Repair	293	459	506	799
Fish Nets	673	1,417	0	0
Other Textiles	84	152	113	248
TOTAL	10,920	14,938	6,955	13,566
Wood Products:				
Furniture	642	1,659	422	1,084
Doors and Windows	403	701	671	1,254
Agricultural Tools	174	290	62	25
Baskets, Crates and Rafia Hats	4,314	5,079	364	1,539
Other Wood Products	54	150	224	990
TOTAL	5,589	7,879	1,743	4,962
Paper and Printing:				
TOTAL	30	146	32	92
Chemicals:				
Essential Oils	62	693	4	116
Other	96	179	11	53
TOTAL	158	872	15	169
Non-metallic Minerals:				
Tiles	22	154	130	742
Mud Bricks	740	1,025	112	155
Red Bricks	29	663	51	774
Other	535	1,720	155	352
TOTAL	1,326	3,562	448	2,023
Metal Products:				
Blacksmiths and Welders	192	579	544	1,376
Machine Shops	38	131	84	247
Other	141	250	360	602
TOTAL	371	960	988	2,225
Other Manufactures:				
TOTAL	62	126	9	17
Repairs:				
Electric Appliances	254	463	252	324
Automobiles	250	714	667	2,065
Bicycles	146	281	263	517
Other	188	413	652	1,075
TOTAL	838	1,871	1,834	3,981
GRAND TOTAL	57,212	71,119	37,123	66,153
Addendum:				
Other Services	1,308	1,711	2,814	5,246
Fool and Ta'miya	658	926	672	1,469

Source: Survey Data, Phase I

of mats, rugs, fish nets, and a variety of related activities. The third largest group, with 20 percent of total employment excluding dairy products, is wood products: crates, baskets made from henna branches, furniture, doors and windows. This is followed by other food products (primarily butchers and bakers). Other activities are smaller in the aggregate, although they may be quite important either in particular locations (e.g., bricks), in terms of their backward and forward linkages (e.g., blacksmiths and welders, essential oils) or growth potential (e.g., tiles, machine shops, repairs).

d) Women constitute a significant part of the small scale industry labor force in the two governorates. The labor force data in table 3 again show the preponderance of workers in dairy enterprises, where most of the work connected with the production and sale of dairy products is done by females. Women are important in other industry groups as well, however, making up over 30% of the work force in all industries other than dairy products. Women comprise nearly 50% of the work force in the textile subsectors, and are important in Fayoum in the production of a variety of palm products, included in the wood products category.

From a different perspective, family members dominate the labor profile. Virtually all workers in the dairy products industry, for example, are family members. Aside from that subsector, family members comprise nearly 65% of the total work force; just over a quarter are hired workers, with the remaining 9% being apprentices. Both hired workers and apprentices are more heavily concentrated in particular industries: textiles, wood products, tiles, and other food products. These highlighted findings

Table 3. Estimated Total Employment in Fayoum and Kalyubiya by Sex and Employment Category -- 1981

	Males	Females	Total	Family	Hired	Apprentice
FAYOUM						
Food: Dairy Products	276	37,346	37,622	37,556	50	16
Other Food	2,978	165	3,143	1,695	1,182	266
Total Food	3,254	37,511	40,765	39,251	1,232	282
Textiles	6,982	7,955	14,938	12,971	1,339	628
Wood Products	4,071	3,808	7,879	6,234	1,040	605
Paper and Printing	105	41	146	51	46	49
Chemicals	828	44	872	213	610	49
Non-metallic Minerals	3,026	536	3,562	1,742	1,549	271
Metal Products	953	7	960	471	320	169
Other Manufactures	108	18	126	104	18	4
Repairs	1,857	14	1,871	1,033	477	361
Subtotal, excluding Dairy	20,909	12,588	33,497	24,514	6,581	2,402
Province Total	21,185	49,934	71,119	62,070	6,631	2,418
KALYUBIYA						
Food: Dairy Products	472	34,047	34,519	34,168	235	116
Other Food	3,669	930	4,599	2,805	1,658	136
Total Food	4,141	34,977	39,118	36,973	1,893	252
Textiles	7,794	5,772	13,566	8,275	3,439	1,852
Wood Products	4,829	133	4,962	2,399	2,227	336
Paper and Printing	83	9	92	38	50	4
Chemicals	167	2	169	24	137	8
Non-metallic Minerals	1,911	112	2,023	560	1,317	146
Metal Products	2,201	24	2,225	1,152	861	212
Other Manufactures	17	0	17	10	4	3
Repairs	3,960	21	3,981	2,196	1,230	555
Subtotal, excluding Dairy	24,631	7,003	31,634	17,459	10,923	3,252
Province Total	25,103	41,050	66,153	51,627	11,158	3,368
GRAND TOTAL, BOTH PROVINCES						
Excluding Dairy Products	45,540	19,591	65,131	41,973	17,504	5,654
Including Dairy Products	46,288	90,984	137,272	113,697	17,789	5,786

Source: Survey Data, Phase I

as well as other aspects of the Phase I survey results are discussed in more detail in the separate publication referred to above.

3. Phase II: Approach

3.1. Industry and Firm Selection

The Phase I survey provided an overview of small enterprises in the two governorates under study. In order to understand the production and marketing patterns, the economic viability, as well as the problems and growth potential of these producers, a sample of firms and industries was selected for more detailed analysis. To make this selection on an informed basis, the researchers on the project undertook preliminary interviews with assorted producers and merchants in a number of different industries in order to determine which industries should be included in the more detailed studies in Phase II. Following discussion among the researchers and with informed outsiders, thirteen industries were selected for further analysis. As indicated in table 4, these industries account for approximately 75% of all employment in small enterprises in the two governorates, as reported in the Phase I survey. The selection of particular firms to be included in the Phase II study was done by a process of random sampling, using the Phase I results as universe.[1/]

[1/] There were some minor departures from purely random sampling. In Fayoum, a few very isolated villages were eliminated from the sample frame, to reduce logistical problems. In Kalyubiya, since dairy producers are very widespread and are thought to be relatively homogeneous, they were selected last, from the universe of producers in villages where other producers had already been selected in the sample (thus avoiding the need for enumerators to go to any village solely to interview dairy producers). In both governorates, a few larger producers were purposively added to the sample, to ensure a more complete picture of their activities.

Table 4. Industries Covered in Phase II Survey -- 1982

Project Code Number	Industry	Abbreviation in Subsequent Tables	Main Products or Activities	Fayoum			Kalyubiya		
				Total Number of Enterprises		Total Employment	Total Number of Enterprises		Total Employment
				in Phase II Sample	in Governorate (from Phase I Survey)	in Governorate (from Phase I Survey)	in Phase II Sample	in Governorate (from Phase I Survey)	in Governorate (from Phase I Survey)
1	Rugs	Ru	Tied (not woven) rugs	5	34	192	13	259	1,193
2	Tiles	Ti	Cement floor tiles	8	22	154	13	130	742
3	Dairy Products	Da	Butter and cheese	32	36,555	37,622	19	23,415	34,519
5	Embroidery	Em	Embroidered garments	10	939	1,078	6	107	267
6	Mats	Ma	Reed mats	16	832	1,705	16	341	1,020
7	Tailors	Ta	Gallabiyas, Suits, Shirts	15	1,420	2,551	31	1,739	3,509
8	Dress-makers	Dr	Dresses	13	2,675	3,017	34	2,855	4,322
9	Shoes	Sh	Assembly of shoe parts; making, repair	16	293	459	33	506	799
10	Furniture	Fu	Living room, dining room, bedroom furniture	21	642	1,659	19	422	1,084
12	Hats	Ha	Knitted farmers' hats (taiyas)	22	1,191	1,243	0	0	0
13	Baskets	Ba	Reed (Fayoum) or henna (Kalyubiya) baskets	24	3,681[a]	3,874[a]	15	293	1,218
14	Machine Shops	MS	Repair, making of metal parts and products	11	38	131	19	84	247
15	Agricultural Implements	AI	Metal and wooden parts of hoes, plows, waterwheels, etc.	9	174	290	6	62	95
			Total, 13 industries	202	48,496	53,975	224	30,213	49,015
			Total, all industries		57,212	71,119		37,123	66,153

Notes: [a]The figures reflect all basket producers in Fayoum. The Phase II sample, however, only included the Fayoumi baskets, which represented 11 percent of the total.

Source: Survey data, Phase I and Phase II

3.2. Data Collection

Three types of information were collected from the 13 industries chosen for detailed study in Phase II. They were as follows:

a) A regular longitudinal questionnaire was administered to each of 426 sample firms, either once or twice a week over one full year, from December 1981 to December 1982. The questionnaire used for this purpose included information on production and sales, current inputs purchased, and labor use.[1/] Information was collected and processed making use of mark-sense cards, a Chatsworth card reader, and a Radio Shack TRS-80 Model II microcomputer. Data collection involved approximately 20 enumerators and two supervisors in each governorate, working full-time over the full period of the survey.

This extensive longitudinal collection of flow data was necessitated by the lack of reliable information concerning the seasonality of production over the course of the year, the virtual non-existence of records among small producers, and the limited accuracy of their memory recall. These three factors together meant that one-shot surveys could provide only limited information of uncertain validity concerning production, employment and income flows over the course of a full year.

b) A second set of two questionnaires was administered to these same firms, during the period September-December 1982. These two special questionnaires -- approximately ten pages each -- covered information

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[1/] Copies of this and all other questionnaires used in this study may be obtained by writing to Dr. Donald Mead, Department of Agricultural Economics, Michigan State University, East Lansing, MI 48823, U.S.A.

concerning the organization, management, and history of the enterprise; the owner/manager; the capital stock; market links, and marketing patterns; the labor force, and the labor contract; the producers' contacts with government and financial institutions; and problems and future prospects of the firm, as perceived by the owner.

c) With minor exceptions, each of the 13 industries being studied in Phase II was the responsibility of one of the researchers associated with the project. This meant that in principle he or she was responsible for the supervision of the enumerators working in that industry, as well as for participating in both the regular interviewing process and in supplementary discussions with producers (both in and outside the sample) and with other knowledgeable people, to gain an understanding of the dynamics of that particular industry. While the depth of this understanding has varied from case to case, the result has been to provide a firmer grasp of the nature of the sector than could be gained simply by an analysis of statistics emerging from processed survey data.

3.3. Market and Shadow Prices

In general, the discussion of this report is framed in terms of market prices; no effort has been made to explore the implications of price distortions on the results presented. It is well known that extensive interventions affect the structure of both factor and commodity prices in Egypt. Among the major distortions are the following:

a) Domestic prices of tradable products are regulated in a variety of ways. For some products, such as cement (in official channels),

rationed cotton cloth, subsidized clothing, electricity, dairy products, fuel oil and other petroleum products, subsidies and controls mean that domestic prices are well below world market prices; using (world) opportunity costs to evaluate the efficiency for producers of these products would raise their measured economic efficiency; but for producers who use these products as inputs, analyses based on (world) opportunity costs would tend to lower their measured efficiency. There are other products where the opposite is true; primarily as a result of tariffs and other import restrictions, domestic prices are somewhat above world equivalents. This is the case for iron and steel and their products, many types of machinery, trucks, many kinds of ready-made clothing, woolen carpets, ceramic tiles, and footwear. For this group of products, the use of world prices would have the opposite effects on measured efficiency: lowering them for producers and raising them for users. In general, the magnitude of these distortions is much greater for the commodities whose prices are held down than for those whose prices are elevated above world equivalents.[1/]

b) Rent controls have been extensively used in Egypt; producers operating out of rented quarters gain significant benefits from the resulting under-pricing of their work place.

[1/] For estimates of accounting ratios for these and a number of other products (130 in all), see World Bank, Arab Republic of Egypt: Issues of Trade Strategy and Investment Planning, Report No. 4136-EGT (Washington: The World Bank, January 14, 1983), pp. 80-83.

c) There is a long-standing debate in Egypt concerning the appropriate shadow price of labor. A recent and rather highly disaggregated study of this question suggests that shadow wage rates for unskilled workers drawn into rural industrial employment are somewhat less than two-thirds of the market wage rate; the same study places the shadow wage rate for skilled workers at approximately equal to the market rate.[1/]

In an economy with a thoroughly distorted price structure such as Egypt's, it is risky to make some adjustments in one's calculations but not others. We have chosen to make none, but to remind the reader that true economic profitability based on a complete system of shadow prices might be substantially different from the measures based on market prices presented in this study.[2/]

[1/] Ibid., p. 77. See also ibid., p. 64.

[2/] The World Bank study referred to above estimated economic rates of return (using comprehensive estimates of shadow prices) and financial rates of return (using market prices) for 27 subsectors of public sector manufacturing in Egypt in the mid-1970's. For an unweighted average of those 27 subsectors, the financial rate of return was nearly 50% above the economic return. Average economic returns were higher in 11 industries; financial returns were higher in 16. Those which overlap the industries discussed in this report are:

	Economic Rate of Return	Financial Rate of Return
Cotton Textiles	13.6	5.9
Carpets	4.2	18.3
Ceramics	-12.8	2.4

Ibid., p. 361.

4. Phase II Industries: A Preview

The purpose of this section is to provide a brief introduction to the particular enterprises studied in Phase II. It may be important to note at the outset that although the Phase I sample frame included enterprises with up to 50 workers, only few firms with 10 to 50 workers appeared among the randomly sampled firms chosen for inclusion in Phase II. The Phase II study thus covers, in effect, only those firms employing fewer than ten workers, the smaller end of the small enterprise spectrum.[1/]

This group of enterprises employing fewer than ten workers has been subdivided for analytical purposes into two categories: a) household enterprises, and b) micro enterprises. This classification was employed because it was found that enterprises in these two categories differ markedly in terms of their production characteristics as well as the types of products they make, the markets in which they sell, the income levels earned by producers in these industries, their future prospects, and the types of project or policy interventions that may be appropriate for them. A more detailed discussion of these two categories now follows.

4.1. Household Enterprises

Household enterprises are defined in this study in terms of two central characteristics: low levels of capital use, and low levels of skills. For working purposes, LE 60 per firm (current replacement

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[1/] Although there is no consistent official definition of SSI in Egypt, this group is sometimes referred to as the "artisanal" segment of small scale industry sector in Egypt.

cost for machinery, equipment, and tools) has been used as a cut-off point for capital stock; the specification in terms of skill levels, of necessity, must be more subjective.

Some of the most important characteristics of household enterprises include the following:

a) Most production takes place in the home of the owner/operator.

b) Virtually all labor is family labor.[1/] In many cases, the workers are women; work is often done on a part-time basis.

c) Products generally are simple and unsophisticated, sell for low prices, and cater to mass markets of low-income people.

d) Marketing patterns similarly are simple, generally based on production for order either from merchants or from final consumers.

e) Returns to owners/entrepreneurs in these enterprises are generally very low.

[1/] Some commentators have made these first two features -- operating from the home, and exclusive use of family labor -- the defining characteristics of household producers. That approach has certain advantages, particularly because these features are easily observable. Using that alternative definition would lead one to call dressmaking a household enterprise (we have recognized it as borderline but called it a micro enterprise, in spite of operating out of the home with family labor, since average capital in use is LE 150-300 per firm); it would also lead one to call mats a micro, instead of a household, enterprise, as we have, since although it operates out of the home, requires little capital and low skills, it is based 15-25% on hired labor. Because of the way these two industries fall, as well as because of the way the defining characteristics themselves have implications for the industry groups -- as developed in subsequent sections of this report -- we prefer our definition. In practice, the difference is minor.

Among our sample, household enterprises include all producers of mats, hats, and baskets. In addition, they include most producers of dairy products and substantial numbers engaged in embroidery work.

4.2. Micro Enterprises

Again, these enterprises are defined in terms of levels of capital and of skills: those with more than LE 60 of machinery, equipment, and inventories, or with more substantial skills in the labor force. There is considerable diversity within this group; although alternative ways of breaking it into subcategories were examined, none were found to be satisfactory.

The most important characteristics among these more complex, micro enterprises are the following:

a) Production generally takes place in a separate work place, often rented.

b) Hired labor generally comprises a significant share of the total work force. Virtually all of the workers are full-time; hours worked are generally long.

c) Products range from relatively simple to more complex, refined products. Final consumers of these products span the range of income levels, from poor to rich.

d) Marketing patterns are somewhat more complex than for household activities, particularly in terms of input procurement; but sales continue to be dominated by production-for-order, generally flowing directly to final consumers (not through merchants or middlemen).

e) Returns to owners/entrepreneurs are higher than for household activities, although variable.

In our sample, the more complex, micro enterprises include dress-makers, tailors, shoemakers, as well as makers of rugs, tiles, furniture, and agricultural implements; machine shops are also included. In addition, several "modern" embroiderers and "modern" dairy producers are also classified in this category.

4.3. The Industries Studied

In order to provide a context for subsequent discussions, a brief introduction to the industries covered in the Phase II study may be helpful.

4.3.1. Mats

These products are woven out of local reed. They are generally made in households, where one family would normally have one or two frames. Much of the labor is family labor, although there is some hiring of workers as well. The products are used in homes and in mosques. Producers may sell directly to consumers, from their homes or in the local markets, or may sell to merchants. The reeds are available in abundance during certain seasons. The producers have the choice of buying a year's supply then (if they have the working capital); buying later (at a higher price) from merchants, who have stored the reed; or obtaining the reed as needed on a "consignment basis" from merchants.

4.3.2. Hats

These products are knitted by women in certain localities in Fayoum;

the yarn is supplied by merchants, who pay on a piece-work basis for the knitting. The merchants then sell the hats (in Arabic, Ta'iya's) to low-income people throughout the country, particularly to farmers.

4.3.3. Baskets

In Fayoum, two major types of baskets are produced, both from palm fronds. The first type comprises nearly 90% of all baskets produced in Fayoum and is used in construction and agriculture for moving dirt and manure, with most of the production and marketing being done through cooperatives. The second type, the Fayoumi basket, may be used as a household item in middle-class Egyptian homes and has some tourist appeal. In Kalyubiya, baskets are produced from henna sticks, which are usually imported into the area by merchants. These baskets are used by retailers to display produce, and by individuals to transport fruits and vegetables. Baskets from Kalyubiya and most baskets from Fayoum are produced by both men and women. However, the Fayoumi basket is produced exclusively by women in one small village near Fayoum City. In Fayoum, only the Fayoumi basket is included in our sample. This decision was mainly due to the desire to understand the economics of female producers in small villages.

4.3.4. Dairy Products

For the purposes of this study, a distinction is made between the dairy industry narrowly defined, concerned with the care and raising of cattle and the supply of milk, on the one hand, and the processing of milk into butter, cheese, and other processed milk products, on the

other. This report focuses only on the latter activities; complementary studies are currently underway which will extend the analysis to dairying activities per se.

In terms of processed milk products alone, then, the major activities are undertaken by women in farm households who convert some of the milk from the family buffalo or cow into butter and cheese. A portion of this is consumed by the family; an additional share is sold by the producer in village and district markets, with some small share sold to merchants for sale in Cairo.

In addition to these household enterprises, there are a few small "modern" dairies in the sample. Working with only one or two hired workers, these establishments buy milk from farm households nearby, make full-cream cheese, and sell it to groceries in the governorate capital or to wholesalers for sale in Cairo. Finally, there are groceries in towns which also buy milk from farmers, making it into cheese and yoghurt for sale in their shops.

4.3.5. Embroidery

There are two fairly different product lines in this industry. Household embroiderers are women who make hand-embroidered objects on a part-time basis for sale in local markets. In addition, the sample also contains some more "modern" embroidery producers. These firms may be headed by either men or women, and use a fair amount of capital (mainly sewing machines with zig-zag stitching capabilities), producing embroidered sheets, tablecloths, and hems on dresses. These products are usually for final consumers, but one firm in Kalyubiya

produces for stores in the Khan El Khalili bazaar, in Cairo. These more modern firms generally have several employees, who may be either men or women, on a full-time basis. For these firms, the customer generally provides the major raw material inputs, while the firm does the embroidery.

4.3.6. Tailors

Most of the tailors in our survey produce traditional Egyptian clothes, such as gallabiyas, farmer's shirts, traditional vests and underwear, although some produce western-style clothes. The industry is almost completely comprised of male entrepreneurs and workers, and serves the male population. The firm is usually in a rented building outside the home, in which the tailor and perhaps one or two non-family employees work. For most firms, the capital stock consists of several sewing machines, although a few have more specialized overhook, button and button-hole sewing machines. The major input, cloth, is provided by the customer, so that the raw material requirements for tailors are minimal. The tailors primarily serve the local market, producing when orders are received.

4.3.7. Dressmakers

This industry is similar to the tailoring industry except that the producers are women making traditional textile products for women, with less reliance on hired labor and usually working within the home. The system of production-on-order with the customer providing the cloth is as prevalent in dressmaking as in tailoring. A small subset of the

sample are male dressmakers who work out of rented shops and produce more highly priced western dresses and women's suits. This group is mainly found in the larger urban areas.

4.3.8. Shoemakers

Shoemakers are involved in a variety of different functions in the shoemaking process. Some engage almost totally in repair, while a few still produce traditional shoes with handmade leather soles. The majority of the shoemakers sew or glue together the tops and bottoms of sandals or dress shoes for final consumers, but some produce only tops for resale to other shoemakers. The firms are usually located outside the house, and generally use only male family labor. Some of the larger firms in Kalyubiya do employ several hired workers, but this is the exception. Most of the firms use relatively little capital, comprised of small tools such as hammers, pliers, and knives. There are firms, however, that have a substantial investment in equipment, including industrial sewing machines for sewing soles on shoes and a variety of spraying and pressing equipment driven by air compressors.

4.3.9. Furniture

The furniture industry employs almost exclusively male workers, and is located in the larger villages and towns. The majority of these firms are 2 to 5 person firms, although there are also substantial numbers of one-person producers. Products range from simple, crude beds and cabinets for rural consumption to the extremely ornate bedroom and living room suites found in many urban Egyptian homes. This industry

is highly specialized, with individual firms specializing in carpentry, upholstering, woodcarving, woodcutting, or wood varnishing activities. A bedroom suite will typically be handled by as many as four different firms before completion. In the Phase II longitudinal study, only those firms specializing in the carpentry of furniture were included.

4.3.10. Oriental Rugs

The Oriental rug industry is the only one in our sample which produces primarily for export out of the governorate and even out of the country. The products are hand-tied wool and silk rugs, made from patterns obtained in Cairo. Firms are headed almost exclusively by men, and are generally located within the home. They use many hired workers, who are often small girls. Much production is for merchants in Cairo, who often supply the raw materials and sometimes pay advances as the work is being finished. In addition, some of the household producers work for larger firms in their area. In this arrangement, the small firm could be supplied with a loom, raw materials, and perhaps a down payment, so the entrepreneur's primary responsibility was labor supervision and quality control. Some firms also sell directly to final consumers.

Some of the rug producers in the sample have a labor force which reaches 20 or more workers. The survey instrument was not well designed to capture employment data for these larger firms; in a few cases this has resulted in gaps in the processed data for this industry.

4.3.11. Cement Floor Tiles

Tile producers are located almost exclusively in towns or large

villages (population over 15,000). The industry is closely tied with the construction industry and has enjoyed a strong demand associated with the boom in construction over the last five years. Compared to most small firms in Egypt, these firms employ a relatively large amount of capital, although the production process is not complicated. They also employ a relatively large number of male workers. The main input into the production of floor tiles is cement. There are essentially two markets for cement: one, through the government, is highly subsidized and caters mostly to large producers; the other operates through the open market.

4.3.12. Machine Shops

This group of firms is highly diverse, ranging from firms that produce precision tools to those that produce spare parts on order for final consumers. Kalyubiya has more than twice as many enterprises and workers in this industry, compared to Fayoum. Although machine shops, blacksmiths, and welders often produce similar products, they may be differentiated by the fact that machine shops generally use lathes in the production process, while blacksmiths and welders do not. In Fayoum, the Phase II sample was drawn only from producers with lathes, while in Kalyubiya the sample included firms that use metal lathes as well as blacksmiths and welders. This explains the higher average amount of capital used by firms in this industry in Fayoum, since producers with metal lathes generally have more capital than metal-working firms without them.

4.3.13. Agricultural Implements

Firms categorized in this industry were found to be even more diverse than those in machine shops. In Fayoum, the industry can be broken into those firms that produce metal products and those that produce wood products such as hoe handles and wooden plows. The metal workers usually are blacksmiths and welders who do both repair and production of new products. Their products range from simple hand tools to chisel plows and irrigation pumps. It should be noted that in the Phase II sample, one firm in Fayoum specialized in radiator repair for tractors, another in clutch repair for tractors. In Kalyubiya, most firms work with metal; products from these firms range from production of small hoe heads to sophisticated agricultural implements and precision tools. Repair is also an important activity in both governorates.

A more detailed discussion of the characteristics of the enterprises surveyed during Phase II is now possible. The findings with respect to labor and entrepreneurship will be treated first, followed by a discussion of capital in section 6. Marketing and distribution findings are presented in section 7, followed by a review of the results pertaining to the costs and returns in section 8.

5. Labor and Entrepreneurship

5.1. Firm Size

The average size of the firms sampled in Phase II is quite small. As mentioned previously, virtually all sampled firms in both governorates

possess less than ten workers on average throughout the year (tables 5 and 6).[1/] The household enterprises are consistently smaller than the micro enterprises in both areas. The only exceptions, again, are mats in the household enterprise group and dressmakers in the micro enterprise group (in Kalyubiya). Tiles, rugs, machine shops, and (in Fayoum) furniture are the largest of the micro enterprises; 25% or more of these firms have more than three workers. Over 50% of all tile and rug firms have more than three workers.

5.2. Family, Hired Labor, and Apprentices

The labor force in the sample firms has been categorized into three types: family workers, hired workers, and apprentices. In the household enterprises, the overwhelming majority of the hours worked, over 70%, is supplied by family workers (tables 5 and 6). In the micro enterprises, family workers still contribute substantial portions of the total hours worked in the firm, but the contribution of hired workers is significantly greater than in the household enterprises. Shoemakers and dressmakers are something of an exception here, since they rely heavily on family labor, although we have classified them as micro enterprises. In tiles and rugs, over fifty percent of total hours are supplied by hired workers. The term apprentice is used rather loosely in Egypt; it might also be translated as "trainee."

[1/] The average is calculated as the number of workers each week summed and divided by the number of weeks. Thus an average of one worker could mean either two workers half the year and zero for the rest of the year, or one person working each week for 52 weeks.

Table 5. Employment Characteristics: Fayoum

-- 1982 --

	Household Enterprises					Micro Enterprises							
	Ma	Ha	Ba	Da[a/]	Em[b/]	Ta	Dr	Sh	Fu	Ru	Ti	MS	AI
1. Firm size, and total employment													
a. Average of workers per firm (includes family, hired workers, and apprentices)	2.3	1.0	0.9	1.0	0.9	2.3	1.2	1.2	2.5	na	4.2	3.0	1.9
b. % of all firms with following number of workers (family, hired and apprentices; average over year):													
i. 1 or less	11.8	76.0	100.0	100.0	90.9	13.3	92.9	68.8	15.8	na	----	8.3	55.6
ii. above 1 to 3	76.5	24.0	----	----	9.1	73.3	----	31.2	57.9	na	44.4	50.0	33.3
iii. above 3, below 10	11.9	----	----	----	----	13.3	7.1	----	26.3	na	55.6	41.7	11.1
iv. 10 or above		----	----	----	----	----	----	----	----	----	----	----	----
c. estimated total employment, this industry, this governorate													
2. Breakdown of labor force between family members, hired workers, and apprentices													
a. % breakdown of total working hours supplied by													
i. family	78.1	100.0	100.0	98.7	100.0	57.6	81.8	93.7	46.8	6.0	12.7	53.8	78.2
ii. hired	15.5	----	----	1.2	----	42.2	18.2	6.3	38.9	25.9	81.6	26.1	18.7
iii. apprentice	6.5	----	----	----	----	0.3	----	----	14.4	68.1	5.8	20.1	3.2
b. average number of workers per firm													
i. family	1.8	1.0	0.9	0.1	0.9	1.2	0.9	1.1	1.1	1.4	0.8	1.6	1.4
ii. hired	0.4	----	----	----	----	1.1	0.2	0.1	0.9	na	3.1	0.6	0.3
iii. apprentice	0.2	----	----	----	----	----	----	----	0.5	na	0.2	0.8	0.1
total	2.3	1.0	0.9	0.1	0.9	2.3	1.2	1.2	2.5	na	4.2	3.0	1.9
c. average number of hours worked per person per week by													
i. family	44.4	40.3	33.2	18.1	17.2	46.1	35.6	41.7	50.3	na	21.9	23.6	33.4
ii. hired	45.4	----	----	----	----	36.3	30.3	38.3	50.2	na	38.1	30.5	35.9
iii. apprentice	42.9	----	----	----	----	14.0	----	----	35.5	na	33.6	18.8	17.9
total	44.4	40.3	33.2	18.1	17.2	40.9	34.1	40.5	47.3	na	33.2	23.5	35.3
3. % breakdown of working hours of family members, by type of activity													
a. production	93.1	99.6	84.0	86.0	87.8	81.2	86.3	73.9	84.4	74.5	5.2	72.9	89.0
b. marketing	2.4	0.3	9.7	11.4	6.6	6.4	10.0	7.4	2.2	4.4	13.9	3.2	7.8
c. input procurement	3.5	0.2	6.3	2.1	5.4	3.4	2.9	4.7	6.3	2.7	7.2	2.6	2.5
d. supervision	0.2	----	----	0.5	0.1	2.1	0.5	0.2	6.7	18.3	50.1	9.6	----
e. repair	0.9	----	----	----	----	0.5	0.1	12.8	0.3	0.1	0.7	5.3	0.7
f. other	----	----	----	----	----	6.3	0.1	1.1	0.2	----	23.0	6.3	----

Notes: [a/] household producers only

[b/] includes micro and household enterprises

Source: Survey Data, Phase II

Table 6. Employment Characteristics: Kalyubiya

-- 1982 --

	Household Enterprises					Micro-Enterprises							
	Ma	Ha	Ba	Da[a]	Em[b]	Ta	Dr	Sh	Fu	Ru	Ti	MS	AI
1. Firm size, and total employment													
a. average number of workers per firm (includes family, hired workers, and apprentices)	1.6	----	1.1	0.6	1.3	1.7	1.1	1.5	2.0	4.0	4.5	2.2	1.6
b. % of all firms with following number of workers (family, hired and apprentices, average over year):													
i. 1 or less	26.7	----	66.7	100.0	80.0	35.3	67.9	43.3	13.3	----	0	6.3	42.9
ii. above 1 to 3	60.0	----	33.3	----	20.0	52.9	32.1	46.7	73.3	38.4	26.7	68.8	42.9
iii. above 3, below 10	13.3	----	----	----	----	11.8	----	10.0	13.3	61.5	73.3	25.0	14.3
iv. 10 or above	----	----	----	----	----	----	----	----	----	----	----	----	----
c. estimated total employment, this industry, this governorate													
2. Breakdown of labor force between family members, hired workers, and apprentices													
a. % breakdown of total working hours supplied by:													
i. family	76.3	----	99.7	100.0	71.0	61.8	83.2	78.3	53.7	21.5	26.4	50.2	63.0
ii. hired	23.8	----	0.4	----	29.0	33.7	5.5	21.8	37.4	74.7	71.1	45.8	37.0
iii. apprentice	----	----	----	----	----	4.5	11.3	----	9.0	3.8	0.4	4.1	----
b. average number of workers per firm:													
i. family	1.2	----	1.1	0.6	0.9	1.1	0.9	1.2	1.0	0.8	1.0	1.1	1.1
ii. hired	0.4	----	----	----	0.4	0.6	----	0.4	0.8	2.9	2.9	1.1	0.5
iii. apprentice	----	----	----	----	----	0.1	0.2	----	0.2	0.2	----	0.1	----
total	1.6	----	1.1	0.6	1.3	1.7	1.1	1.5	2.0	4.0	3.9	2.2	1.6
c. average number of hours worked per person per week:													
i. family	53.7	----	44.3	25.2	41.8	48.0	37.8	49.0	54.3	39.0	48.9	54.6	41.7
ii. hired	46.7	----	----	----	41.2	49.7	----	48.3	45.7	42.6	49.7	48.0	47.0
iii. apprentice	----	----	----	----	----	43.9	28.9	----	43.8	34.5	----	----	----
total	51.9	----	44.3	25.[illegible]	41.6	48.4	37.3	49.3	49.6	41.4	49.5	50.9	43.5
3. % breakdown of working hours by family members, by type of activity:													
a. production	80.1	----	92.3	84.7	74.3	79.6	78.1	69.3	65.3	41.8	20.0	44.8	74.0
b. marketing	8.0	----	5.2	10.6	13.8	8.7	10.3	9.5	2.6	1.3	11.2	7.0	4.5
c. input procurement	5.5	----	1.2	4.0	1.8	4.8	6.2	5.8	4.9	2.0	11.2	4.5	6.0
d. supervision	2.4	----	----	0.5	5.0	4.6	1.6	3.6	26.9	54.8	49.5	31.6	13.4
e. repair	----	----	----	0.3	5.1	0.4	0.3	10.2	0.1	----	0.1	10.7	1.1
f. other	4.0	----	1.3	----		1.8	3.6	1.6	0.1	0.1	8.1	1.4	1.0

Notes: [a] household producers only; no modern dairy producers were studied -- or, indeed, found -- in Kalyubiya

[b] includes micro and household enterprises

Source: Survey data, Phase II

With precise definitions lacking, one cannot attach great significance to the dividing line between hired workers and apprentices. This is especially true of young employees in the rug industry, who were generally counted as hired workers in Kalyubiya and as apprentices in Fayoum. In any case, except for rugs, apprentices supply only a small portion of total working hours in the firms. In the household enterprises, apprentices are practically nonexistent except in mats. In the micro enterprises, an informal, though limited, apprentice system does exist in some industries.

5.3. Average Length of Work Week

An important and striking feature of small enterprises in Egypt is that much of the work in these firms is full-time. Even in the household enterprises, full-time employment tends to predominate (see section 2c, tables 5 and 6). The major exceptions are household dairy and, in Fayoum, household embroidery. In the case of micro enterprises, in Kalyubiya the work is almost universally a full-time occupation, often close to or above 50 hours per week. The shorter work week in Fayoum for some micro enterprises may reflect involvement by the entrepreneur in other activities (e.g., tiles), slack demand for the product (e.g., machine shops), or predominance of women with other (household) claims on their time (e.g., dressmakers).

5.4. Allocation of Family Labor Time Between Activities

As the production and marketing systems become more complex and as the producers come to rely more on hired labor, family members'

time comes to be focused less on production and more on marketing, input procurement, and supervision (see section 3, tables 5 and 6). Buying inputs and selling the products required at least 10% of the family time, on the average, in over half of the industries studied. The variations reflect the differing extent to which producers must go to procure inputs (as opposed to having them brought by either customers or merchants), as well as the extent to which the entrepreneurs must spend time either seeking out or passing the time of day with customers.

5.5. Variability of Employment

It is interesting to examine the extent to which the length of the work week varies over the course of the year. Table 7 provides a measure of this : the coefficient of variation (the ratio of the standard deviation to the mean) derived from quarterly figures. One might have expected a higher measure of variability for hired workers and apprentices than for family members; surprisingly, no such consistent pattern appears in the table. In comparing this measure for the two governorates, for 15 of the 20 pairs of cells where direct comparison is possible, the degree of variability is higher -- often substantially so -- in Fayoum. This is particularly true for family workers, somewhat less so for hired workers and apprentices. The figures suggest that in the slacker labor market of Fayoum, not only do people work (on the average) fewer hours per week in small enterprises than in Kalyubiya, but there is more variation around that average.

Table 8 reports on sources of seasonality in production, as perceived

Table 7: Coefficient of Variation, Hours Worked Per Person Per Week, by Industry, Worker Type, and Governorate--1982

	Family		Hired		Apprentice	
	F	K	F	K	F	K
Mats	.056	.033	.039	.048	.045	----
Hats	.101	----	----	----	----	----
Baskets	.127	.017	----	----	----	----
Dairy						
Embroidery: Household	.055	.188	----	----	----	----
: Modern	.376	.154	----	.105	----	----
Tailors	.047	.035	.078	.029	----	.117
Dressmakers	.111	.076	.242	----	----	.145
Shoemakers	.051	.009	.130	.021	----	----
Furniture	.072	.060	.035	.090	.168	.100
Rugs	na	na	na	.033	.027	.226
Tiles	.071	.034	.075			
Machine Shops	.125	.050	.059	.016	.086	.056
Agricultural Implements	.037	.090	.051	.033	----	----

Note: for this measure, we estimate the mean and standard deviation among the four (quarterly) observations in each cell; the coefficient of variation reported above is the ratio of the standard deviation to the mean. It could be interpreted as follows (using the upper left cell as example): if we had repeated observations concerning hours worked per week over many quarters by family members making mats in Fayoum, 68% of the time the quarterly variability would be at most 5.6% above or below the mean number of hours worked per person per week over the year.

Source: Survey data, Phase II.

Table 8: Sources of Seasonality, As Perceived by Entrepreneurs

	Household Enterprises					Micro Enterprises							
	Ma	Ha	Ba	Da	Em	Ta	Dr	Sh	Fu	Ru	Ti	MS	AI
a. availability of workers	4.1	0.0	1.0	0.0	11.7	4.5	5.3	2.0	6.8	49.9	19.7	15.2	0.0
b. availability of raw materials	10.3	38.0	94.8	57.8	0.0	7.6	7.1	2.0	12.5	0.0	16.7	7.6	11.9
c. demand variations	58.3	0.0	2.6	9.6	55.8	69.4	51.8	55.6	26.7	15.8	40.1	39.7	61.0
d. other	4.1	61.9	1.0	23.0	2.9	12.2	21.3	6.1	14.6	6.7	19.7	6.6	23.2
e. no seasonality	22.9	0.0	0.5	9.4	29.4	6.1	14.3	34.1	39.2	27.3	3.6	30.5	3.7

Source: Survey Data, Phase II

by the entrepreneurs. There are a few cases where the explanation rests on supply considerations (raw materials, for baskets and dairy products; workers, for rug making); more frequently, though, variations in output reflect changing levels of demand for the product.

5.6. Labor Turnover

One of the most common complaints heard concerning the labor force in Egypt is that there is a shortage of laborers, particularly in the skilled occupations. The major cause of this shortage, it is argued, is migration of workers from rural to urban areas and abroad. Though our findings are tentative, they do shed some light on this question. One measure of whether workers do indeed change jobs to a significant degree is the turnover rate. Our measure only includes those sampled firms that hired workers and produced for the entire survey year; it does not take into account those firms that entered or left the market during that year. Thus, the turnover rates reported in table 8 are conservative and approximations only. Though the average turnover rate may seem small, they do become more significant when compared to average firm size. Out of the eleven industries that hired workers, seven had an average annual percent turnover rate (1979 through 1982) equal to or greater than nine percent.

It is also interesting to note that, although some entrepreneurs in virtually all industries expressed a desire to hire more workers, there has been a decline or no change in the average number of workers

in the sample firms.[1/] This trend is more prevalent in the micro enterprises than the household enterprises and is particularly prevalent in tailoring, dressmaking, shoemaking, and furniture. When asked why more workers were not hired, though desired, entrepreneurs in the micro enterprises overwhelmingly pointed to unavailability of workers as the main reason.

Only limited information was collected concerning migration of workers to urban areas or abroad. However, approximately ten percent of the entrepreneurs reported that they had relatives either abroad or returned from abroad.

5.7. Labor Training

Another labor issue centers on the training of workers. It is clear that most workers learned the required skills on the job, working either with their current employer or for a previous one. Official training programs have contributed little to skill formation among this group. On-the-job training is particularly prevalent in furniture, rugs, and tiles, and it is these industry groups that complain the loudest about their most skilled workers leaving immediately after training. What this suggests is that in those industries requiring substantial skills among the workers -- particularly furniture and machine shops, and to a lesser extent, rugs -- effective, on-the-job

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[1/] The decline in workers, on average, for the sample firms should not be used as evidence that the number of enterprises and workers for these industries is declining. It does not take into account exits and new entrants into the market.

training can provide substantial benefits to trainees as well as the nation, although the employer providing the training may benefit but little and may even be hurt by the increased competition. Employers are also required to pay insurance costs for all employees, including trainees. In principle, this applies to small producers as well as to large, although very small producers may find ways of avoiding these charges.

5.8. Labor Payment Arrangements

The most common pay arrangement with workers is on a weekly or monthly basis (see section 8, table 9). Piece-work, though not as prevalent as weekly or monthly payment, appears in all but three of the industries. Some workers are paid daily, but this practice is not extensive. In certain industries, such as tiles, weekly payments are often based on a piece-rate, with a quota of production or a convention of payments.

5.9. Workers' Perspectives on Employment Arrangements

Where possible, employees were asked questions concerning how they first got involved in their current line of work, why they chose to stay where they were rather than looking for work elsewhere, and what they felt were problems they faced in their current employment. One clear result is that the majority of employees in the household enterprises are related to the owner (table 10). This was generally not the case in the micro enterprises, where most workers were introduced to their industries through training or recommendations from friends.

Table 9: Labor Force Characteristics

-- 1982 --

	Household Enterprises					Micro-Enterprises							
	Ma	Ha	Ba	Da[a/]	Em[b/]	Ta	Dr	Sh	Fu	Ru	Ti	MS	AI
1. Turnover rate [(average number hired per firm + average number lost per firm over previous 3 years) ÷ 2]													
firms that hire workers	0.3	----	----	0.1	0.3	0.9	0.4	0.9	0.6	2.8	1.0	0.7	0.3
2. Average annual percent turnover, 1979-1982 c/	7	----	----	11	10	16	9	11	13	7	9	9	4
3. Average number of additional workers wanted	0.4	----	0.1	0.1	1.1	1.1	0.4	0.6	1.0	4.2	7.8	1.9	0.9
4. Average annual net % change in workers d/	-5	----	----	-3	0	-13	-14	-20	-19	-2	-7	-4	0
5. Why not hire more? (% affirmative answers; multiple answers permitted)													
a. wage too high	64.6	0	2.1	2.0	8.8	28.2	19.6	48.2	59.6	22.7	28.1	52.4	11.3
b. not available	33.3	0	5.7	7.6	17.6	59.5	30.2	65.3	60.1	86.2	71.2	44.9	35.1
c. not trained	20.0	0	0	1.8	29.4	25.8	30.2	29.8	66.4	56.3	30.5	71.3	7.5
d. can't afford working capital	10.4	0	0	1.8	11.7	7.6	16.1	6.9	30.3	15.8	3.6	21.8	0
e. low quality workers	20.8	0	1.6	1.8	14.7	30.6	26.9	31.8	56.5	70.3	41.9	37.8	11.3
f. other	8.3	0	0	1.8	0	4.6	3.5	4.3	7.3	13.5	1.8	3.8	0
6. Source of training													
a. on-the-job	52.1	0	0.5	13.2	5.9	32.2	7.0	10.4	40.3	56.7	34.6	36.9	16.4
b. work for other producer	8.2	28.5	1.0	2.0	8.8	15.5	5.3	10.4	24.6	27.3	24.0	9.4	11.9
c. government training program	0	0	0	0	0	1.5	0	0	2.1	9.0	0	2.8	4.7
d. other, not applicable	39.5	71.4	98.4	84.8	85.2	50.6	87.5	79.0	32.9	6.7	41.1	50.6	67.8
7. How often do workers leave immediately after training? e/	1.0	0.0	0.1	0.2	0.9	0.3	0.4	1.3	1.8	1.6	0.5	0.2	
8. Pay arrangement with workers (% of firms using each)													
a. piece-work	10.3	9.5	1.6	0	0	18.4	1.7	2.3	6.2	15.8	16.7	10.4	0
b. daily rate	0	0	0	2.0	0	3.0	3.6	4.0	12.0	13.5	0	11.4	16.4
c. weekly, monthly	56.1	0	0	9.9	14.7	40.0	8.8	18.6	66.0	70.3	71.1	36.0	11.9
d. various	0	4.7	0	5.3	0	1.5	1.7	4.1	0	0	5.4	6.6	3.7
e. not applicable	33.3	85.7	98.4	82.8	85.2	36.8	83.9	70.9	15.6	0	6.5	35.2	67.9

Notes: a/ modern dairy only

b/ modern embroidery only

c/ turnover (line 1) ÷ firm size excluding entrepreneur ÷ 3.

d/ [(average number hired per firm - average number lost per firm over previous 3 years) ÷ firm size excluding entrepreneurs ÷ 3]; firms that hired workers only

e/ average figure, where 2 = often; 1 = sometimes; 0 = never, or no workers

Source: Survey Data, Phase II

Table 10: Labor Force Characteristics: Information from Workers - 1982

	Household Enterprises					Micro Enterprises							
	Ma	Ha	Ba	Da[a/]	Em[a/]	Ta	Dr	Sh	Fu	Ru	Ti	MS	AI
1. % with no workers, or workers not interviewed (excluded from subsequent parts of this table)	27.0	100.0	97.4	81.2	85.2	46.0	85.8	71.1	41.3	6.7	14.9	50.5	67.8
2. How first involved in this line of work (% of those with answers)													
a. same family as owner	64.8	----	40.0	51.2	79.4	9.4	26.5	24.3	8.1	4.6	0	27.5	49.2
b. friends recommended it	4.8	----	40.0	24.4	10.3	26.0	26.5	0	23.1	36.8	18.1	29.3	13.2
c. training	9.4	----	20.0	0	0	8.3	47.1	14.6	37.5	15.2	41.0	39.3	0
d. searched many lines to find work	21.1	----	0	0	0	37.5	0	51.3	20.1	14.8	38.9	3.9	37.7
e. other	0	----	0	0	10.3	18.8	0	9.7	11.1	17.1	2.1	0	0
3. Why not look for or choose other work? (% of those with yes or no answers; multiple answers permitted)													
a. pay is good here	5.5	----	25.0	22.0	6.9	19.8	8.8	12.7	6.1	17.1	51.0	17.6	0
b. working conditions good here	29.1	----	75.0	20.0	13.7	62.8	73.6	28.8	59.9	39.2	66.5	62.7	8.8
c. not qualified for other work	16.4	----	0	0	0	6.6	0	0	29.4	36.9	15.6	15.4	0
d. can't find other job	38.2	----	0	0	79.4	12.8	0	14.1	27.2	36.4	18.0	26.8	8.8
4. Problems, as perceived by workers (% of those with yes or no answers; multiple answers permitted).													
a. low wages	61.1	----	25.0	36.6	0	27.3	57.7	7.0	73.1	49.5	14.3	23.2	33.3
b. long working hours	68.4	----	0	12.2	0	16.0	47.1	0	22.7	34.5	19.0	11.5	24.5
c. bad relationship with owner	5.8	----	0	0	0	0	0	0	4.6	8.0	9.5	0	0
d. bad working conditions	10.6	----	0	0	79.4	3.8	0	7.0	0	0	0	0	13.2
e. transportation	5.8	----	0	0	0	3.8	0	7.0	0	0	2.4	3.9	13.2
f. Other	17.5	----	80.0	19.5	6.9	17.9	13.2	14.1	17.9	24.1	38.0	22.9	0

Note: a/ includes micro and household enterprises

Source: Survey data, Phase II

When employees were asked why they remained working where they were, the most frequently cited response was the good working conditions. Responses by workers in the household enterprises were more mixed. Workers in mats and embroidery answered that they could not find other jobs. When the responses are categorized into two groups, "things are not so bad where they are" or "there are not available alternatives," responses by workers in eight industries emphasized the former, positive factors. Of the three industries where negative aspects predominate, two are from the household enterprise group (mats, embroidery) while the third is the rug industry.

Workers were also asked to state their major concerns with their working conditions. The response that dominates in the micro enterprises is low wages. In the household industries, responses are again more mixed. In mats, a substantial number of workers state that both low wages and long working hours are their major concerns.

5.10. The Entrepreneur

For most household enterprises there is no distinction between owners, entrepreneurs, and workers, since one person fills all three functions. Even for micro enterprises, the owner often supplies a significant share of the total working hours in their firms. This section will discuss many of the more important aspects of entrepreneurs and how they relate to their firms.

The overwhelming majority of household enterprises are run by women (table 11). Even when one excludes household dairy producers, women still are responsible for over 80% of the household enterprises.

Table 11. Sex of Entrepreneur by Type of Industry - 1982
(# of firms) [a/]

Industry	Household Enterprises		Micro Enterprises		Total Firms
	Male Head	Female Head	Male Head	Female Head	
Mats	1,124	49			1,173
Hats	---	1,243			1,243
Baskets	533	3,436			3,969
Dairy: Modern			100	---	100
: Household	4,678	55,292			59,970
Embroidery: Modern			18	12	30
: Household	---	1,016			1,016
Tailors			3,159	---	3,159
Dressmakers			476	5,054	5,530
Shoemakers			781	18	799
Furniture			1,064	---	1,064
Rugs			286	7	293
Tiles			149	3	152
Machine Shops			122	---	122
Agricultural Implements			223	13	236
Total	6,335	61,036	6,378	5,107	78,856
Adjusted Total [b/]	1,657	5,744	5,902	53	13,356

Notes: [a/] These are blown-up data concerning the universe of producers in these industries in Fayoum and Kalyubiya.

[b/] For household industries, household dairy is excluded; and for micro industries, dressmakers are excluded in this adjustment.

Source: Survey data, Phase I and Phase II.

For the micro enterprises, women still account for approximately 45% of the entrepreneurs. However, if one excludes dressmaking, an activity that possesses many of the characteristics of a household activity, men account for over 99% of the owners of the micro-enterprises. Female owners are generally substantially younger and less educated than male owners.

The owners of household enterprises taken as a group -- whether men or women -- generally have very little education (table 12). Among the micro enterprises, with the exception of dressmakers (women) and rugs (men), the average age is higher, as is the level of education. This reflects the generally greater level of skill and sophistication required to run these enterprises.

With respect to the background of the firm and the entrepreneur, it is interesting to note that mats and Fayoumi baskets are often three-generation industries (30% of grandfathers and 34% of grandmothers were also mat and basket-makers, respectively). Agricultural implements, furniture, machine shops, and (to a lesser extent) rugs, shoemakers, and tailors are two-generation industries (a significant number of fathers, but very few grandfathers, were in the same lines of business). The newest industries appear to be hats, embroidery, and dressmaking, followed by rugs and tiles. Particularly for hats, embroidery, and dressmaking, the low age of these firms -- barely a decade, on the average -- suggest a surprisingly recent introduction in these areas.

It is interesting to see where these people came from: the occupational group of fathers and grandfathers, if they were not in

Table 12: Background of Firm and Entrepreneur

-- 1982 --

	Household Enterprises					Micro Enterprises							
	Ma	Ha	Ba	Da[c/]	Em	Ta	Dr	Sh	Fu	Ru	Ti	MS	AI
1. Owner/entrepreneur													
a. age	46.8	32.8	36.7	42.9	30.5	44.0	34.1	49.7	44.7	33.4	46.1	42.7	52.6
b. sex: % male	95.8	0.0	7.8	27.0	20.6	100.0	8.6	97.7	100.0	97.7	98.2	100.0	94.7
c. years education	0.5	1.4	0.3	1.9	1.9	4.1	1.9	3.0	4.4	3.6	7.5	5.2	1.3
2. Occupation of father (% of all respondents)[b/]													
a. same as respondent	48.4	0	2.1 (57.6)	3.9 (11.5)	0	22.3	3.4 (10.2)	29.3	47.7	33.9	7.9	40.1 (3.8)	67.8
b. farmer, laborer	26.9	63.5	84.8	63.5	38.2	21.1	49.2	18.1	6.7	9.0	30.4	14.2	8.2
c. merchant, businessman, government employee	10.1	22.6	7.7	21.0	44.1	24.2	36.9	36.1	29.3	43.2	33.4	34.1	0
d. other	14.3	13.6	5.3	11.6	17.6	32.1	10.2	16.3	16.1	13.5	28.0	11.3	24.0
3. Occupation of grandfather (% of all respondents)[b/]													
a. same as respondent	30.4	0	0 (34.6)	2.0 (5.7)	0	0	5.1 (1.7)	6.3	7.4	0	0	14.2 (3.8)	13.4
b. farmer, laborer	51.4	81.7	96.3	70.9	76.4	40.0	58.1	31.1	16.9	70.4	36.5	36.1	49.1
c. merchant, businessman, government employee	1.8	13.5	1.0	9.5	14.6	35.3	22.9	37.9	55.5	9.0	24.8	43.6	26.9
d. other	16.1	4.5	2.6	17.6	8.8	24.4	13.6	22.5	20.1	20.2	38.4	5.6	10.5
4. Years family in this business	16.5	7.2	25.7	32.8	9.6	21.7	10.9	26.9	23.7	11.3	13.7	24.1	48.5
5. How started (% of all respondents)													
a. saw or heard from neighbors	1.8	31.8	11.5	5.7	52.9	4.9	16.2	2.3	4.7	13.5	12.1	3.8	0
b. long family tradition	45.5	27.6	70.2	63.1	8.8	11.1	8.5	17.1	14.9	13.5	1.8	6.6	38.0
c. merchant suggested it	0	36.3	0.5	0	0	3.1	1.7	2.0	0	9.0	0	3.8	5.3
d. relative/friend suggested it	7.7	0	1.0	1.9	11.7	0	10.6	6.3	4.7	29.5	16.9	0	5.3
e. owner or other family member started as worker or trainee	44.7	4.5	16.7	19.2	23.5	80.7	61.1	72.1	75.6	31.7	62.8	85.6	51.4
f. other	0	0	0	9.8	2.9	0	1.7	0	0	2.3	6.1	0	0
6. Time required to train skilled worker (in years)[d/]	1.4	0.1	----	1.0[a/]	0.1	1.6	3.0	3.5	2.8	0.9	1.2	2.8	2.8

Notes: [a/] modern dairy producers only

[b/] figures in parentheses are for mothers and grandmothers same as respondent. All other mothers and grandmothers are reported as either farmers or housewives.

[c/] includes household and micro enterprises

[d/] Fayoum only

Source: Survey Data, Phase II

the same business. This is particularly striking if one looks at the balance between farmers and laborers, on the one hand, and merchants, businessmen and government employees, on the other. For most household enterprises, fathers and grandfathers came to the industry from work as farmers and laborers. The micro enterprises show a substantially different pattern, with a much higher share of fathers and in some cases (e.g., furniture, shoes, tailors) grandfathers as well coming from higher-paid professional jobs.

The varying importance of on-the-job training for entrepreneurs is revealed in table 12. For the micro enterprises, the vast majority of the entrepreneurs received on-the-job training as an employee of another producer and this training was instrumental in getting them started in the industry. For the household enterprises, on the other hand, on-the-job training was less important as a factor getting them into this activity than was family tradition or word of mouth from relatives, merchants, and neighbors.

The relative importance of training in household and micro enterprises is also reflected in the figures on the average length of time required to train workers in the different industry groups (see table 12, section 6). For micro enterprises, it generally takes over one year to train workers; for household enterprises, on the other hand, either no training is required or the training time is generally less than one year.

5.11. Summary

Focusing first on household enterprises, the average firm size is small, generally involving the work of only one family member, with little or no hired labor. In a number of cases (but not all), that family member is a woman. In Kalyubiya, with the exception of dairy producers, these are generally full-time activities, with those involved working an average of over 40 hours per week throughout the year. In Fayoum this is less true; dairy products and embroidery work in particular involve substantially shorter hours. Most of the working time is spent on production activities, with relatively little time spent on such things as marketing or repairs. Education and skill levels are generally low; whatever skills are needed are generally acquired on the job. The turnover rate is generally lower than in the micro enterprises.

Some of these household activities have been in the family for many years, while others are more recent additions, having been introduced by merchants, friends and relatives, and then spread among neighbors. In families where these activities are introduced, the parents and grandparents were generally farmers or laborers.

If one contrasts these household activities with the micro enterprises, a number of differences stand out. The micro firms are somewhat larger, with family labor being supplemented to a varying extent by hired workers and apprentices. The greater complexity of the production process often means higher technical skills; it also involves additional requirements in terms of management: dealing with hired workers, handling more complex marketing patterns. In most, the average level

of education is clearly higher than for household producers. With only minor exceptions, these are full-time activities for family members as well as hired workers; while the work week is not very long in some of the industries, it would generally be incorrect to think of them as part-time activities.

If the workers in these industries are more skilled, in general they have learned those skills on the job, either with their current or a previous employer. This is also the major doorway into the industry for the entrepreneurs: working for someone else to learn the business, then starting out on their own. Many of the current owners came from professional families, perhaps helping to explain their higher education levels.

Turnover rates in the micro enterprises are somewhat higher than for household firms, although they are still rather low. While there has been a net loss of workers in all industries, owners, particularly in the micro enterprises, have expressed a desire to hire more workers. The predominant reason given for not hiring more workers is their unavailability. Substantial numbers of owners in micro enterprises indicated that workers tend to leave the firm immediately after being trained.

6. Capital

The patterns of capital use are explored in this section. Specific attention is focused on buildings and land, equipment, machines, and tools, as well as inventories. The section concludes with a brief discussion of the sources of this capital.

6.1. Buildings and Land

There is considerable diversity in the types of buildings used by the small producers in our sample (see table 13). Most household enterprises, not surprisingly, operate out of the owner's home; a few of the micro enterprise groups, such as dressmakers, rug producers and those producing agricultural implements, also have substantial numbers of firms operating from the home. The remainder of the micro enterprises, however, operate primarily from separate, rented premises. Government controls and regulations substantially impede the transfer of rented workspace from one occupant to another, making it difficult for producers to expand or to move to more appropriate locations, but providing an implicit subsidy to producers currently operating out of rent-controlled premises. To test the importance of these factors, entrepreneurs were asked whether they considered their workspace adequate. Their responses suggest that, while most do not face problems in this regard, some do wish that they could move to larger quarters. The questionnaire did not ask what impeded them from doing so; the imperfect rental market is presumably an important part of the answer.

Relatively few producers operate in separate workshops which they own. In such instances (see table 13), the building and land costs are very large, often surpassing several-fold the costs of the machinery and equipment in the buildings.

It is not easy to bring these diverse patterns into one common and comparable measure. Because rental and sales prices are distorted and because some data are missing and others seem implausible, it was

Table 13: Buildings and Land -- 1982

(Values in LE)

	Household Enterprises					Micro Enterprises							
	Ma	Ha	Ba	Da[a/]	Em[a/]	Ta	Dr	Sh	Fu	Ru	Ti	MS	AI
1. % of all firms with production taking place:													
a. in the home	94.2	100.0	99.5	88.4	76.6	20.2	94.7	10.1	2.0	65.5	7.9	0	45.4
b. in a separate workplace, which is:													
i. rented	5.8	0	0.5	7.9	23.4	75.4	5.3	82.9	90.6	13.3	60.2	93.1	46.5
ii. owned	0	0	0	3.7	0	4.9	0	7.0	7.4	20.2	32.0	6.9	8.1
2. For producers in separate workplace which is rented:													
a. average rent/month	4.5	---	2.0	5.9	5.6	5.5	7.3	2.7	5.0	20.0	10.9	5.4	
3. For producers in separate workplace which is owned:													
a. original cost of land and buildings	---	---	---	1,900	---	259	---	277	790	2,926	2,127	465	650
b. current cost of land and buildings	---	---	---	11,250	---	4,257	---	1,883	4,488	8,650	11,056	2,686	3,000
4. Is your workspace adequate? (% answering yes)	86.2	100.0	97.4	78.8	97.1	85.4	96.6	83.6	73.6	66.0	87.8	79.0	89.5

Note: a/ includes household and micro enterprises

Source: Survey Data, Phase II

decided not to attempt detailed measurements at this time of the flow cost to producers of their land and buildings. Consequently, discussions of capital in this report are restricted to machinery, equipment, tools, and inventories.

6.2. Machinery, Equipment, and Tools

There is considerable diversity in the amounts of machinery, equipment, and tools used per firm. As expected, the household enterprises use very little fixed capital; indeed, they are defined that way. The higher averages for embroidery and (in Fayoum) dairy reflects the inclusion of the larger, more modern firms in these averages. At the opposite end of the range, tiles and machine shops use substantial amounts of machinery, equipment, and tools, as do individual firms in a number of other industry groups. Within each governorate, there is considerable dispersion around these means; some producers still use very simple technology, while others have invested substantially more. There are, for example, 11 firms in the sample with ŁE 4,000 or more of machinery and equipment (current replacement cost) and an additional 25 with investment of this type of ŁE 2,000 or more. The specific relationships between capital use, other inputs, and production levels will be explored in more detail in later sections.

6.3. Inventories

The information concerning inventories of raw materials, semi-finished products, and finished goods are reported in table 14.[1/] An examination of this table reveals substantial variation in the level of inventories kept by these enterprise groups. The household enterprises as well as those firms in the various clothing groups, for example, tend to keep little or no inventories: customers supply the raw materials, and production is done on order, so no finished products are kept on hand awaiting sale. Yet, in a number of the micro enterprise groups, the investment in inventories is substantial. Firms seeking to transform their marketing patterns may require additional working capital to finance their expanded need for inventories. This issue will be discussed further in subsequent sections.

6.4. Source of Capital

The primary sources of capital for the vast majority of the surveyed enterprises are retained earnings, personal savings, or loans from relatives. Most of these funds appear to be generated in the local areas, although a small amount, perhaps 5 percent of the total, is obtained from overseas family remittances.

[1/] It was not easy to find an Arabic word to convey the concept of inventories, nor was the idea generally obvious to either respondents or enumerators. Confusions as to the meaning of the concept as well as contradictory interpretations of the treatment of raw materials in the shop but brought in by the customer, or semi-finished products for which the customer paid a deposit, mean that the figures should be regarded as indicating orders of magnitude.

Table 14: Machinery and Equipment, Tools, and Inventories -- 1982

(LE per firm)

	Household Enterprises					Micro Enterprises							
	Ma	Ha	Ba	Da [a]	Em [a]	Ta	Dr	Sh	Fu	Ru	Ti	MS	AI
1. Machinery, equipment and tools													
a. original cost													
i. Fayoum	32	2	4	130	59	279	183	11	491	1053	2022	2250	141
ii. Kalyubiya	11	-	3	2	425	217	140	208	346	401	1324	924	818
Average	26	2	4	80	134	246	160	136	433	477	1425	1336	319
b. current replacement cost													
i. Fayoum	55	5	6	166	120	372	297	26	671	1633	2805	4537	194
ii. Kalyubiya	29	-	4	7	518	309	155	334	553	1102	2852	1660	1222
Average	48	5	6	104	202	339	222	221	625	1164	2845	2555	464
c. flow costs (average Fayoum and Kalyubiya) [b]													
i. low	7	1	1	11	21	35	25	24	67	120	297	264	49
ii. medium	10	1	1	15	27	46	32	31	88	155	384	341	63
iii. high	15	2	2	22	40	69	49	48	132	230	568	502	94
2. Inventories													
a. Fayoum													
i. raw materials and semi-finished products	2	0	1	9	0	3	0	4	849	2648	1079	4	26
ii. finished products	4	0	0	5	0	4	4	4	314	480	326	14	15
total	6	0	1	14	0	7	4	8	1213	3128	1405	18	41
b. Kalyubiya													
i. raw materials and semi-finished products	49	-	0	0	82	11	10	198	369	268	313	0	0
ii. finished products	58	-	0	2	35	14	17	153	33	0	575	0	285
total	107	-	0	2	117	25	27	351	402	268	888	0	285
c. flow costs (average, Fayoum and Kalyubiya) [b]													
i. low	3	0	0	1	2	1	1	18	71	48	77	0	8
ii. medium	4	0	0	1	2	2	2	23	89	60	96	1	11
iii. high	5	0	0	1	3	2	2	32	125	84	135	1	15

[a] includes household and micro enterprises

[b] Flow costs are calculated using capital recovery factor, $R = \frac{rv}{1 - (1 + r)^{-n}}$ where v is the value of the asset, r is the discount rate and n is the useful life; the following rate of return and average useful life figures were used at various points; the medium estimate is used in this table.

	Rate of Return (r)	Average Useful Life (n)	
		Machinery and Equipment	Tools
Low estimate	8%	20 years	10 years
Medium estimate	10%	15 years	7 years
High estimate	14%	10 years	4 years

Source: Survey data, Phase II

The paucity of funds obtained from commercial banks or other segments of the formal credit market is striking. As indicated in table 15, virtually none of the enterprises have received loans from any of the major formal credit institutions. Only tile producers have borrowed in any significant numbers. Indeed, table 15 reveals that there are large numbers of small producers who have never even heard of these institutions. Since most of these institutions do not have branches in even the capital city of the governorates, such a finding is perhaps not surprising.

Among the problems of expanding bank lending, the following were reported as particularly serious: a) banks may refuse to lend to people who don't have required licenses and commercial registration (as many small producers do not). b) Enterpreneurs in small firms often have low levels of education and management skills, even if they are quite skilled in production processes. c) Religious people may refuse to borrow from banks charging interest. Others view interest rates as excessively high. Nevertheless, there is substantial interest on the part of many entrepreneurs in increased borrowing, particularly in Fayoum (see table 15). Although specific questions relating to the purpose of the desired loans were not asked, knowledge of the industries suggests that for machine shops, tiles, clothing, and shoe enterprises, the needs are primarily for additional or more modern machines. In the case of mats, baskets, and rugs, a more likely loan purpose would be to gain flexibility in raw material procurement. Finally, when those entrepreneurs who were denied loans were queried

Table 15. Entrepreneur's Responses to Various Credit Questions - 1982

	Household Enterprises					Micro Enterprises							
	Ma	Ha	Ba	Da[a/]	Em[a/]	Ta	Dr	Sh	Fu	Ru	Ti	MS	AI
1. Have you ever heard of the following credit institutions? (% responding yes; % who have received loans from the institution shown in parentheses)													
a. Domestic Commercial Banks	53.9	50.0	3.1	23.0	44.1 (2.9)	51.7	52.6 (1.7)	55.8 (2.0)	58.7 (5.4)	43.1	43.2 (18.3)	70.4 (12.3)	56.7
b. Foreign Commercial Banks	9.1	22.7	0.5	5.8	5.9	21.3	6.8 (1.7)	16.5	9.4	13.5	17.6 (6.1)	17.1	16.4
c. Development Industrial Bank	5.4	0	1.0	7.7	2.9	19.6	8.5	33.9 (2.0)	31.6 (2.7)	2.3	33.4 (12.1)	60.8 (2.8)	8.2
d. National Bank for Development	17.4	18.1	1.0 (1.0)	13.5 (2.0)	5.9	32.5	25.7 (3.4)	30.1 (2.0)	30.6 (2.0)	27.1	29.2 (12.1)	24.7 (3.8)	5.3
e. Principal Bank for Agricultural Credit	33.0	50.0	3.1	19.3	32.3 (2.9)	39.3	33.0	49.2 (2.0)	38.4	33.9	35.2 (12.1)	53.4 (3.8)	40.3
2. Do you wish to borrow? (% of firms saying yes)													
Fayoum	11.7	0	72.0	16.1	0	20.0	0	25.0	4.3	60.0	75.0	90.9	11.1
Kalyubiya	7.1	----	0	13.6	42.8	20.0	26.0	35.4	15.7	15.3	0	11.1	0
Average	10.4	-	66.4	15.1	8.8	20.0	14.1	31.6	8.8	20.5	10.9	35.9	8.2
3. Have you ever tried to borrow and been refused? (% of firms saying yes)													
Fayoum	0	0	0	0	0	0	0	6.2	4.3	20.0	0	18.1	11.1
Kalyubiya	7.1	----	0	4.5	0	11.4	3.3	19.3	21.0	30.7	0	0	0
Average	2.1	0	0	1.8	0	6.0	1.7	14.5	10.9	29.5	0	5.6	8.2
4. If so, why were you refused (% of those firms which answered)													
a. no collateral													
Fayoum	0	0	0	0	0	0	0	0	50.0	50.0	100.0	0	100.0
Kalyubiya	22.2	----	0	22.2	-	15.0	18.8	0	14.3	50.0	11.1	37.5	0
Average	6.5	0	0	8.7	0	7.9	9.9	0	35.8	50.0	24.0	25.8	73.7
b. no guarantor													
Fayoum	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0	50.0	50.0	0	100.0	0
Kalyubiya	66.7	----	40.0	22.2	33.2	45.0	56.3	45.0	42.9	50.0	33.3	50.0	100.0
Average	90.3	100.0	95.3	69.7	86.3	70.9	76.9	28.5	47.2	50.0	28.5	65.6	26.3
c. project found unacceptable													
Fayoum	0	0	0	0	0	0	0	100.0	0	0	0	0	0
Kalyubiya	0	----	0	11.1	0	5.0	0	25.0	14.3	0	11.1	0	0
Average	0	0	0	4.3	0	2.6	0	52.5	5.7	0	9.5	0	0
d. other reasons													
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0
Kalyubiya	11.1	----	60.0	44.4	66.7	35.0	25.0	30.0	28.6	0	44.4	12.5	0
Average	3.2	0	4.7	17.3	13.7	18.5	13.2	19.0	11.4	0	38.0	8.6	0

Note: [a/] includes household and micro enterprises

Source: Survey data, Phase II

as to why they thought this occurred, lack of guarantor was a more prevalent response than was lack of collateral.

6.5. Summary

With regard to the work place, most household enterprises operate out of their homes. For the micro enterprises, on the other hand, there is relatively little home production; most takes place in separate, rented premises. In the controlled and regulated Egyptian rental market, difficulties of finding suitable work places can be a hindrance to expansion, modernization, and movement to more suitable locations. Firms currently operating in rent-controlled premises, on the other hand, benefit from the subsidy implicit in controlled, low-cost work space. For enterprises operating from separate workshops which are owned by the entrepreneurs, building and land costs may exceed the cost of machinery and equipment.

With respect to the machinery and equipment itself, the amount used per firm varies widely from industry to industry, and in some cases, by level of development within an industry. While household enterprises generally use only LE 20-30 of tools and equipment per producer, there are significant numbers of micro enterprises with a hundred times that much capital.

There is a similar diversity with regard to inventories. Some producers use substantial amounts of working capital for raw materials and goods in process. In other industries, marketing arrangements shift the burden of financing these inventories to the customers.

Few small producers in the sample have borrowed from financial institutions. There are significant numbers who expressed a wish to borrow, either for the acquisition of more or better equipment or for working capital. Changing marketing arrangements for both inputs and outputs may require substantial increases in investments in working capital.

7. Marketing and Distribution

The marketing and distribution patterns of the sampled enterprises are examined in this section. The nature of the output market will be treated first, followed by a consideration of the input market.

7.1. Output Market

A key feature of the output market for both household and micro enterprises is that a large part of production takes place in response to orders previously placed by buyers (see table 16). Exceptions arise in relation to dairy products in both governorates, rugs and mats in Kalyubiya, and baskets in Fayoum; for these industries, production takes place without previous orders, but in expectation of subsequent sales. For all other products, in each governorate, the majority of production is done "on demand": when someone wishes a particular commodity, he or she places an order, and production is undertaken to meet that specific order, following terms and conditions agreed upon in advance.

Most of the buyers placing these orders are final consumers: the wearer of a shirt or a dress, the user of a machined part. There

Table 16: Input and Output Marketing Patterns - 1982

	Household Enterprises					Micro Enterprises							
	Ma	Ha	Ba	Da[a/]	Em[a/]	Ta	Dr	Sh	Fu	Ru	Ti	MS	AI
1. % of all sales where production was undertaken in response to orders	58.7	100.0	14.1	12.2	74.2	92.4	78.9	78.7	87.8	30.1	58.9	82.7	82.5
2. Primary source of orders (% of all firms)													
a. one merchant	42.9	59.0	14.6	2.0	0	0	0	0	5.4	68.1	0	0	0
b. several merchants	0	0	5.9	0	0	0	0	2.0	0	0	12.1	7.6	5.3
c. final consumer	36.1	40.9	2.6	44.7	82.3	98.3	89.1	91.0	94.5	31.8	87.8	89.5	94.7
d. others	0	0	0	0	0	1.6	0	0	0	0	0	2.8	0
e. no orders	20.8	0	76.8	53.4	17.6	0	10.8	6.9	0	0	0	0	0
3. Arrangements with buyers (% of all firms)													
a. usually bring raw materials	8.3	100.0	1.6	2.0	29.4	78.8	68.0	2.0	6.0	50.0	0	3.8	46.2
b. sometimes bring raw materials	13.2	0	0	0	35.3	0	12.5	9.2	2.0	0	6.1	5.6	8.2
c. usually make cash down payment	1.8	0	15.3	0	0	3.3	1.7	30.1	72.2	0	14.0	2.8	0
d. sometimes make cash down payment	5.9	0	0	1.9	2.9	11.2	3.4	24.7	17.9	20.3	40.2	22.9	18.7
e. never do either	38.8	0	4.7	23.2	14.7	4.9	3.4	27.0	2.0	29.5	27.4	57.1	26.9
f. no production on order	31.8	0	78.4	72.9	1.6	1.6	10.8	6.9	0	0	12.1	7.6	0
4. Average % of all sales which are on credit	5.4	0	33.6	1.7	3.7	5.7	12.4	7.1	15.5	5.7	6.1	9.0	6.6
5. Sources of inputs (multiple answers permitted; % of all firms reporting use of this channel)													
a. self	0	0	0	63.3	0	3.5	0	0	2.7	2.3	0	6.6	5.3
b. an individual	11.9	4.5	23.6	30.8	11.7	1.7	3.6	11.2	2.7	0	6.1	0	38.0
c. cooperative	16.7	0	0	2.0	2.9	0	5.3	0	27.4	0	0	3.8	5.3
d. government, public public sector	1.8	0	0	7.7	5.9	1.7	0	0	8.3	0	38.4	2.8	0
e. wholesaler	33.0	9.0	6.2	5.8	11.7	28.4	23.4	37.8	72.4	95.4	45.7	69.5	32.7
f. retailer	80.7	95.4	86.0	32.6	85.2	79.0	84.4	85.2	81.8	9.0	42.0	73.2	56.7
6. % of all firms obtaining inputs on credit	13.7	4.5	1.0	7.6	0	0	3.4	6.3	20.4	47.6	6.1	6.6	0

Note: [a/] includes both household and micro-enterprises

Source: Survey data, Phase II

are exceptions to this producer-final consumer relationship. Particularly in some of the household enterprises such as hats, baskets (in Kalyubiya) and mats (in Fayoum), orders are often placed by merchants; merchants also provide most of the orders for rugs, which is in the micro enterprise category. As a general rule though, and especially for the micro enterprises, most production is based on orders placed by the user or final consumer of the product. These buyers, as indicated in table 16, also provide some of the working capital, either supplying the raw materials or making a cash down payment at the time the order is placed. At the other extreme, however, it is perhaps surprising to find some sales from small producers taking place on credit (table 16, line 4). Some basket, furniture and rug producers in Fayoum, for example, sell their output on credit. Such transactions place an added working capital burden on small producers.

This system of production on order has a number of advantages for producers. In addition to the provision of working capital, the system also assures producers of a market for the things that they make, sharply reducing the risk that they may produce something and then be unable to sell it. The fact that buyers must supply working capital gives producers an automatic screening of the trustworthiness of the buyer. If in spite of this the buyer turns out not to be reliable, failing subsequently to pick up or pay for the order, the producer has lost only in terms of time invested. The producers' sales efforts can be restricted to dealing with customers who come to them, rather than needing to go out and seek new business. In villages as well as in towns, the customer-

producer relationship is often personal and social as well as commercial. Such patterns can provide an easy way into economic activities, simplifying the marketing functions that producers need to master.

This marketing pattern also has severe limitations, however, particularly in terms of its growth potential. Selling only to customers where there is face-to-face contact restricts the market to a very local one and limits the potential for innovation, specialization, and expansion. One of the key questions facing all of these producers -- not just the household enterprises -- concerns the potential for transforming their simple, face-to-face marketing systems into one that will enable them to sell to more distant, more specialized, and often more dynamic markets. To do so may require a number of simultaneous and interdependent changes: in product design, and therefore in levels of technology, skills, and machinery; in marketing patterns, dealing more with middlemen rather than only with final consumers; in input procurement patterns and their financing. There will be new risks for them, in dealing with markets with which they are less familiar. To deal with those risks, they will need new channels of information for learning about changing patterns and new opportunities in those more distant markets. This type of transformation is a difficult one, which clearly will not be feasible for all industries nor all producers. Where it does happen, though, it can open up sharply improved opportunities for small producers. One of the goals of policies in this area should be to look for opportunities to facilitate this type of transformation.

7.2. Input Market

Insights into the nature of the input market can be also derived from an examination of table 16. One of the things that stands out is the increased role for wholesalers as one moves from households to micro enterprises. When producers operate on a very small scale, with limited stocks or inventories of inputs, the volume of purchases hardly justifies wholesale purchases. In general, this will mean higher per-unit input prices.

One of the questions asked of the producers concerned the extent to which their inputs are imported. Purchasers may not always know the ultimate source of their purchased inputs, so one cannot take the responses fully at face value; but the only imported inputs reported by the respondents were for the rug industry, where the woolen yarn generally comes from overseas. The low import reliance among small enterprises as a whole is clearly of considerable importance, contrasting sharply with many of the large-scale manufacturing units, which are likely to depend much more heavily on imported raw materials and intermediate inputs.

One may ask whether there are systematic differences between types of input suppliers and the satisfaction which firms felt with them. Cross-tabulations were run to compare the firms that used a particular type of supplier (as reported in table 16, section 5) and their answers to the questions concerning problems experienced with input quantity, quality, or price (reported in table 23, section 2). In general, the problems transcend the differences in the type of

supplier. For example, the tile industry experiences problems of quantity, supply, and price in all channels that are used: government suppliers, wholesalers, and retailers. The results are fairly mixed with respect to differences between wholesalers and retailers; no systematic advantages in quantity, quality, or price seem to be available for those who purchase from one or the other channel. This observation extends to the government and cooperative suppliers as well. With the exception of furniture manufacturers in Fayoum, it appears that use of government or cooperative suppliers does not improve the quality, quantity, or price of inputs. The sole exceptions are the furniture manufacturers in Fayoum, many of whom belong to a cooperative, from which they felt they receive better quality and more consistent supply of inputs than they could have from wholesalers or retailers, although they still complain about the price.

7.3. Summary

In summary, production by the majority of small producers is undertaken in response to an order which they have received. In some cases -- particularly among household enterprises -- the person giving the order is a merchant or middleman. More frequently, and particularly for micro enterprises, the person placing the order is the final consumer of the product. This pattern of production in response to orders simplifies the marketing requirements for small producers and may help with working capital, which is often provided, at least in part, by the customer. But it can confine producers to localized and slow-growing markets, limiting their potential for innovation, specialization, and growth.

8. Costs and Returns

One of the most important aspects of small industry analysis is the assessment of its economic viability. The basic measure of economic viability used in this study is the net return to family labor after deducting raw material input costs, wages of hired workers, and a capital charge. This measure can provide an indication of the efficiency of resource use in alternative production lines. Two alternative approaches are presented and discussed in section 8.1: the average annual returns per firm to all family labor; and the net returns per hour of family labor.

Another important analysis that can be derived from the cost and return data is the relative efficiency between larger and smaller firms. Are factors of production being used effectively by smaller firms, or should the transition to larger firms be encouraged? This question is addressed in a preliminary way in section 8.2.

Value added provides a useful measure of a sector's contribution to the economy. This important measure is discussed in the third part of this section.

8.1. Returns to Family Labor

The average annual returns to family labor are calculated first in table 17. Capital charges are the medium estimates for flow costs, which are based on an assumed opportunity cost of capital at 10%.[1/]

[1/] See sections 6.2 and 6.3 and the note to table 14 for further discussion of the construction of capital charges. Also, see section 3.3 for a discussion of the costing of other inputs and outputs.

Table 17: Annual Average Costs and Returns to Family Labor, 1982
(average costs and values per firm per year, in Egyptian pounds)

	Firms in Sample	Value of Production (£E)	Non-factor Inputs (£E)	Value Added (£E)	Capital Charges[a] (£E)	Wages, Paid Labor (£E)	Returns to Family (£E)
Mats: Fayoum	17	1,354	955	399	6	88	305
Kalyubiya	15	1,836	1,014	822	4	141	677
Hats: Fayoum	22	58	2	56	1	0	55
Baskets: Fayoum	15	113	52	60	2	0	59
Kalyubiya	11	859	524	336	2	3	331
Dairy: Modern: Fayoum	7	9,964	7,714.1	2,250	98	390	1,761
Household: Fayoum	25	318	260	58	5	2	51
: Kalyubiya	25	265	217	48	1	0	47
Embroidery:							
Modern: Fayoum	1	1,162	362	800	145	0	655
: Kalyubiya	4	970	52	918	135	111	672
Household: Fayoum	8	46	25	21	0	0	21
: Kalyubiya	1	246	103	143	21	26	96
Tailors: Fayoum	15	2,539	206	2,333	51	510	1,772
Kalyubiya	34	1,851	263	1,588	44	234	1,311
Dressmakers: Fayoum	13	435	59	375	44	39	292
Kalyubiya	35	478	91	387	21	26	340
Shoemakers: Fayoum	16	1,843	822	1,021	5	35	981
Kalyubiya	29	3,888	1,598	2,290	53	290	1,947
Furniture: Fayoum	19	10,305	5,252	5,054	247	1,056	3,750
Kalyubiya	14	6,297	4,068	2,212	106	832	1,274
Rugs: Fayoum	5	na	na	na	na	na	na
Kalyubiya	16	na	na	na	na	na	na
Tiles: Fayoum	8	13,897	7,068	6,829	369	2,285	4,175
Kalyubiya	14	30,935	15,137	15,797	395	2,971	12,431
Machine Shops: Fayoum	10	2,503	862	1,641	651	375	616
Kalyubiya	16	6,469	2,728	3,741	246	1,030	2,465
Agricultural Implements:							
Fayoum	9	1,447	264	1,183	28	164	988
Kalyubiya	5	7,607	3,838	3,769	164	789	2,816

Note: [a] Machinery, equipment, tools, and inventories. These figures differ from those in table 14 in that data in table 14 area for all firms with information on capital stock; the figures in this table are for a subset of those, i.e., firms with useable information on all receipts and assets.

Source: Phase II survey data.

Wages include only wages paid to non-family members. Since the capital charges are for machinery and equipment, tools, and inventories only, the final column -- returns to family members -- includes returns to building and land used in the production process, as well as to all family labor. In general, the building and land component is small enough to be negligible except in a few industries where the net returns are overstated because the building and land component is substantial.

The last column in table 17 shows the average annual net return per household among these small producers. These figures provide a measure of the value of the enterprise to the family unit. The total income to the family from all sources was not measured in this study. It is clear that the contribution of these enterprises to family income varies considerably, from a marginal supplement of less than LE 100 per year in several of the household enterprises to well over LE 1,000 in a number of the micro enterprises.

The analysis is carried one step further in table 18. The annual family returns are divided by the number of hours worked over the year by family members to give a measure of returns per hour worked. This measure is comparable between industries, since differences in the level of family labor use are taken into account. For comparative purposes, average wage rates paid by these producers are also presented in table 18.

Looking first at returns per hour to family members, the figures can be arranged in ascending order as follows:

Table 18: Net Returns and Wage Rates, 1982 (Egyptian Pounds Per Hour)

	Average Net Return to Family Work Per Hour	Wage Rates Per Hour [a]		
		Paid Family Members	Hired Workers	Apprentices
Mats: F	.07	.04	.09	.04
K	.20	.07	.13	---
Hats: F	.03	.01	---	---
Baskets: F	.04	---	---	---
K	.13	---	.20 [b]	---
Dairy -- Modern: F	1.38	---	.12	---
-- Household: F	.09	---	---	---
K	.07	---	---	---
Embroidery -- Modern: F	.23	.19	---	---
K	.30	.07	.10	---
-- Household: F	.04	---	---	---
K	.10	---	---	---
Tailors: F	.64	---	.23	.12
K	.58	.04	.14	.07
Dressmakers: F	.17	---	.10	---
K	.22	---	.20	.03
Shoemakers: F	.41	.13	.22	---
K	.65	.06	.28	---
Furniture: F	1.30	.31	.36	.12
K	.44	.09	.34	.12
Rugs: F		.16	---	.03
K		---	---	.07
Tiles: F	4.02	---	.34	.11
K	5.15	---	.40	.11
Machine Shops: F	.31	.09	.31	.13
K	.87	.02	.35	.09
Agricultural Implements: F	.38	.19	.26	.05
K	1.12	.25	.28	

Notes: [a] These have all been expressed as per hour equivalents, to make them comparable to the first column in the table, although as reported in section 5 above, most are originally specified either on a weekly or monthly basis, or as piece-work.

[b] Hired labor in two relatively large firms; other data from these two firms showed inconsistencies which made them unuseable in other compilations in this report, but the wage data are thought to be reasonably accurate.

Source: Survey data, Phase II.

Industry	Net Return Per Hour Worked[a] (LE per hour)
hats	.03
household embroidery	.05
household dairy	.08
baskets	.10
mats	.13
dressmaking	.20
modern embroidery	.28
shoemakers	.58
tailors	.61
machine shops	.70
agricultural implements	.71
furniture	.94
modern dairy	1.34[b]
tiles	4.93[b]

[a] These figures are calculated by combining observations in the sample in the two governorates. They are affected by relative profitability but also by the relative sample size in the two areas.

[b] Both of these industries have significant investment in land and buildings; since charges for these are not deducted, the net returns are biased upwards for both. Furthermore, in the tile industry there is a heavy reliance on hired workers; owners are often also involved in other activities, so time spent in tile production is small, leading to very high returns per hour worked.

To interpret these figures, a basis of comparison is needed. One alternative is the return to hired labor in agriculture. During this period, the agricultural wage rate may have averaged about

LE 1.15 per (six-hour) day, or about 0.20 per hour.[1/]

It should also be recognized that the number of people hired in agriculture varies over the year; jobs might not be available on a permanent basis, particularly if the job search is restricted to locations near home. This may yield an advantage in total annual income to the small enterprises, which may provide more steady work although at a lower hourly rate.

It is immediately evident from inspection of the list that the household enterprises are uniformly concentrated at the bottom, with returns which are consistently low, generally well below the wage rate for paid labor in agriculture. These enterprises involve large numbers of family workers, who are often women, with many of them working very long hours.

The household enterprises as a group have an average net return to family labor of 10 piasters an hour, compared with an average net return of 95 piasters per hour of family labor in micro enterprises. This comparison is dramatic but hides the higher variance in returns among the different micro enterprises. These variances are high between industries within the micro enterprise group as well as among firms

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[1/] B. Hansen and S. Radwan, Employment Opportunities and Equity in Egypt, p. 110. The length of day is discussed in Richards and Martin, Change in Rural Real Wage Rates: A Review of Evidence and of Demand-Side Pressures (Agricultural Development Systems Project, ARE Ministry of Agriculture - University of California, Davis, Economics Working Paper No. 9, May 25, 1981, mimeo), p. 5. This study also suggests a daily wage rate of LE 1.5, implying returns per hour of 0.25.

within these industries, reflecting the range in levels of technology and skill as well as products made and markets served by these micro industries. This diversity contrasts with the relative homogeneity of products, technology, markets served, and returns earned among household enterprises.

A comparison of wage rates with returns to family labor in these industries helps to illuminate the relative skill levels between workers and entrepreneurs within and across industries. It may also give an idea of the opportunities open to groups with different skills: mat-makers whose returns are 13 piasters an hour may have the option of working as employees in a tailoring firm for 18 piasters an hour. To make this comparison, the wages from table 18 have been combined across governorates and put in the same ascending order as the previous list. The list is as follows:

Industry	Returns to Family Members (LE per hour)	Wages for Hired Workers (LE per hour)
mats	.13	.11
dressmaking	.20	.14
modern embroidery	.28	.10
shoemakers	.58	.27
tailors	.61	.18
machine shops	.70	.34
agricultural implements	.71	.28
furniture	.94	.36
modern dairy	1.38	.12
tiles	4.93	.38

Industries with no hired workers have been dropped from this list, leaving aside most of the household enterprises. It should be noted that returns to family members reported above are for all firms in the industry, not only those firms with hired workers. With that qualification, the following general comments may be made.

For mats and dressmaking, low wage rates correspond to low incomes to family labor. These are, in general, low-return industries.

A second group of industries is comprised of machine shops, furniture, tiles, and perhaps shoemakers and agricultural implements. For this group, family returns are substantially higher, and wage rates for many workers are also quite high, with all categories averaging above 0.27 per hour. In general, these workers are required either to do very heavy work (tiles) or to have substantial skills.

The third group is made up of industries which, to varying degrees, earn high returns for family members, but pay relatively low wages for hired workers. An extreme example is the modern dairy group; less extreme are tailors and the modern embroidery producers. The explanation for this pattern would seem to be that while owners and entrepreneurs in these industries have substantial production and/or management skills as well as substantial investment in the industries, the hired workers either perform essentially unskilled, menial tasks (as general helpers and laborers) or have skills which are relatively easily learned and which are available in surplus supply.

8.2. Labor Intensity and Capital Productivity

How do micro enterprises compare with their larger scale counterparts with respect to the utilization of Egypt's scarce resources? Unfortunately, strictly comparable data for the larger manufacturing enterprises are not yet available. Nevertheless, some indicative information based on ex ante figures for large investment projects submitted to the Egyptian government for approval in 1976 does permit some initial, crude comparisons to be made of labor intensity and capital productivity by size of enterprise.

These comparisons of labor intensity and capital productivity for several manufacturing sectors are presented in table 20. Several simple measures of factor proportions and factor productivity for our data are calculated in table 19 and used in the preparation of table 20. An examination of table 20 reveals, not surprisingly, that the micro enterprises are substantially more labor-intensive than their larger scale counterparts in all the sectors examined. Indeed, except for the engineering industry, fixed assets per worker in the larger enterprises are more than fifteen times those of the smaller enterprises. Moreover, capital productivity of the micro enterprises does not compare unfavorably with the larger firms. In fact, except for the engineering sector, the output/capital ratios of the smaller firms exceed those of the larger firms. These results, while certainly not conclusive given the data limitations for the larger firms, do tend to indicate that, in several lines of activity, micro enterprises in Egypt may be not only more labor intensive, but also more productive per unit

Table 19: Factor Use and Gross Factor Returns, Fayoum and Kalyubiya Governorates, 1982

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Labor		Capital[a]		Output/ Capital	Output/ Labor	Capital/ Labor	Capital/ Labor
	Value Added (LE)	Total Hours	Number of Workers	Flow Costs	Replacement Costs	(1/4)	(LE) (1/2)	(LE) (4/2)	(LE) (5/3)
Mats: F	399	5,259	2.3	6	29	67	.076	.001	12.6
K	822	4,376	1.6	3	17	274	.188	.001	10.6
Hats: F	56	2,014	1.0	1	5	56	.028	.001	5.0
Baskets: F	60	1,457	0.9	1	6	60	.041	.001	6.7
K	336	2,532	1.1	1	3	336	.133	.001	2.7
Dairy -- Modern: F	2,250	4,435	2.3	91	672	25	.507	.021	292.2
-- Household: F	58	554	0.1	4	24	15	.105	.007	240.0
K	48	686	0.6	1	7	48	.070	.001	116.7
Embroidery -- Modern: F	800	2,808	2	145	1,070	6	.285	.052	535
K	902	3,400	1.4	115	841	8	.265	.034	601
-- Household: F	21	568	0.8	0	1	not def	.037	0	1.3
K	143	1,168	0.8	1	5	143	.122	.001	6.3
Tailors: F	2,333	4,840	2.3	51	408	46	.482	.011	177.4
K	1,588	3,840	1.7	42	308	38	.413	.011	181.1
Dressmakers: F	375	2,048	1.2	44	297	9	.183	.022	247.5
K	387	1,931	1.0	21	152	18	.200	.011	152.0
Shoemakers: F	1,021	2,545	1.2	4	26	255	.401	.002	21.7
K	2,290	3,819	1.5	49	346	47	.600	.013	230.7
Furniture: F	5,054	6,174	2.5	107	772	47	.819	.017	308.8
K	2,212	5,162	2.0	100	702	22	.423	.019	351.0
Rugs: F		45,318							
K		6,750	4	115	857			.017	214.3
Tiles: F	6,829	7,916	4.2	369	2,804	19	.863	.047	667.6
K	15,797	9,043	3.9	386	2,853	41	1.747	.043	731.5
Machine Shops: F	1,641	3,651	3.0	649	4,943	3	.450	.178	1,647.7
K	3,741	5,631	2.2	245	1,807	15	.664	.123	821.4
Agricultural Implements: F	1,183	3,706	1.9	28	195	42	.370	.009	102.
K	3,369	3,960	1.6	164	1,222	23	.950	.044	763.8

Note: [a] Machinery, equipment, and tools only.

Source: Survey data, Phase II

Table 20: Labor Intensity and Capital Productivity by Enterprise Size in Selected Sectors

Egypt - 1982

Sector[a]	Capital/Labor Ratio [LE (1982) of Fixed Assets Per Person]		Output/Capital Ratio[d] [Value Added Per Capital Services Unit]	
	Micro[b] (LE)	Large[c] (LE)	Micro	Large
Food (dairy)	292	5,853	25	20
Textiles (dressmakers)	247	3,783	9	6
Leather (shoes)	231	5,236	47	5
Engineering (machine shops)	1,648	3,852	3	4

Sources: micro: Table 19
large: World Bank, Arab Republic of Egypt: Survey of Small Scale Industry, 1977 (Annex 17).

Notes: [a] The first title given is from the GOFI data (for large enterprises); the second name (in parentheses) is for the corresponding micro enterprise, based on this study. Only GOFI sectors corresponding to micro enterprises covered in this study are reported here.

[b] Figures used are those from table 19 with the lowest labor intensity and capital productivity.

[c] Figures are ex ante data on proposed private sector investment projects of LE 8,000 or more approved by GOFI in 1976. They have been converted to 1982 values for comparison by inflating at an assumed annual rate of 11 percent, the annual rate of increase in capital goods import prices in Egypt from 1976 to 1980.

[d] Figures are expressed in terms of value added per unit of fixed asset capital services. Fixed assets have been multiplied by 0.131 to convert to annual flow costs as was done for the machinery component in table 19.

of capital than their larger scale counterparts. More complete comparisons and more definite conclusions, however, must await better data from larger firms.

8.3. Value Added

Estimates of total value added in these industries in the two governorates can be calculated by combining the data in table 17 with information from the Phase I survey. These estimates, presented in table 21, provide an important additional dimension to our understanding of the role of these industries, as well as their relative importance as sources of income to producers in these areas.

The presentation is made by governorate and by our categorization of industries in table 21. The total value added is fairly evenly distributed between the two governorates, with Fayoum somewhat higher than Kalyubiya.[1/] The data in the last two columns show that, in terms of total value added, micro enterprises are far more important than household enterprises. The significance of the numbers may be highlighted by comparing them with CAPMAS estimates of value added in all private sector manufacturing firms with ten or more workers in these two governorates, in 1970-71 (see table 22).

[1/] This holds on a per capita basis as well since the governorate populations are similar.

Table 21: Total Value Added in Small Enterprises, Selected Industries, By Governorate and Enterprise Categories, 1982

(LE thousands)

Industry	Fayoum	Kalyubiya	Both Governorates Combined	
			Household Enterprises	Micro-Enterprises
Mats	332	280	612	
Hats	10	---	10	
Baskets	221	122	343	
Household dairy products	2,210	1,124	3,334	
Embroidery	20	53	73	
Tailors	3,313	2,331		5,644
Dressmakers	1,003	1,107		2,110
Shoemakers	299	1,159		1,458
Furniture	3,245	933		4,178
Rugs	na	na		na
Tiles	150	2,054		2,204
Machine shops	62	314		376
Agricultural implements	206	234		440
TOTAL	11,071	9,711	4,372	16,410

Source: Phase I and Phase II surveys

Table 22: Value Added for Private Sector Manufacturing in Firms of More than Ten Workers, Fayoum and Kalyubiya -- 1970/71

(LE thousands)

Size of Establishment	Fayoum	Kalyubiya
10-24	165	398
25-49	69	772
50-99	31	308
100-499	122	1,194
500+	---	---
Total, 1970-71	387	2,667
Illustrative, Hypothetical Total, 1982 a/	2,270	15,644

Source: World Bank, Arab Republic of Egypt: Survey of Small Scale Industry (Report No. 1818-EGT, December 2, 1977), Annex 2.

Note: The Kalyubiya figures include Shubra el Khayma, while our figures do not.

a/ These figures are presented for illustrative purposes only. They are calculated assuming an 11.1% inflation rate (the GDP deflator, as reported in World Bank, World Development Report, 1983, p. 148) and a 5% growth rate in real output from 1970-71 to 1982.

The figures in the last line of table 22 represent our illustrative adjustments to the CAPMAS estimates of the value added in all private sector manufacturing in firms with ten or more workers, in order to make their data comparable to ours. When allowance is made for both inflation and real growth during the intervening decade, it is clear that value added from micro and household enterprises comprise a significant share of private sector (and indeed, total) manufacturing value added in these two governorates.

8.4. Summary

The annual average return to family labor varies substantially between industries and governorates. When the returns are calculated on an hourly return basis, household producers earn substantially less than producers in micro enterprises, and also earn less than hired agricultural laborers. In most cases, the wage payments to hired workers in these industries are higher as the returns to family labor increase. There are a few industries, however, where the hired labor need not be skilled, but the entrepreneurs must be, and therefore high family returns coexist with low wage rates for hired workers.

Two other analyses offer additional insights. Using simple measures of labor intensity (capital/labor ratios) and capital productivity (output/capital ratios), small firms are shown to be far more labor intensive and somewhat more productive in using capital than are large firms. In the aggregate, value added from the micro enterprises and household enterprises comprises a significant share of private sector manufacturing value added in the two governorates,

with micro enterprises having almost four times the value added of the household enterprises in the industry groups studied.

9. The Respondents' Perceptions of Problems, Prospects, and Assistance Needs

In this section the respondent's perceptions of their own problems, their judgement about future prospects for their industry, the assistance which they have received to date from government agencies, and their assistance needs, are discussed.

9.1. Problems

The problems considered in this section relate to infrastructure, raw materials and demand. The predominant infrastructure problem as perceived by the entrepreneur is the instability and unreliability of electricity. When the flow of electricity stops, so does all production in a number of these industries, either because of the stoppage of electrically-powered machines (furniture, tiles, machine shops, garments) or due to the lack of light (rugs). All of the industries that report these problems are micro enterprises. The household enterprises, by and large, do not use electricity as an input.

Small producers seem to be plagued with raw material problems. In virtually all industries, the primary complaints center around their price. The next most frequently cited concern is with raw material supply, especially in the household enterprises of hats and baskets. Quality concerns are generally perceived as the least important problem, with some exceptions among the micro enterprises.

Table 23: Perceived Problems of Infrastructure, Raw Materials, and Demand -- 1982
(% of all producers reporting specified problems)

	Household Enterprises					Micro-Enterprises							
	Ma	Ha	Ba	Da[a/]	Em[a/]	Ta	Dr	Sh	Fu	Ru	Ti	MS	AI
1. Infrastructure													
a. electricity availability	0	0	0	1.8	0	3.0	5.3	2.0	0	0.9	3.6	3.8	8.2
b. electricity stability, reliability	8.3	0	0.5	11.2	23.5	81.7	60.6	47.9	39.7	45.4	67.1	67.5	23.2
c. water and sewerage	0	0	0	11.0	0	0	5.3	4.3	2.1	0.9	11.9	7.6	3.7
d. transportation	2.1	0	1.0	0	0	3.0	5.3	8.6	20.9	9.0	8.3	7.6	0
e. other	8.2	4.7	3.6	19.5	8.8	9.0	15.9	8.2	10.9	36.3	13.1	3.8	0
2. Raw materials													
a. regular supply	14.5	95.2	89.5	21.0	17.6	33.5	19.6	31.6	33.4	38.6	43.7	12.2	40.2
b. quality	12.5	4.7	1.0	11.8	0	23.2	23.2	28.3	38.7	29.5	8.3	13.3	40.2
c. price	91.7	0	44.2	31.4	55.8	39.5	40.8	78.5	83.2	47.7	91.6	62.7	60.4
3. Demand													
a. slow overall growth	43.7	38.0	11.0	9.4	70.5	33.6	60.8	42.6	32.9	63.5	25.1	33.2	61.0
b. competition, regional producers	16.6	42.9	25.2	9.2	11.8	30.6	28.5	17.1	38.7	29.5	26.2	34.0	0
c. competition, Cairo producers	4.1	0	0.5	0	2.9	3.0	5.3	8.6	8.3	52.2	8.3	0	0
d. competition, imports	12.4	0	0	0	8.8	12.3	8.9	6.6	0	31.8	6.5	3.8	0
e. market fluctuations	4.1	4.7	54.8	11.8	8.8	15.6	10.6	14.2	35.1	2.3	20.3	42.7	44.6
f. other, demand	6.2	33.3	31.1	16.1	17.6	7.6	14.2	10.2	21.4	6.7	32.8	10.4	8.2

Note: a/ includes household and micro-enterprises

Source: Survey data, Phase II

The responses in the area of demand are also interesting, and quite diverse. The dairy industry stands out as one of the few industries where demand problems overall are perceived to be of minor importance. For many other enterprises, in both the household and micro enterprise categories, problems are perceived to arise from slow growth or high variability of total demand. Excessive competition is also viewed as a problem by some enterprises. With the exception of rugs, however, competition from either Cairo producers or from imports is not seen to be of particular importance; more significant are the pressures of competition from other producers in the region, who generally produce similar products using similar technologies.

9.2. Future Prospects

The respondents' perceptions of future prospects in their industry are presented in table 24. In general, the future prospects are perceived to be better in the micro enterprises than in the household enterprises. One curious result is the lack of clear correspondence between the entrepreneurs' judgement about the future prospects in the industry, and whether they will encourage their children to follow in the same activity. On the one hand are enterprises like hats and Fayoum mats, where the future is clearly judged as bleak, but a substantial number of parents will encourage their children to follow in their footsteps. Presumably this reflects pessimism about the availability of anything better. The opposite arises for furniture and tiles; the future is judged as generally very good, but only a minority will encourage their children to follow the same line. In this case the most likely explanation is

Table 24: Future Prospects As Seen By the Entrepreneurs -- 1982

	Household Enterprises					Micro-Enterprises							
	Ma	Ha	Ba	Da[a/]	Em[a/]	Ta	Dr	Sh	Fu	Ru	Ti	MS	AI
a. Average overall evaluation of future prospects for the industry in that location (good = 2; fair = 1; poor = 0)													
F	0.8	0.6	1.7	0.9	1.0	1.2	0.8	1.1	1.8	1.0	1.8	1.8	0.6
K	0.5	---	0.8	1.7	1.7	1.3	1.6	1.4	1.8	1.0	1.8	1.2	1.5
Average	0.7	0.6	1.6	1.2	1.1	1.2	1.2	1.3	1.8	1.0	1.8	1.4	0.8
b. Encourage children to follow same line? (% saying yes)													
F	47.0	42.8	64.0	45.1	44.4	40.0	15.3	6.2	26.0	0	25.0	81.8	44.4
K	7.1	----	0	54.5	42.8	11.4	33.3	16.1	26.3	30.7	38.4	16.6	28.5
Average	35.4	42.8	59.0	48.8	44.1	24.9	24.8	14.9	26.1	27.1	36.5	36.9	40.2
c. % of firms planning to expand output in coming two years													
F	0	0	0	0	0	13.4	0	0	13.1	40.0	50.0	81.8	0
K	14.3	----	40.0	4.5	0	45.7	33.3	29.0	57.9	30.8	53.9	50.0	42.9
Average	4.2	0	3.1	1.8	0	30.5	17.6	18.4	30.9	31.9	53.3	59.9	11.3

Note: [a/] includes both household and micro-enterprises

Source: Survey data, Phase II

that parents aspire to something even better for their children, reflecting a preference for white-collar, management or bureaucratic jobs.

Among the household enterprises, only the basket-makers in Kalyubiya are planning expansion in the near future, while many micro enterprises, especially in Kalyubiya, are anticipating growth (table 24, section c).

9.3. Assistance

The extent of contact between sample producers and agencies established to provide them with assistance is quite limited (see table 25). In terms of penetration, the Producing Families Organization has done the most effective job of reaching these producers; more than a third of the producers in eight different industries had heard of this organization, and a few in several industries have received assistance from them.

The responses show a substantial difference between household and micro enterprises in terms of the percent of producers who had heard of the different agencies. If this can be interpreted as a proxy for knowledge pertinent to this business, then the micro enterprises are far more informed about their environment.

With respect to the respondents' perception of their assistance needs, there are a wide variety of responses from the different enterprise groups. Nevertheless, there is a tendency for the micro enterprises to contend more frequently that training for workers and finance for machinery are the most important, while the household enterprises more frequently respond that finance for inputs is crucial.

Table 25: Producer's Knowledge of Assistance Agencies and Perceptions of Assistance Needs -- 1982

	Household Enterprises					Micro-Enterprises							
	Ma	Ha	Ba	Da[a/]	Em[a/]	Ta	Dr	Sh	Fu	Ru	Ti	MS	AI
1. Assistance agencies: % of all producers who have heard of particular agencies or organizations (% who have received assistance from that source shown in parentheses).													
a. HIPCO	16.8		2.1	7.8	2.9	25.9	12.1	33.7	43.3 (10.9)	2.7	25.5 (24.4)	46.7	13.4
b. EDCC	5.4		0.5	7.8	2.9	13.2	8.5	14.2	6.0		15.8 (6.1)	22.9	
c. Productivity Center	23.4	9.0	3.1	9.8	5.9	24.4	20.9	33.9	26.1	22.7	23.7 (6.1)	41.9	10.5
d. Producing Families Organization	24.6	50.0	2.6	13.6 (2.0)	20.6 (5.9)	40.3	56.3 (7.0)	59.9 (4.1)	39.0 (2.7)	36.2 (6.7)	31.7 (12.1)	47.7 (7.6)	43.2
e. Cooperatives	5.4	4.5	0.5 (0.5)	3.9	2.9	18.0	10.4	25.5 (6.1)	60.2 (19.6)		29.8 (12.1)	39.1 (7.6)	13.4 (5.3)
2. Type of assistance needed (% of respondents; multiple responses permitted)													
a. Marketing	18.7	38.0	3.6	9.2	11.7	9.1	15.9	8.4	17.3	29.5	10.1	10.4	15.7
b. Finance for machinery	4.1	0	0.5	13.5	17.6	47.3	31.9	39.3	41.3	6.7	58.7	40.9	15.0
c. Finance for workspace	8.3	0	2.1	1.8	5.9	12.1	5.3	18.6	14.1	9.0	21.5	6.6	11.3
d. Finance for inputs	8.2	38.0	64.8	14.5	2.9	9.1	8.8	4.3	31.9	13.5	3.6	6.6	11.3
e. Technical assistance	14.5	0	1.0	9.2	20.6	6.0	10.6	12.5	31.9	36.3	13.7	6.6	15.0
f. Training for workers	29.1	0	4.7	7.4	26.4	37.9	19.4	41.6	49.7	54.5	55.1	42.9	15.0
g. Management assistance	0	0	0.5	1.8	0	1.5	5.3	0	2.1	2.3	13.1	7.6	3.7

Note: a/ includes household and micro-enterprises

Source: Survey data, Phase II

10. Phase II Industries: An Overview

Having looked at a number of different aspects of small producers one at a time, it seems appropriate to seek to synthesize the separate findings. As in previous sections, it is useful to separate the household enterprises from the micro enterprises, since these two groups are quite different in terms of product types, returns, future prospects, and potential policy interventions.

10.1. Household Enterprises

Household enterprises, as mentioned previously, have been defined in terms of two key features: low capital use (below LE 60 per firm for capital stock [excluding land and buildings]), and low level of skills. In our sample, they are represented by mats, hats, baskets, and household producers of dairy and embroidery products. The major findings concerning these household enterprises are as follows.

a) In general, these enterprises operate out of the producers' homes, and rely primarily on family labor. As suggested earlier, these two features have sometimes been used as defining characteristics of this group. To do so would result in a somewhat different list of industries to be included in this heading; while the differences are not major, the approach used here matches better with other characteristics of the industries concerned.

b) In some household enterprise categories, virtually all entrepreneurs and workers are women; in many others, they are virtually all men. While some of these activities are practiced on a part-time

basis, it is surprising to find that most are essentially full-time occupations.

c) Returns to the owners/entrepreneurs are very low. The average return per hour of work by family members ranges from LE 0.03 for hats to LE 0.13 for mats. Returns in these entreprises are uniformly below the agricultural wage rate of LE 0.20 to LE 0.25 per hour and, indeed, rarely exceed LE 0.10 per hour. Because these activities require little capital and minimal skills, there is an ease of entry into the industries and much competition between producers -- sometimes monitored and manipulated by merchants handling raw material supplies -- which keeps returns to producers very low.

d) The goods produced by household enterprises are not complex; primarily because these enterprises use little capital and minimal skills, the products are rather unsophisticated and simple.

e) The combination of low returns to producers, widely available local raw materials, and limited use of capital means that product prices are also low. Unsophisticated products sold at low prices are appropriate to and therefore reach a wide market among low-income consumers. A significant portion of the consumption needs in terms of cash purchases of low-income consumers are met by products of such producers.

f) Conversely, those extensive markets for products made in labor-intensive ways provides employment opportunities -- albeit with low returns -- for large numbers of low income people. While returns

per hour are low, the large numbers of people involved mean that the total contribution to value added can be quite significant, particularly for low-income groups with limited employment alternatives.

The strengths of these household enterprises -- their ability to supply low-cost consumer goods as well as employment opportunities to large numbers of low income persons, particularly women -- have another side, which is more problematic.

a) Although income-earning opportunities may be widespread, returns per hour, as mentioned previously, are very low.

b) The future prospects for virtually all household enterprises are generally viewed as rather poor, as perceived by the entrepreneurs themselves as well as by informed outsiders. The reasons for this view are not hard to find. As the country becomes more developed, per capita incomes rise; knowledge about more sophisticated factory-produced substitutes becomes more widespread, while improved transport and distribution systems make these more sophisticated products more widely available throughout the country. If the producers are to maintain their (quantity) share of the market, prices of products of household enterprises may be pressed down even further, with the result that incomes of producers may be further depressed.

c) Most seriously, the limited capital and skills of household producers provide a weak base from which one might seek to upgrade the quality of their products in order to keep pace with changing patterns of taste.

d) Hopefully, development will also mean an expansion of alternative higher-income-earning opportunities, as well as greater mobility of the labor force; to the extent that this happens, people will no longer be willing to work for the low returns which they can earn in household activities; employment in these will likely decline as people move on to more rewarding alternative lines.

If this line of reasoning is correct, it implies that the natural evolution will be for many of these activities to gradually decline. Efforts to upgrade, modernize or transform such household enterprises may have only limited effectiveness, and efforts to subsidize them may need to be justified in terms of equity rather than economic efficiency goals.[1/]

This overall perspective needs to be qualified in two ways. The first is to recognize that there may be individual product lines able to establish particular "market niches," perhaps based on craft appeal. Secondly, it is important to recognize that this evolution may be a slow process, and any transformation may take decades to complete; in the meantime, very many low income households will be heavily dependent on these activities for their meager incomes, with few or no viable alternatives available. Consequently, it is of crucial importance to keep under constant review the effects on this group of large factories, whose growth may be heavily dependent on subsidized and privileged access to inputs and markets.

1/ For a similar perception, see Dennis Anderson, "Small Industries in Developing Countries: A Discussion of Some Issues," World Development, Volume 10, No. 11 (1982), pp. 913-948.

10.2. Micro Enterprises

Micro enterprises have been defined as firms using more capital and/or more highly skilled workers than household enterprises. In most cases, capital and skills go hand in hand; this group of industries is usually characterized by the presence of both. In fact, the skill dimension itself generally becomes more complex, encompassing a number of diverse features: skills in handling more complex production technologies, ability to supervise a work force of hired labor, to handle larger amounts of money required for the purchase of machinery and equipment, and to manage somewhat more complex marketing systems, procuring more diverse inputs, and selling in different markets. Not all of these apply to each industry, but all micro enterprises share at least some of these features.

The industries of this type covered in this study include dressmaking, tailoring and shoemaking establishments, machine shops, and firms producing rugs, tiles, furniture, and agricultural implements; in addition it includes "modern" embroidery and dairy producers. Most of these clearly meet the defining characteristics of micro enterprises set out above. The most questionable ones are dressmakers (with widely available and not very high skills, but relatively significant amounts of capital invested); shoemakers, and some makers of agricultural implements (with the converse: often only limited amounts of capital, but substantial amounts of rather specialized skills). In addition, it should be recognized that some violence is done to facts when whole industries are characterized together; within each, there is a significant

range, in terms of capital invested as well as types and extent of skills. As an overview, though, this characterization is valid.

The main findings of the study concerning micro enterprises include the following.

a) The vast majority of these enterprises operate in premises separate from their homes. A substantial share of the labor force is made up of hired workers. Fewer women are found in these enterprises; even more of the activities are undertaken on a full-time basis.

b) The returns to the owner/entrepreneur are substantially higher than those found in the household enterprises. The average return per hour of work by family members ranges from LE 0.20 to LE 4.93, with only a few industry groups averaging below LE 0.50. All the micro enterprise groups except dressmakers earn more than the current agricultural wage. One reason for these higher returns may be that skill and/or capital requirements impose some barriers to entry. Competition is still there, in varying degrees; but the barriers tend to prevent an influx of people sufficient to drive incomes down to levels earned in household industries. Even in the borderline case of dressmaking, in spite of the widespread availability of required production skills and limited requirements in terms of marketing abilities, the need for LE 100 or more for a sewing machine has kept returns well above what could be earned in making hats or household embroidery, for example, where skill levels are comparable, but capital requirements are much lower.

c) The products made are somewhat more diverse than those produced by household enterprises. Some items such as the products of village

tailors, dressmakers, and shoemakers, continue to be consumed primarily by lower-income groups; others, such as furniture, tiles and machine shops, are designed for more sophisticated, higher-income consumers. The income elasticity of demand for these products varies from case to case, but on the whole it is generally well above the level for products of household enterprises. Perhaps this is one of the reasons why many of the entrepreneurs in these industries viewed their future prospects with optimism.

d) If the income elasticity characteristics of these industries are more favorable than those of household enterprises, so also are the production conditions, particularly in terms of flexibility and capacity to respond to shifts in tastes and to new marketing opportunities. With somewhat higher levels of education and skills both in production and in management, this group of producers has a greater chance of taking advantage of and benefitting from any growth dynamics which exist in the country, being carried along rather than being swept aside by them.

e) Higher skill levels and greater use of capital mean that micro enterprises are capable of producing more complex and diverse products than household producers; yet for most micro enterprises, the marketing systems remain quite simple, at least in terms of product sales. Most sell directly to a limited range of final consumers, often restricted to those in the immediate neighborhood of the producer. Often this marketing system is further simplified -- but further restricted as well -- by the fact that production takes place only on the basis of orders previously placed by final consumers. One of the challenges

facing micro enterprises involves moving beyond these localized markets, to produce and sell a more diverse and changing set of products, in more dynamic and often more distant markets. Types of changes which are needed to effect such a transformation, as well as policies which may be appropriate in facilitating such changes, are discussed in the next (and final) section of this paper.

II. Policy and Project Implications

A major theme emerging from this study is that small industries in Egypt fall into two distinct categories: household producers, and micro enterprises. These groups differ sharply in terms of income and apparent efficiency of resource use; in terms of future growth potential; and in terms of interventions which may appropriately be addressed to them. In this section, the problems facing producers in these two categories are summarized, and policy and program responses are discussed.

Although many of the constraints and corresponding policy and project interventions coincide with this more general micro/household breakdown, it is important to recognize that some types of interventions will necessarily be industry-specific. Some relevant industry characteristics will be referred to in this section, but further and more detailed examination of industry specific constraints and related interventions will be needed in some cases.

It may also be appropriate to emphasize at the outset of this discussion that the focus of the project has been in specifying problems, needs, and opportunities for growth among small producers; in a sense,

the primary concern has been with determining the nature of the need or "demand" for interventions in this area. While some comments are made concerning alternative approaches and/or institutional channels for meeting those needs, the project's terms of reference did not lead to extensive work on how these interventions might be "supplied." Hopefully the analyses presented will provide a suitable specification of needs and opportunities for those charged with designing specific projects and policies.

11.1. Household Enterprises

Household enterprises provide small amounts of income to large numbers of people, producing low-cost goods which often find large markets in low-income countries. In many cases, though, these are transitional industries, which will decline at least in relative importance and sometimes in absolute size as development and modernization proceed.

There are four types of things which can be done to support household producers in the meantime. The first arises from the fact that low levels of productivity are often reinforced by unfavorable marketing arrangements in terms of input procurement as well as sales patterns for products. In particular, there may be opportunities for freeing producers from domination by raw material suppliers through working capital loans, to permit them either to buy raw materials in bulk (e.g., Kalyubiya baskets) or to buy in season, when raw material prices are low (e.g., mats). This will need to be done carefully, since the producers are not sophisticated and may be

at the mercy of the same merchants in the sale of their products; but there are opportunities for improvements in income levels along these lines.

Secondly, there may be possibilities for technical upgrading among some household enterprises. An example would be expanded use of milk separators in household dairy processing. We have found only few opportunities along these lines, which generally make only a limited contribution to raising income levels.

Thirdly, there are some products made by household enterprises where our prognosis in terms of future demand growth may be unduly pessimistic. In some such cases (e.g., Fayoumi baskets, home embroidery), an emphasis on a craft focus for the products may provide a basis for continuing growth; outside assistance in terms of product and market development might be effective in such cases. Mats may be a similar special case, since the demand for hand-woven prayer mats for homes as well as for mosques seems strong in the foreseeable future, even without outside assistance.

A fourth policy area concerns the growth of large, modern factories which produce products which compete with those of household enterprises. While it would make little sense to try to prevent such a development by forbidding the establishment of large-scale factories, neither should the government accelerate the decline of household enterprises by granting subsidies or special privileges to competing modern firms. Efforts to encourage the establishment of large, heavily subsidized dairy products establishments, for example, could have serious negative effects on household dairy enterprises.

In the last analysis, many people are involved in household activities because they see no viable alternatives. Because they must combine this work with other responsibilities, or because their skills are limited, their ability to change occupations is minimal. An appropriate focus of policy, then, might be to seek to raise their mobility: by training them for other lines of work, by informing them about other jobs which are available and helping them compete for them, or by seeking to bring other, more rewarding jobs into rural areas. The latter might involve other types of work opportunities within the home, perhaps arranged on a subcontracting basis, but in product lines yielding higher returns. Essentially, this means assisting those in household enterprises by helping them to move out to other, more rewarding activities.

In sum, there may be only a limited amount that wise policies can do to aid household enterprises: to avoid subsidizing their demise, to help a limited number introduce improved technology or upgrade their products to take advantage of specialty markets, to improve marketing arrangements particularly in raw material procurement, and finally to help find higher-earning employment opportunities in alternative lines. None of these is likely to change the fundamental flow of history, which is tending to move against these household enterprises; but each is important, particularly on equity grounds, since the individuals involved are generally among the poorest in the country.

11.2. Micro Enterprises

The enterprises in this group have considerably brighter prospects. The challenge will be to help them take advantage of opportunities which are available to them. While micro enterprises are characterized by more advanced production patterns compared to household producers, their marketing arrangements are often quite simple. Most sell directly to final consumers, on a face-to-face basis. Three problems arise with this arrangement. a) Local markets are small, so opportunities for component specialization may be limited. b) Local markets outside of major urban areas are often growing slowly and are subject to increasing penetration by factory goods being brought in from the outside. c) Producers complain that they spend a considerable amount of time negotiating with customers, thereby cutting into the number of hours they can spend on production.

Micro enterprises seeking to move beyond the marketing constraints which now limit their potential for growth face challenges along three lines. First, they need to find out about and establish channels for selling in more dynamic markets. Second, they must be prepared to develop and modify their products, in ways which link a constantly changing set of things which will sell, on the one hand, with the things which they are capable of producing, on the other. Third, more dynamic markets will generally be more competitive, which means that they are also more demanding in terms of cost, quality, and timeliness of delivery. Producers will need to establish more effective controls of the production process, to enable them to meet these more stringent requirements.

Several examples may be offered of ways in which these new marketing systems might be developed.

a) For some of the more modern machine shops and makers of agricultural implements, there are opportunities to develop linkages with larger-scale manufacturing firms by producing parts or components on a subcontracting basis. The Engineering and Industrial Design Development Center's explorations of subcontracting arrangements could be a useful vehicle for such a change, if they can be encouraged to expand their scope to smaller and more distant suppliers. In some cases, a two-stage subcontracting arrangement may be feasible if an intermediate producer in a governorate passes on orders to smaller suppliers in his or her region.

b) Makers of garments -- tailors, dressmakers, shoemakers, embroiderers -- can establish links with larger producers or with retail outlets in Cairo. Some have already established such links. For example, there are modern embroidery producers who sell their products through a shop in the Khan el Khalili, and shoemakers who sell partly-completed shoes to assemblers or finished products to retailers in the city.

c) Rugs are already sold through merchants; these merchants might be encouraged to explore new markets in different countries.

d) Furniture manufacturers in Fayoum have expressed a desire to display some of their products in a showroom which would be jointly owned by several producers. This undertaking would require a new

set of management skills to deal with the retailing function and the cooperative nature of the venture; there would also be a need for increased working capital, in order to finance the products to be held in inventory.

These examples illustrate several different ways in which production and marketing systems might evolve and be transformed. If we approach this question more generally, there are three different ways in which one might hope to bring about this type of transformation. The first would be through a separate agency or institution working specifically for this goal. This might be a government office or private voluntary organization (PVO). Either of these organizational types could undertake responsibility of this type, but each faces two potentially serious problems. The first is that neither is usually very strong in business development know-how; the task may be seen either as a charity activity (for PVO's) or as another bureaucratic task (for government agencies). Neither of these points of view is sufficient for the challenge here. Beyond this, the transformation process may be perceived to be excessively complex, requiring a number of different changes, all of which need to be introduced concurrently; if one needs to do everything at once, the task may be seen as impossible. This has lead some to suggest focusing on situations where several conditions for change are already present, but there are still one or two missing components; by focusing on those missing components, the change may become manageable.[1/] Private voluntary

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[1/] Peter Kilby, "Evaluating Technical Assistance," World Development, 1979, pp. 309-323.

organizations may offer the most hope in bringing about this type of change, particularly if they can develop the required business and marketing management skills.

An alternative approach might be for several producers to join together to undertake some of these functions jointly, perhaps on a cooperative basis, as suggested above for the Fayoum furniture producers. While this approach is appealing in many ways, it has problems as well, because of the inherently competitive nature of the relationship between the firms joining together to cooperate, as well as because the functions themselves may be difficult and unfamiliar to the participants. In general, cooperatives have not been very effective vehicles for this type of change, in Egypt or elsewhere in the world.

A third and potentially fruitful approach may be for producers to enter into business arrangements with more advanced firms -- either producers or merchants -- whereby the latter take responsibility for some of the marketing and product development functions, leaving the entrepreneur in the micro enterprise to focus primarily on production aspects. This could be done through contracting arrangements, through franchising, or any of a variety of different commercial agreements. Several of the examples given above illustrate this approach, which has the further advantages that it may provide opportunities for finance or technical assistance to be channeled from the outside through one modern firm to a number of smaller micro enterprises.

Moving beyond questions of marketing patterns for output, raw materials are another problem area for micro enterprises. Prices are rising, reportedly more rapidly for inputs than for products, so producers find themselves caught in a squeeze. Rising input prices are a problem common to producers using a variety of marketing channels; those who buy from wholesalers, retailers, cooperatives, or directly from government suppliers all complain about this problem. There is little that policy-makers can do in this area other than looking for ways of increasing the level of production in some key domestic industries which supply the inputs used by micro enterprises.

A different type of raw material supply problem arises in the tile industry. Cement, a crucial input, is available to licensed buyers at a substantially subsidized price; quotas are issued on the basis of the firms' production capacity, as measured by their installed machinery. Such an arrangement is inequitable towards smaller producers, and provides an undue incentive to invest. Serious consideration should be given to changing this policy.

There are opportunities for raw material suppliers or merchants to act as "channel captains," helping to link the smaller and more distant producers with urban markets by providing information about tastes, designs, and preferred raw materials. Possibilities may arise along this line particularly for garment producers.

Turning to labor problems, a number of entrepreneurs in the micro enterprises have complained that there are too few skilled workers, and that wage rates are too high. These features may

reflect a labor market where the choice of occupation is often made on the basis of security and prestige as much as income. Workers also have the option of emigrating, which has drained skilled workers from several of these industries. Those with capital and skills may prefer to go into business on their own, rather than choosing to work as hired employees.

Most skilled workers in these industries, as well as most of the entrepreneurs, have learned these skills "on-the-job," working for themselves or as employees for someone else. Government training programs have contributed little to the skilled work force. Although the shortage of skilled workers at going wage rates is a problem for the micro enterprises, it is not a problem that could easily be solved by an expansion of existing training programs in official institutions. What may be needed is a more imaginative attempt to subsidize training costs for skill upgrading, preferably working in on-the-job settings. In some industries, it may be feasible to subsidize part of the wages of trainees, with the work being scheduled around school hours, in order to draw more people into these occupations. Such a program would need to be started on a small scale, so it can be carefully controlled, but it does offer interesting and fruitful possibilities. In addition, efforts might be made to expand the training activities of EIDDC so they can reach down to smaller producers, and particularly to those outside Cairo and Giza.

Policies and programs aimed at the possible capital constraints also need to be considered. Looking at fixed capital first, there

does appear to be a need for additional fixed capital in at least some of the micro enterprise categories. Several specific examples can be mentioned. In the tile industry, electric presses would enable a given work force to produce more tiles; among machine shops, better equipment would permit some producers to enter the market for precision parts; combination machines would enable furniture producers to expand production in the face of skilled labor shortages. There is a danger that a number of producers in a certain location may seek to introduce the same machinery, with the result that they all may end up with substantial excess capacity, if they all plan to sell in the same restricted local market. With that qualification, though, some expansion of fixed capital in these lines is clearly appropriate and desirable.

Working capital is a frequently cited need among micro enterprises. Improved procedures are needed, however, to distinguish the valid requirements for working capital from specious demands which serve only to sustain enterprises with continuing management problems. In several micro enterprise groups, the customers provide a major part of the working capital. If these producers are to link up with more dynamic markets, these marketing arrangements will probably change in ways which will require more working capital for inventories.

There are two additional inputs which cause problems for micro enterprises. The instability of electricity supply has been highlighted as a problem for virtually all industries in this category; improvement in this area deserves urgent attention. Finally, regulation and control

of rental space, while benefitting those currently operating in rent-controlled premises, also makes it more difficult for firms to move to larger or more appropriately located work places. Once again, a change in this policy could bring important benefits by increasing the ability of small producers to respond flexibly to new and changing market opportunities.

Micro enterprises constitute a potentially dynamic sector of the economy. In a country where government ownership in manufacturing is extensive and government controls and regulations are pervasive, the vitality of these private sector producers is impressive. One might say that these producers comprise an intersection of a number of different high-priority target groups: lower-income producers, operating in a decentralized way, with some involvement of women, based on private sector initiatives. With appropriate policy and project support, their future prospects are bright.

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