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## WORKING PAPER

SMALL-SCALE, NON-FARM ENTERPRISES  
IN JAMAICA:  
INITIAL SURVEY RESULTS

By

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and Claremont Kirton

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## Foreward

This paper is one of a series of reports produced by Michigan State University's Off-Farm Employment Project. The project, which is funded by the Office of Rural Development and Development Administration, Development Support Bureau, U.S. Agency for International Development, has the basic purpose of enhancing the ability of AID missions and host country institutions to identify and implement programs and policies that generate off-farm employment and income opportunities benefiting the rural poor. One of the major components of the project is the generation of new knowledge relating to rural non-farm activities. In collaboration with host country institutions and AID missions, detailed field surveys of small-scale enterprises are currently being conducted in Bangladesh, Jamaica, Honduras, and Thailand; the results of these studies will be published in this series. A second component of the project involves the marshalling and dissemination of existing knowledge of rural non-farm activities. A state-of-knowledge paper and special studies relating to off-farm activities will also appear in this series. Previously completed studies in this area currently available through the Off-Farm Employment Project include:

1. Carl Liedholm, "Research on Employment in the Rural Non-Farm Sector in Africa," African Rural Employment Paper No. 5, 1973.
2. Carl Liedholm and Enyinna Chuta, "The Economics of Rural and Urban Small-Scale Industries in Sierra Leone," African Rural Employment Paper No. 14, 1976.
3. Enyinna Chuta, "The Economics of the Gara (Tie-Dye) Cloth Industry in Sierra Leone, February," African Rural Economy Working Paper No. 25, 1978.

4. Adewale Mabawonku, "An Economic Evaluation of Apprenticeship Training in Western Nigerian Small-Scale Industry," African Rural Employment 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 Series, 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 Papers, Paper No. 4, 1979.

Copies of these papers as well as additional information on the Off-Farm Employment Project can be obtained by writing:

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## I. INTRODUCTION

This is the first technical report on the SMALL-SCALE, NON-FARM ESTABLISHMENT SURVEY sponsored by the Small Enterprise Development Corporation (SEDCO) and conducted by the Institute of Social and Economic Research (ISER) of the University of the West Indies, in collaboration with Michigan State University. The execution of this survey is an example of a growing interest in the potential role of small-scale industries in economic development strategies. (See United Nations (1969), Chuta and Liedholm (1975, 1976). Despite this interest, there is very limited information on the extent, structure and characteristic features of the small-scale sector; in addition, very little is known about the economic environment within which it functions. To remedy this paucity of information, an increasing number of countries are now realizing the need for comprehensive surveys of small-scale establishments.

### 1.1. Definition

Non-farm, small-scale enterprises may be defined using different criteria depending on the level of economic growth, population density, policy measures to be taken, and the extent of data deficiency. Within the context of this paper, "non-farm" refers to all enterprises not directly related to agriculture; however, this definition excludes those enterprises involved in transport activities, hotels, higgling and

chain stores whose combined employment exceeds twenty-five workers.<sup>1</sup> Since the small-scale sector is felt to be labor intensive, many analysts choose to define it in terms of the number of people employed in each enterprise. Because employment numbers differ from one type of enterprise to another with varying levels of capital intensity, a more precise approach would be to include the value of finance, capital invested, and/or gross sales, as part of the definition. In the initial stages of the Jamaican small-scale survey, the capital investment was excluded because it was felt that respondents would not disclose their true investment figures. Hence, within our context, a small-scale establishment is defined as one which employs 25 or fewer people.

This preliminary report is structured as follows: we first examine the history of industrial development in Jamaica, with focus on the role of Government vis-a-vis small-scale enterprises; this is followed by a discussion on the research methodology employed in the survey. We then present an examination of data from Phase I of the survey, analyzing certain specific issues. Our analysis deals with the number of establishments; the levels of employment by enterprise groups and location; the structure of the work force; the usage of powered machines; the level of record keeping, and the type of workshop structures. In the final section, findings to date are summarized and some general comments on future analysis are presented.

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<sup>1</sup>In this paper, "non-farm" is implied in any reference to small-scale.

## 1.2. Historical Pattern of Industrial Development in Jamaica

Jamaica has a population of 2.1 million (1978), an area of 4411 square miles, and a population density of 410 persons per square mile. The national income per capita in 1978 was US \$981. About 60% of the population is rural based, and the Jamaican economy relies heavily on primary agricultural production. The major economic sectors are bauxite/alumina, agriculture, tourism, and manufacturing. Jamaica is an import-dependent economy currently purchasing significant quantities of consumer goods, raw materials and machinery from abroad. With increases in world oil prices and a relative decline in prices of primary agricultural commodities, Jamaica, like many non-oil producing countries, is affected by severe balance of payments problems.

There was very little industrial activity in Jamaica prior to the early 1950s. Industrial activity was limited to preliminary processing of primary products (mainly agricultural) for export, and the manufacture of light consumer goods for the local market, especially those for which transportation costs from the metropolitan countries were prohibitive.

The Jamaican Government in the early 1950s began to promote industrial development on a much wider scale. The work of Lewis (1944, 1950) was extremely influential in guiding government decision-making. The basic line of his reasoning was that the Caribbean colonies were labor-surplus economies short of local finance capital and entrepreneurial ability. What was required was for Caribbean economies to attract foreign capital and entrepreneurial talent. Certain incentives had to be offered by the government to foreign private investors. These incentives, including generous tax holidays, were offered to foreign investors under the Pioneer Industries (Encouragement)

Law (1949), the Industrial Incentives Law (1956), and the Export Industries (Encouragement) Law (1956).<sup>1</sup> The government also established the Industrial Development Corporation (1952) which provided, inter alia, cheap factory space and easy access to power, water, and transportation to those firms operating under the industrial incentive laws.

These policies met with limited success. Certain deficiencies included the establishment of a small number of enterprises, low employment effects, low domestic value-added, the introduction of machine-intensive technology and overall loss of potential government tax revenue. The finance capital, technology and raw materials were obtained mainly from overseas sources (where these firms were branches of foreign owned multi-national corporations). The transfer of profits was guaranteed under the incentive laws. Thus, the main benefit which accrued locally was in the form of wages and salaries to a small number of local workers.<sup>2</sup> The deficiencies in the industrial structure and in the pattern of industrial development in Jamaica persist although it can be argued that successive governments have attempted to increase the level of direct state involvement and participation in industrial activity.

Overall, the manufacturing sector has, over the last four years, been adversely affected by numerous factors causing negative growth and stagnation. Because of its continued reliance on imported inputs, and given the severe shortage of foreign exchange, manufacturing output, employment, and real wages have declined significantly. The sector now contributes 16.8% of

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<sup>1</sup>See Chen-Young (1966, 1967) and Jefferson (1972, Chapter 5) for a review of incentive measures in Jamaica.

<sup>2</sup>See Brewster and Thomas (1967) for a detailed analysis of these policies.

Gross Domestic Product (1978) and employs 78,000 persons or 11.1% of the employed labor force (1978).<sup>1</sup>

### 1.3. Government's Activities vis-a-vis Small-Scale Enterprises

An historical assessment of the contribution of small-scale enterprises to Jamaica's industrial development cannot be exhaustive, given the absence of reliable data. The early activities of small businesses in Jamaica were restricted to handicraft, garments, footwear, repairing and servicing, and commodity trading. Small-scale handicraft, repairing and servicing, and trading were dominant in the very early stages; garment and footwear production developed as the government began to take an initial interest in the promotion of small enterprises with the establishment of the Small Business Loan Board (SBLB) in 1956.

In the pre-independence period, government involvement in the provision of assistance to small-scale enterprises took the form of financing through the Small Business Loan Board (SBLB). Initially, the SBLB was empowered to grant loans (maximum J£500 = J\$1,000)<sup>2</sup> to small businesses. Small businesses often faced serious working capital shortages because of the limited size of the loans granted and the fact that most of such loans were utilized for fixed capital purchases. The SBLB provided minimal advice to small-scale enterprises on issues related to financial and other management practices, marketing and use of technology. Even where such assistance was made available, it was limited to SBLB's debtors. Although in operation at that time, the Jamaica Industrial Development Corporation (JIDC) was established to facilitate

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<sup>1</sup>See Economic and Social Survey, Jamaica 1978, National Planning Agency, Kingston, Jamaica, Section 9.1.

<sup>2</sup>In 1978, J\$1 = US\$0.645

economic activities of the larger enterprises and as such, paid little attention to small local firms.

The fact that small-scale firms were being seriously neglected was recognized by the government in the immediate post-independence period.

The 1963 - 1968 Five Year Independence Plan (1963) points out that:

"Insufficient attention has been paid to the problem of assistance to very small enterprises and the need to help and encourage them to improve their techniques and expand their activities."

The government aimed to "provide special and suitable help to small establishments" as part of its policy to correct these deficiencies. Little assistance to small-scale enterprises actually materialized during the Plan period. Most of this came in the form of financing through SBLB, with the loan ceiling to individual small enterprises being increased to J£1,000 = J\$2,000, and J£200,000 = J\$400,000 being allocated for disbursement over the period 1963 - 1968. With the industrial development thrust mainly supportive of larger enterprises, it was not surprising that direct assistance to small establishments was minimal.

It was not until the mid 1970s that government reconsidered the role of small enterprises in the national economy and sought to actively promote their development. Some 14 industrial activities were identified as priority areas suitable for small-scale enterprises; these included furniture, garments, footwear, wooden toys, and food processing. In addition, the government proposed an integrated institution to handle finance, marketing and general developmental problems of small enterprises. Such an institution was to be established by integrating four government agencies. These were the SBLB; the Development Venture Capital Financing Limited (DVCF) established in 1973, as a branch of the Jamaica Development Bank (JDB); the

Small Industries Development Division (SIDD) - a department of JIDC, also established in 1973; and the Small Business Financing Scheme (SBFS), operated by the Bank of Jamaica. These plans for integrating the major state enterprises with responsibility for small business development did not materialize.

Government's involvement in the promotion of small-scale enterprise development during the period 1975 to the present has increased significantly. In 1977, SEDCO began its operations by basically absorbing the activities of SBLB and SIDD. SEDCO is expected, inter alia, to provide financial and technical assistance to very small-scale enterprises. During the same year (1977), Premier Investment Corporation (PIC), a subsidiary of the Bank of Jamaica, was established with objectives similar to SEDCO's but providing financing through commercial banks and concentrating on the larger of the small enterprises. Additional assistance was granted by the government during the period through the building of industrial complexes, especially for small-scale enterprises, and the provision of training facilities for small entrepreneurs.

The government reiterated its commitment to the development of small-scale enterprise in its most recent Development Plan (1978). The Plan identifies SEDCO as the major government institution through which financing, technical and marketing assistance will be provided to small-scale enterprises. A sum of J\$68 million is projected for the development of small industries over the Plan period, and it is also proposed that co-operatives be encouraged as the dominant enterprise for small businesses.<sup>1</sup> The stated

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<sup>1</sup>See National Planning Agency Five Year Development Plan 1978-1982 Main Document, Kingston, Jamaica, 1978, pp. 40-53.

objectives of the government in the Development Plan for the next five years clearly provide for wide ranging assistance to, and promotion of, small-scale enterprises in Jamaica.



## II. RESEARCH METHODOLOGY

### 2.1. Sampling Procedure

The sampling design being used in the study is a two-stage stratified sampling approach. The first stage of stratification was at the parish level while the second was the population size distribution of localities. Every parish was included in the survey since parish capitals exert some spatial socio-economic influence on the surrounding areas and also because national plans and policies should be formulated with existing administrative divisions in mind. It is expected that this approach would increase the use of the research results.

The second stage of stratification was necessary as similar studies in other countries have shown that the economic features of small-scale enterprises vary with population size distribution within a country.<sup>1</sup> The country was stratified into four population size categories (strata) using the 1970 population census, which represents the most recent and comprehensive demographic information. The selection of sampling areas was from over

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<sup>1</sup>See Liedholm and Chuta (1975).

60 rural towns<sup>1</sup> and more than 2,250 enumeration districts.<sup>2</sup> For various reasons, use of the 1970 census data does not affect the reliability of the sample. For one, any relative population size changes would have a cancelling effect so that there is little distortion for the nation as a whole. Secondly, it is safe to assume that in the majority of cases, the relative population size changes were not significant enough to take any locality out of its stratum; for example, 99% of the E.D.'s had population sizes of less than 1,000, with an average of about 500. Finally, it is unlikely that since 1970, the population of any rural locality would have more than doubled; hence one can reasonably argue, that they will remain in the "2,000 or less" size category.

The four population size strata were:

- (i) Below 2,000 (i.e., the Enumeration Districts or E.D.'s)
- (ii) 2,000-20,000 (i.e., the small or rural towns)
- (iii) 20,000-100,000 (i.e., the three major towns - Spanish Town, May Pen and Montego Bay)
- (iv) Above 100,000 (i.e., Kingston)

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<sup>1</sup>By "rural" we mean any locality with less than 20,000 population size. "Rural Towns" refer to those with population sizes of 2,000-20,000; in Phase I of the survey, 29 of these towns were in the sample, and 8 of the remaining were covered as special studies. The rural towns included in the sample were Mandeville, Savanna la-mar, Morant Bay, St. Ann's Bay, Bog Walk, Port Maria, Bull Savanna-Junction Area, Hayes, Chapleton, Bull Bay, Seven Miles, Lucea, Seaforth, Buff Bay, Black River, Point Hill, Albert Town, Race Course, Anchovy, Golden Grove, Lacovia, Cambridge, Bethel Town, Wakefield, Sandy Bay, Lawrence Tavern, Oracabessa, Claremont, Above Rocks, and Gayle.

<sup>2</sup>For the purpose of the 1970 Population Census Survey, Jamaica was divided (by the Department of Statistics) into localities called Enumeration Districts (E.D.'s). In the majority of cases, the boundaries of these E.D.'s are the same as they were in the 1960 Population Census Survey. A random sample of about 90 E.D.'s were covered in Phase I.

Only a fraction of each of the first two strata were randomly chosen for complete enumeration due to the large number of sampling units. Thus, a 4% random sample of the first stratum and 50% of the second stratum were included in the Phase I survey. The sample results were then appropriately expanded to reflect the national figures. Because of their importance due to population and level of economic activity, all places falling in the last two strata would be automatically included in the sample. All 14 parishes in the country (including Kingston) were covered in the survey.

Using the random sampling procedure described, three parish capitals (Santa Cruz, Port Antonio, and Falmouth), two resort towns (Negril and Ocho Rios) and a few major rural towns (Old Harbour, Linstead, and Central Village) did not fall into the sample. These places were included in Phase I as special studies, and although not part of the more detailed analysis, data were also collected from these locations.

The survey in Jamaica is being conducted in three phases. Phase I was addressed to the identification of the number, composition and location of small enterprises (both manufacturing and distribution) throughout Jamaica. The main objective in this Phase, was to prepare a nation-wide sampling frame (statistical list) for Phase II and Phase III. Hence, it dealt mainly with identification and listing of different types of enterprises and their geographical location. However, additional data were collected in the process, including information on the type and number of people employed in the business, the type of workshop structure, the number of powered machines, and whether or not the firm used any record keeping system.

The procedure in Phase I was to conduct a complete enumeration of designed places from each stratum through a street-by-street canvassing of areas, which lasted about four months.<sup>1</sup> There were various difficulties encountered in executing this Phase. First, there were "teething" problems common to the early stages of almost all surveys; second, there were problems of transportation directly related to the fact that the survey was so expansive encompassing many rural areas to which access was difficult. Third, enumerators encountered initial suspicion by the respondents, particularly in some areas.

## 2.2. Phase II and III

Phases II and III concentrate on manufacturing activities. For Phase II, the study utilized a sample of manufacturing enterprises drawn from the Phase I list, giving emphasis to background socio-economic information on the entrepreneur and establishment, along with issues related to the sources and uses of credit. A sample of about 1,000 manufacturing enterprises was randomly selected on a national basis from the Phase I list, giving due proportionality weights to the total number of manufacturing enterprises in each stratum and to the types of enterprise. Data collection for this exercise took about one and one half (1½) months and responses from about 700 firms were obtained. Among the problems encountered in this Phase were the continued suspicion of respondents and the fact that several establishments had ceased operations since the completion of Phase I.

Phase III, the main area of research activity, was aimed at generating flow-type information on manufacturing enterprises for factors of production,

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<sup>1</sup>The Phase I survey was conducted from September 1978 to December 1978.

output, credit and other relevant variables. It has a total of seven (7) stock (inventory type) and flow-type questionnaires. Some of these questionnaires required twice-a-week visits to each respondent while others were done on a weekly, monthly or quarterly basis. To get the total and accurate picture of a business activity such visits will be conducted for one year. The sample respondents for Phase III were picked from Phase II responses. Again, due regard was paid to the total number of manufacturing enterprises between strata and to the number of enterprises of each type within a stratum. The study is currently dealing with about 300 respondents.

Certain problems in this Phase have affected the smooth functioning of the survey; among those easily identifiable is the national economic crisis which forced closures of many small enterprises, and reduced significantly the viability of those still engaged in productive activity.

### III. DESCRIPTIVE PROFILE, PHASE I RESULTS

#### 3.1. Introduction

The data from Phase I are disaggregated on the basis of the nature and type of economic activity conducted by the enterprise (i.e., food, woodwork, metalwork, etc.) and by geographical location (i.e., Kingston, major towns, rural towns and rural enumeration districts). In the survey, nine (9) broad enterprise groups or categories are identified, as follows:

- (1) Food Preparation and Processing (i.e., meat and milk processing, fruit and vegetable canning, bakery, bammy and condiment production, etc.)
- (2) Textiles and Wearing Apparel (i.e., tailoring/dressmaking, shoemaking, leather works, etc.)
- (3) Craft and Related Products (i.e., bag making, coir/sisal/straw works, bamboo and cane works, wood carving, etc.)
- (4) Woodwork (i.e., sawmilling, carpentry and general woodwork, upholstery, etc.)
- (5) Metalwork (i.e., general metalwork, blacksmith, goldsmith, tinsmith, welding, etc.)
- (6) Repair Work (i.e., car repair, bicycle repair, tire repair, other machinery repair, etc.)
- (7) Other Manufacturing (i.e., printery, block/brick/tile making, rubber, paper, plastic and chemical products, jewelry, etc.)
- (8) Distribution (i.e., groceries, retail stores, wholesale, etc.)
- (9) Other Non-Manufacturing Services<sup>1</sup> (i.e., bars, restaurants, dry cleaning, hair dresser/barber, etc.)

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<sup>1</sup>For ease of reference, the nine categories will be referred to as Food, Wearing Apparel, Craft, Woodwork, Metalwork, Repairs, Other Manufacturing, Distribution, and Other Non-Manufacturing respectively.

In certain instances, focus was placed on the first seven categories in order to draw attention to what may be termed "production-oriented" activities. The disaggregation of data by location permitted identification of variations due to location or population densities and hence will inform decision-makers on the necessity to make special provision for these differences. All tables used in the presentation are derived from Phase I data of the survey.

### 3.2. National Distribution of Establishments and Employment

In Table 1, we present the basic national data on the small-scale sector, in terms of the number of establishments and the level of employment. Nationally, there are just under 38,000 establishments employing approximately 79,000 workers with an average of 2.1 workers per establishment. Employment by small-scale enterprises accounted for 11% of total employment in Jamaica in 1978. When the establishments are grouped into two broad categories (i.e., manufacturing and non-manufacturing), the data show that the non-manufacturing category is dominant. Non-manufacturing activity accounts for 63% of all workers and roughly the same percentage of establishments. The average number of workers per establishment in both categories is roughly the same, although the enterprise group variations within manufacturing are great.

An examination of the nine individual enterprise groups indicates that Distribution is the largest, accounting for almost 50% of the establishments (18,677) and roughly 36,500 workers (46% of the total labor force in the small-scale sector). In terms of the number of establishments, Distribution is followed by Wearing Apparel (5,915), Other Non-Manufacturing (5,720) and Craft (3,801). In terms of employment, Other Non-Manufacturing, with a higher per establishment work force, employs around 13,500 workers, about 50% more than the next largest category, Wearing Apparel. Of special interest is

TABLE 1

Jamaica: Distribution of Small Scale Establishments  
and Employment by Enterprise Group - 1978

Enterprise Group	Establishments		Workers		% of Establishments and Workers in Manufacturing		Average Number of Workers Per Establishment
	Number	%	Number	%	Establishments	Workers	
Food	289	0.8	2,001	2.5	2.2	6.8	6.9
Wearing Apparel	5,915	15.7	8,831	11.1	44.3	30.1	1.5
Craft	3,801	10.1	6,826	8.6	28.5	23.0	1.8
Woodwork	1,191	3.2	3,382	4.3	8.9	11.5	2.8
Metalwork	429	1.1	1,668	2.1	3.2	5.7	3.9
Repairs	1,172	3.1	4,763	6.0	8.8	16.2	4.1
Other Manufacturing	546	1.4	1,887	2.4	4.1	6.4	3.5
All Manufacturing	13,341	35.3	29,358	37.0	100.0	100.0	2.2
Distribution	18,677	49.5	36,445	46.0	---	---	2.0
Other Non-Manufacturing Services	5,720	15.1	13,481	17.0	---	---	2.4
All Non-Manufacturing	24,397	64.6	49,926	63.0	---	---	2.1
All Enterprises	37,738	100.0	79,284	100.0	---	---	2.1

SOURCE: Survey Data



Food which, although having the least number of establishments (289), employs 2,000 workers, thus having the highest number of workers per establishment. Statistics indicating the average number of workers per establishment in the different enterprise groups are presented in Table 1. This information facilitates an examination of employment possibilities among small enterprises and may be useful for manpower planning. The Food enterprise group had the highest average number of workers per establishment (6.9) followed by Repairs (4.1) and Metalwork (3.9). At the same time, the lowest average number of workers per establishment are in Wearing Apparel (1.5), and Craft (1.8).

More detailed information on those enterprises which comprise our broad enterprise groups has shown interesting results. The data summarizing these results are presented in Appendix I. We now examine these enterprise groups in greater depth.

3.2.1. Food. Nationally, this group is dominated by bakery and condiments (which includes "other" food processing work) establishments which account for 43% and 34% of the total number of the group's establishments, respectively. They are also the two leading employers of labor, accounting for 48% and 45% of the labor employed. Based on the average number of workers per firm, condiments manufacturing establishments are the largest (9.2) followed by fruit and vegetables (8.2) and then bakeries (7.8).

3.2.2. Wearing Apparel. At the individual enterprise level, the most important in this group are dressmaking, tailoring, shoemaking/repairs and leather work. Dressmaking is the most significant category accounting for 47% of total enterprises and 39% of workers. The second largest enterprise type in the wearing apparel group is tailoring which accounts for 32% of total enterprises and 33% of the workers employed. Shoemaking/repairs

is the third most important category with 18% of total enterprises and a similar percentage of employment. Garment making, although insignificant within the group in terms of the number of enterprises with only 2% of total, employs 9% of the group's work force.

3.2.3. Craft. This group is totally dominated by enterprises producing commodities made from coir, sisal, and straw. This category (abbreviated "coir") accounts for 86% of all craft enterprises and 88% of all employment generated. "Bamboo" (production of commodities using bamboo, wood, and cane) is the other significant category in the craft group; these enterprises account for 14% of total craft producers, and 11% of the employment generated there. Coir and bamboo activities together dominate the area of craft production, accounting for 99.8% of all craft producers and generating 99% of total employment. The other enterprise group identified (bagmaking) is comparatively insignificant, with less than 1% of total craft enterprises and about 1% of employment.

3.2.4. Woodwork. The most important category in this group is woodwork/cabinet making which accounts for 73% of enterprises and 78% of workers employed. Upholstering is the other important area of economic activity with 20% of enterprises and 15% of total employment. Sawmilling and carpentry establishments make insignificant contributions to the sector both in terms of employment and number of enterprises. There are some 40 small sawmilling establishments operating throughout the country.

3.2.5. Metalwork. Welding, metalwork, and blacksmithing enterprises dominate the group, with welding accounting for 48% of total establishments and 44% of total employment. Metalwork, defined as a separate category here, includes metal forging and production of bolts and joints. This category

has 27% of the total enterprises and generates 36% of total employment in the group. Blacksmithing enterprises, the third largest category, represent 20% of the group's total and account for 15% of employment. Welding, metalwork and blacksmithing comprise 95% of all enterprises and generate a similar percentage of all employment in the metalwork group.

3.2.6. Repairs. Car repair activities/garages account for 89% and 92%, respectively, of the establishments and employment in this group. When bicycle and tire repairs are added, the corresponding combined percentages are 92% and 94%. Enterprises engaged in plumbing have corresponding statistics of 6% and 4%. Other machinery repairs account for a small proportion of both total enterprises (3%) and employment (2%) of the group. Car repairs have the highest average number of workers per enterprise (4.2). It is followed by other machinery repairs (3.4).

3.2.7. Other Manufacturing. Compared with other groups, this category shows the least dominance by any type of enterprise. At the aggregate level, charcoal production (which is almost exclusively found in the E.D.'s) accounts for 28% of the enterprises but only 8% of the employment. Other important enterprises are jewelry and watch repairs, photo studios, brick making, pottery, and printing.

In terms of employment in this enterprise group, more than half is generated by firms producing plastics (22%), bricks/tiles (17%), printed materials (14%), and pottery (10%). The per firm average number of workers is highest in plastic production (15.1), followed by printing (5.7), bricks/tiles (4.7), and pottery (3.1).

3.2.8. Distribution. This is an extremely important group, accounting for 49.5% of enterprises and 46% of estimated employment. It is dominated

nationally by grocery stores which account for 85% of the number of establishments in the group. The next largest percentage of the group is other retail stores at 12%. Although the average grocery store employs only 1.7 persons, compared to 5.3 for hardware and 4.1 for flower shops, its numerical dominance results in accounting for approximately three-fourths of the total number of workers in the sector. Its dominance also pulls the average establishment work force down to 2.0.

3.2.9. Other Non-Manufacturing. The bar/restaurant establishment type dominates this group to an even greater extent than grocery stores dominate distribution, accounting for nearly 90% of the total number of establishments and approximately 88% of the number of workers. The hair dresser/barber salon establishment is the only other of significance, accounting for 7% and 6% of the number of establishments and number of workers, respectively.

### 3.3. Locational Variations in Establishments and Employment

The variations which result from a locational breakdown are presented in Tables 2 and 3. The Rural Enumeration Districts (E.D.'s) dominate both in terms of the total number of establishments and employment. In the latter case, this dominance is not as great because the average number of workers per establishment in the rural E.D.'s is the lowest of the four groups (1.7). This compares with 3.4 for Kingston, 3.1 for the major towns and 2.8 for the rural towns.

In Appendices II, III, IV, and V we present data on Kingston, the Major Towns, the Rural Towns, and the Rural E.D.'s, respectively. The Kingston area is of special interest for certain reasons. First, employment in the manufacturing enterprise group as a whole when compared with the

TABLE 2

Jamaica: Distribution of Small Scale Establishments  
and Employment by Location - 1978

Location	Number of Establishments	% of Establishments in each Region	Number of Workers	% of Workers in each Region	Average Number of Workers per Establishment
Kingston	4,244	11.2	14,224	18.0	3.4
Major Towns	2,116	5.6	6,614	8.3	3.1
Rural Towns	3,878	10.3	10,696	13.2	2.8
Rural E.D.s	27,500	72.9	47,750	60.5	1.7
Jamaica	37,738	100.0	79,284	100.0	2.1

SOURCE: Survey Data

TABLE 3

Jamaica: Percentage Distribution of Establishments and Employment  
By Enterprise Group Among Population Size Strata

Population Size Strata  Enterprise Group	P E R C E N T A G E S									
	KINGSTON		MAJOR TOWNS		RURAL TOWNS		E.D.s		JAMAICA	
	Estab- lishments	Em-ploy- ment	Estab- lishments	Em-ploy- ment	Estab- lishments	Em-ploy- ment	Estab- lishments	Em-ploy- ment	Estab- lishments	Em-ploy- ment
Foods	22.5	23.5	9.7	11.4	15.9	18.9	51.9	46.2	0.8	2.5
Wearing Apparel	10.3	22.8	5.0	8.0	9.1	11.7	75.6	57.5	15.7	11.1
Craft	2.6	4.0	3.3	3.0	0.4		93.4	92.3	10.1	8.6
Woodwork	23.9	35.5	8.8	13.1	14.8	15.8	52.5	35.5	3.2	4.3
Metalwork	30.1	37.2	10.3	10.1	12.6	9.2	46.6	43.5	1.1	2.1
Repairs	34.7	39.3	12.9	13.3	22.5	24.9	29.9	22.6	3.1	6.0
Other Manufacturing	22.0	25.9	7.7	11.0	15.4	14.1	54.9	49.0	1.4	2.4
Manufacturing Enterprises	12.9	23.7	5.9	8.8	8.9	12.2	72.3	55.3	35.4	37.0
Distribution	7.9	11.2	4.7	7.0	9.6	12.8	77.8	69.0	49.5	46.0
Other Non-Manu- facturing Services	18.5	23.7	7.8	11.0	15.6	18.0	58.1	47.3	15.2	17.0
Non-Manufacturing Enterprises	10.4	14.6	5.4	8.1	11.0	14.2	73.2	63.1	64.6	63.0
Jamaica/ All Enterprises	11.2	18.0	5.6	8.3	10.3	13.2	72.9	60.5	100.0	100.0

SOURCE: Survey Data

overall small-scale sector, is larger than for any of the other locational groups identified. In Kingston, manufacturing employs nearly half the total labor force (49%) of small-scale enterprises in that location. This compares with 39% in Major Towns, 33.6% in Rural Towns, 34% in Rural E.D.'s. and 37% nationally. These statistics suggest a direct relationship between the relative importance of manufacturing activity and level of urbanization. Second, for manufacturing enterprise groups with the exception of Food and Other Manufacturing, the average employment per establishment is higher in Kingston than for any other location. The average number of workers per manufacturing establishment is 4.0 in Kingston, compared with 3.3 in Major Towns, 3.0 for Rural Towns, 1.7 for Rural E.D.'s and 2.2 nationally.

An examination of the importance of the different enterprise groups within each location shows certain interesting patterns. Distribution decreased in relative importance with increasing urbanization. It accounts for more than half of total employment in rural E.D.'s (52.7%), falls to 43.7% for Rural Towns, 38.5% in Major Towns and finally 28.7% in Kingston. In terms of the number of establishments, the pattern is similar. One possible explanation is that the urban centers tend to be serviced mainly by the larger super markets and other larger specialized marketing outlets. In rural areas, the agricultural population is a major producing component requiring distribution services. In all locations, distribution is the dominant employer of labor, followed in all cases by Other Non-Manufacturing.

It is instructive to examine the relative importance of the different enterprise groups within the broad manufacturing category. In the three urban groups (including rural towns) the three most important enterprise groups in terms of employment are Wearing Apparel, Repairs and Woodwork.

However, for the Rural E.D.'s, Craft ranks first, accounting for nearly 39% of manufacturing employment. The highest corresponding percentage in any of the other three locations is 8% (in Major Towns) falling as low as 1.2% in Rural Towns. The locational variations which characterize the various small enterprise groups are now presented.

3.3.1. Food. Although the pattern varies somewhat, baking and condiments are the two major enterprise types in the four locational divisions. Baking becomes most dominant in the Rural Towns accounting for 78% of the establishments and employing 85% of the workers; in Major Towns, the corresponding figures are 71% and 83%. Bakeries take second place to condiments in Rural E.D.'s, where the latter accounts for one-half of the number of establishments and over 78% of the number of workers. Bakeries employ more workers, on average, in the Major and Rural Towns (9.7 and 9.3 workers) than in Kingston (7.2); one possible explanation of this variation is that the dominant baking establishments in Kingston each employ more than 25 workers, thus falling outside our definition of small-scale enterprises and hence not being included in the survey.

3.3.2. Wearing Apparel. At the individual enterprise level, tailoring, dressmaking and shoemaking are the dominant enterprises in all locations categorized. Taken together, they account for 87%, 91%, 95%, and 100% of the manufacturing enterprises respectively in Kingston, the Major Towns, the Rural Towns and the E.D.'s. The corresponding figures for employment are 67%, 81%, 89%, and 100%. In all locations, tailoring and dressmaking are more important than shoemaking. However, tailoring is more significant in the more urbanized areas. Dressmaking, for example, accounts for more than 50% of the firms in the E.D.'s. This suggests that as one moves to



the more urban locations, there may be more competition from imported and/or larger factory-produced dresses. Most of the larger dressmaking establishments in the urban areas may have been outside of our sample frame. The data show that as one moves to the less urbanized areas, the production of garments greatly diminishes. In addition, it would appear that garment production is more factory-oriented in the urban areas. The average number of workers per firm is above 9.2 in Kingston and 5.6 and 4.4 respectively in the Major Towns and the Rural Towns. Finally, in terms of the evidence available, the importance of shoemaking activity declines from more to less urban areas; at the same time, the pattern which characterizes leather work is not similar to shoemaking.

3.3.3. Craft. This group has an average number of workers per establishment (1.8) which is lower than the national average (2.1); only bag making enterprises (4.7) have an average above the national figure. There is some variation between the average number of workers per craft enterprise in Kingston (2.7) as opposed to all other locations (1.7). Not unexpectedly, the group is predominantly rural based. The data show that 93% of all craft enterprises which account for 92% of those employed in the group are located in Rural E.D.'s. In the case of coir activity, 99% of enterprises are located in Rural E.D.'s; for bamboo enterprises, only 57% are found in Rural E.D.'s, with another 23% located in the Major Towns (mainly in Montego Bay), 15% in Kingston, and the remainder (5%) in Rural Towns.

In urban centers, however, bamboo rather than coir establishments predominate. For example, in Kingston, 78% of craft enterprise are in the bamboo category, accounting for 66% of employment, whereas the corresponding figures for coir are 16% and 22% respectively. The pattern is similar in other major

urban centers and the Rural Towns with bamboo accounting for over 90% of all craft enterprises and related employment in both locations. There is a reversal in the Rural E.D.'s where one finds coir enterprises being very important with respect to both the number of enterprises and employment generated. Coir enterprises account for 91% of all craft enterprises and 95% of related employment in Rural E.D.'s. This pattern may be explained by suggesting that rural coir enterprises produce the basic raw materials needed in the specific production processes, and would not have to obtain supplies from sources outside the E.D.'s. It may also be possible that productive techniques used by coir enterprises do not require the level of technological sophistication which characterize bamboo activity and, as such, coir establishments tend to be more attractive in areas characterized by large supplies of unskilled labor.

3.3.4. Woodwork. The average number of workers per enterprise (3.0) in this group is higher than the national figure. Sawmilling with 4.6 workers per enterprise and woodwork/cabinet making with 3.0 have the highest number of workers per enterprise, while carpentry with 1.3 is the lowest. The majority of establishments (68%) are located in Rural Towns (15%) and E.D.'s (53%). These generate employment for about one-half of the group's total, with enterprises in Rural E.D.'s employing 35%. For woodwork/cabinet making, 57% of all such enterprises are found in Rural E.D.'s, 13% in Rural Towns, and 21% in Kingston. The general national pattern, which suggests a significant rural bias in terms of the location of small enterprises in Jamaica, characterizes small sawmilling and carpentry establishments. For sawmilling, 84% of all enterprises are located in Rural Towns and E.D.'s, while the comparable figure for carpentry is 75%.

3.3.5. Metalwork. The locational distribution of enterprises in this group is not as skewed as the national total for all groups. For the entire group, 30% of all enterprises accounting for 37% of the group's employment, are located in Kingston. At the same time, 47% of all enterprises with a corresponding employment figure of 43%, are found in the Rural E.D.'s.

Some 27% of welding enterprises are located in Kingston, while 62% are in Rural E.D.'s. Specific metalwork enterprises, a part of the wider metalwork enterprise group, reflect somewhat greater urban concentration than welding; some 47% of these enterprises with a similar percentage of employment are to be found in Kingston, while the corresponding figures for Rural E.D.'s are 21% and 32% respectively. It is not unusual to find that blacksmithing is more rural based than enterprises in either category which we have just listed; 58% of all blacksmiths accounting for 40% of the total employed are in Rural E.D.'s, and if Rural Towns are included, the above figures increase to 86% and 56%, respectively. Although an insignificant number of blacksmithing enterprises are located in Kingston, the average number of workers per establishment (6.7) is more than three times that of the Rural E.D.'s (2.0).

3.3.6. Repairs. In the Repairs enterprise group, the dominance of car repair activity declines with increasing urbanization; this may mean that larger garages tend to be more widespread in urban locations. At the same time, not surprisingly, other machinery and bicycle repair enterprises increase in number from rural to urban areas.

3.3.7. Other Manufacturing. In considering the enterprises categorized as Other Manufacturing, we find that except in the Rural E.D.'s (dominated by plastic production, brick making and charcoal production), those enterprises

engaged in printing, jewelry, watch repair, and photographic activity are the most important both in terms of number of establishments and employment generated.

#### 3.4. Size and Composition of Work Force

The discussion of the size of the work force in small-scale establishments will be presented with reference to information on establishments employing 1, 2-5, 6-10, and over 10 workers. Similarly, consideration of the work force composition will be relative to the following categories; proprietor, family worker, trainee, and hired worker.

Table 4 shows that roughly 50% of all establishments are one person operations with another 46% employing between 2 and 5 people. Establishments employing 6 people or more account for only 4% of the total number. There are differences when one compares manufacturing with non-manufacturing activity. A higher percentage of non-manufacturing firms employ between 2 and 5 workers but very few employ 6 and over. In manufacturing, most of the firms are one person operations but when compared with non-manufacturing, there is a higher percentage employing 6 and over (6.2%) than for non-manufacturing (3.1%).

As a result of the dominance of one man businesses, proprietors account for the largest segment (51%) of the small enterprise work force. Hired workers (24%) and family workers (20%) comprise the other significant categories. Nationally, trainees contribute under 5% of the work force perhaps indicating a failure of the apprenticeship system to gain support among small entrepreneurs. Generally speaking, the data show some differences between manufacturing and non-manufacturing activity, with more hired workers and trainees in small manufacturing enterprises. At the same time proprietors

TABLE 4

Jamaica: Percentage of Firms by Size and  
Composition of Work Force - 1978

Enterprise	Percentage of Establishments by Size of Work Force				Percentage of Work Force by Type				
	1	2-5	6-10	10+	Proprietor	Family Workers	Trainees	Hired Workers	
Food	23.8	35.2	11.0	30.0	16.5	5.1	1.1	77.3	
Wearing Apparel	80.1	17.7	1.4	0.8	69.2	3.8	9.6	17.4	
Craft	61.2	37.2	1.5	0.1	58.4	35.9	0.2	5.4	
Woodwork	45.8	42.0	9.2	3.0	37.9	6.8	20.8	37.4	
Metallwork	24.4	58.6	13.6	3.5	29.4	4.9	21.8	43.9	
Repairs	23.3	55.3	1.1	5.3	28.1	7.8	23.7	40.4	
Other Manufacturing	50.0	40.4	6.3	3.3	34.5	9.3	3.1	53.1	
Manufacturing	62.4	31.4	4.2	2.0	45.3	12.1	10.1	32.5	
Distribution	45.4	51.6	2.4	0.7	57.3	27.0	0.4	15.2	
Other Non-Manufacturing Services	32.9	63.7	2.2	1.3	46.9	21.2	1.8	30.2	
Non-Manufacturing	42.5	54.4	2.3	0.8	54.5	25.5	0.8	19.3	
All Enterprises	49.5	46.2	3.0	1.2	51.0	20.3	4.3	24.3	

SOURCE: Survey Data

and family workers account for a larger percentage of the work force in non-manufacturing activity. Each of the manufacturing enterprise groups is examined in greater detail.

3.4.1. Food. We begin with an examination of the food group dominated by the bakery and condiment (including other food processing work) enterprise types. However, the size and composition of the respective work forces differ considerably. Some 48% of the small bakeries employ between 2 and 5 workers -- the same percentage as employed in those with over six (6) workers. The latter category is split 23% for establishments with 6-10 workers and 25% for those with over 10. In contrast, establishments making condiments are either one man operations (30% of total number) or ones employing 10 workers and over (56% of total). For bakeries, hired workers comprise 73% of the labor force, proprietors 10%, and family workers 9%. In the case of condiments, hired workers dominate, accounting for 87% of workers with proprietors accounting for 12%. There are few family workers or trainees employed in the manufacture of condiments.

3.4.2. Wearing Apparel. The most dominant feature of this group is the one-man business operation. The percentage increases markedly with increasing ruralization. For example, in tailoring the percentage for one-man operations is 37.4% in Kingston and 87.0% in the Rural E.D.'s. In dressmaking and shoemaking, the corresponding figures are 56.4% and 53.1% in Kingston, increasing to 88.4% and 96.7% in the E.D.'s, respectively. Except for garment and leather work, relatively less important in each of the locations, less than 4% of the enterprises employ more than 10 people.

With respect to work force type, the national picture is also reflected at the individual enterprise level. Proprietors and hired workers in most cases account for more than 75% of the work force. Increasing levels of

urbanization are associated with higher percentages for hired workers, but lower percentages for proprietors and to some extent trainees of apprentices. The category of family workers is relatively insignificant in the labor force of this group. The relative percentage ranking of all four types of work force is the same in all the enterprises -- namely, proprietors are the highest followed by hired workers, trainees and family workers in that order.

3.4.3. Craft. For the group as a whole, 60% of the enterprises employ one worker, while an additional 37% employ 2-5 workers. The dominant categories -- coir and bamboo enterprises -- show similar features nationally and across the different locations. Craft enterprises have the lowest number of trainees (0.4%) and hired workers (5.4%). Proprietors and family workers account for 94.3% of all workers in the group, with the proportions becoming even larger in rural locations. In bamboo enterprises, proprietors represent 75% of the work force, with the proportion becoming even larger in rural locations.

3.4.4. Woodwork. About 46% of all small woodwork enterprises are one-man operations. This is particularly true in carpentry with 86% of these establishments being one-man businesses. Another 42% of small-scale woodwork enterprises employ 2-5 workers, leaving only 12% employing more than 5 workers. Of the 36 enterprises, employing 10+ workers, 34 are in the woodwork/cabinet making category. Proprietors, accounting for 38% of the work force, and hired workers (37%), make up the majority of workers employed. Proprietors are more significant in carpentry and upholstery with 64% in carpentry and 52% in upholstery. Trainees account for approximately one-quarter of the workers in the group. Upholstery, however, has about 64% of its work force in the trainee category.

3.4.5. Metalwork. For the metalwork group, roughly 25% of all enterprises are one-man operations, while 59% employ between 2 and 5 workers. One-man operations are dominant in goldsmithing (80% of firms), tinsmithing (56%) and blacksmithing (42%), while the number of firms employing 2-5 workers account for 66% of all firms in metalwork (a separate category), 46% in blacksmithing, 61% in welding and 44% in tinsmithing. About one-fifth of all welding firms employ 6-10 workers, with locksmithing 11% and blacksmithing 9% being less significant.

Hired workers, trainees and proprietors represent 96% of those employed in the metalwork enterprise group; hired workers represent 44% of the group's work force, with proprietors 30%, and trainees 22%. Hired workers are the largest group in all but two categories, blacksmithing and tinsmithing. In the welding category, hired workers represent the largest category with 36%, trainees 33%, and proprietors 29% of the work force. The comparable figure for metalwork are 59%, 12%, and 26% respectively, and for blacksmithing, 29%, 17%, and 37%.

3.4.6. Repairs. An examination of the repairs enterprise group which has the lowest percentage of one-man operations (23%) shows a direct association with the level of urbanization and firm size. This is much more evident on examining the relationship between the E.D.'s and the three other strata which, as a group, indicate a high level of similarity. With respect to type of labor force, the relative magnitude of trainees and proprietors generally increases with decreasing levels of urbanization. The case for hired workers is the reverse, while that for family workers is not so definitive.

This sector has, in aggregate, the highest percentage (23.4%) of trainees. Not surprisingly, a large number of these trainees or apprentices are found



in car repairs (24%), musical instrument repair (24%), other machinery repair (21%), and bicycle repair (16%). The smallest numbers are found in plumbing (4%) and tire repair (2%). Locationally, not all enterprise types have apprentices; however, for car repair, increasing urbanization tends to be associated with decreasing percentages of apprentices.

3.4.7. Other Manufacturing. The final enterprise group discussed is the broad category, "Other Manufacturing." Only establishments in printing and production of plastics and tiles have (along with firms in the "other" category) more than 40% employing 6 or more workers. Charcoal production is entirely a one person operation. The majority of the remaining enterprises employ 2-5 persons. The locational pattern is consistent with what was stated earlier for small-scale enterprises operating in Jamaica. This group (52%) is second only to Foods (77%) with respect to the percentage of the labor force accounted for by hired labor. None of these enterprises show a significant percentage of apprentices.

### 3.5. Level of Mechanization

An in-depth analysis of this issue will use the information collected in Phase III. A rough indication of the level of mechanization in small-scale establishments, the use of powered and non-powered machines will be examined. The relevant data are presented in Table 5 and Appendix I. The first striking fact is that in all but one instance, at least two-thirds of machines utilized in the different enterprise groups were powered. This exception is in Wearing Apparel where over 60% of the machines are non-powered, nearly twice the percentage of Craft, which ranks second in terms of use of non-powered machines. This high percentage of non-powered machines in Wearing Apparel is most likely due to the large number of one-person tailoring and dress making establishments

TABLE 5

Jamaica: Firms by Use of Machinery, by  
Enterprise Group - 1978

Enterprise Group	Type of Machines (%)		% of Enterprises having at least one powered machine	Average number of powered machines per enterprise	Average number of workers per powered machine
	Powered	Non-Powered			
Food	89.3	10.7	48.6	1.7	3.9
Wearing Apparel	37.0	63.0	25.0	0.5	3.3
Craft	66.1	33.9	1.4	0.03	59.3
Woodwork	78.7	21.3	45.8	1.7	1.7
Metalwork	77.1	22.9	94.3	1.8	2.3
Repairs	81.2	18.8	43.2	1.0	3.7
Other Manufacturing	93.6	6.4	42.3	1.8	1.9
Distribution	92.0	8.0	23.5	0.4	4.4
Other Non-Manufacturing Services	97.0	3.0	38.3	0.68	3.4
National Average	75.5	24.5	26.2	0.54	3.9

SOURCE: Survey Data

using a single non-powered machine. It was indicated earlier that Wearing Apparel and Craft also top the list in terms of the percentage of one-person establishments. In other enterprise groups, at least 75% of machines are powered, with Other Manufacturing leading at 97%. Nationally 75.5% are powered and 24.5% are non-powered machines. A more detailed assessment of kinds of machines used follows.

3.5.1. Food. In this category, roughly 79% of the enterprises have at least one powered machine; the percentage for bakeries and condiment makers being 86% and 32%, respectively. In baking, nearly all machines (97%) are powered, while 77% in condiment making are powered. By far, the "most mechanized" enterprise type in this group is ice cream making, with all machines being powered, and a ratio of 1.2 workers per powered machine. This compares with 3.1 for baking and 4.8 for condiment making. The pattern remains the same throughout all locations, with at least 93% of all machines in bakeries being powered. All bakeries in the rural areas have only powered machines.

3.5.2. Wearing Apparel. The national figures in the Wearing Apparel group, at the individual enterprise level, show a very distinct departure from the established pattern with close to 70% of the machines in tailoring and dressmaking being non-powered, while the corresponding figures for garments and leather work are less than 30%. The data for the latter categories are consistent with our earlier assertion that garment production and leather work tend to be organized along factory type lines. In shoemaking, there are slightly more powered than non-powered machines. While they seem to be well distributed in the other enterprises, the small number of powered machines in shoemaking is generally accounted for by a few

factory type firms; furthermore, shoemaking has the highest number of workers per powered machine while for garment production it is the lowest. Locationally, with increasing urbanization, the proportion of powered machines increases correspondingly, while average number of workers per machine falls.

3.5.3. Craft. The Craft group presents an interesting picture in terms of its use of machines. The enterprises are basically labor-intensive and rarely use any form of machinery. Only 1.4% of all craft enterprises have at least one powered machine. For the entire group, the average workers per powered machine (59.3) is many times the national figure (3.9). Coir enterprises have an extremely high average of 288 workers per powered machine while bagmaking averaged a low of 2.4. The general tendency is for increasing labor intensity in the rural locations.

3.5.4. Woodwork. In the case of these enterprises, powered machines (79% of all machines) are the dominant type used. Some 90% of all machines used in sawmilling are powered, while the comparable statistics for woodwork/cabinet making and carpentry are 80% and 75% respectively. Nearly half of all woodwork enterprises have at least one powered machine, with sawmilling being most significant as 93% of all sawmilling enterprises have at least one powered machine. Apart from woodwork/cabinet making, which have 1.5 workers for every powered machine, the other categories have about 3 workers per powered machine.

3.5.5. Metalwork. In the Metalwork group there is widespread use of machine-intensive technology. About three-quarters of all machines used are powered, with approximately 94% of all enterprises in the sector having at least one powered machine. Among the dominant enterprises,

welding has 1.6 workers per powered machine, blacksmithing 2.4, and metal-work 2.2. There are no significant locational variations with respect to the level of mechanization.

3.5.6. Repairs. The enterprises categorized in "Repairs," except for plumbing, have as usual more powered than non-powered machines. However, bicycle repair has no machinery at all. Again, except for plumbing, between 30% and 45% of the enterprises have at least one powered machine. The average number of powered machines per enterprise is less than one in all except "car repair" which has only 1.1. Thus, a large number of the firms do not have even one powered machine. Except for car repair, this is corroborated by the average number of workers per firm being less than the average number of workers per powered machine. Nationally, numbers and percentage of powered machines are associated with increasing urbanization.

3.5.7. Other Manufacturing. In this broad enterprise group, except for charcoal production with none and jewelry with 64%, all the enterprises have close to 100% powered machines. However, more than 95% of enterprises in pottery and 70% in jewelry/watch repair have no powered machines at all. Except in printing and plastic products, the number of powered machines per enterprise reveals a low number of workers per enterprise.

### 3.6. Extent of Record Keeping

The data in Table 6 and Appendix I show the extent of record keeping among small enterprises. A working definition of "record keeping" used in the survey refers to information easily used periodically by the proprietor to undertake simple profit/loss analyses for the business. In

TABLE 6

Jamaica: Percentage of Small Scale Establishments Keeping Records,  
by Location and Enterprise Group - 1978

Enterprise Group	L O C A T I O N S				
	Kingston	Major Towns	Rural Towns	Rural E.D.s	Jamaica
Food	57.9	67.9	65.2	33.4	47.1
Wearing Apparel	16.3	10.5	7.1	2.8	5.0
Craft	8.0	12.8	15.4	0	1.0
Woodwork	27.7	25.7	23.9	16.0	20.8
Metalwork	37.3	20.5	12.0	0	14.7
Repairs	32.2	23.2	26.5	0	22.3
Other Manufacturing	47.5	42.4	47.6	8.4	26.0
Distribution	31.5	31.5	28.7	15.5	18.1
Other Non-Manufacturing	32.8	39.0	36.2	20.3	26.0
Location Average	30.1	28.6	27.6	11.3	16.1

SOURCE: Survey Data

general, the level of record keeping decreases with increasing rurality, the percentage of establishments not keeping records increases from just under 70% in Kingston to around 90% in the Rural E.D.'s. The national average is 84%. If the keeping of records as well as the number of workers per firm (as we noted earlier) is an indication of the level of business organization, then the small enterprises in Kingston display the greater level of organization. The performance of the different enterprise groups reveals some interesting facts.

3.6.1. Food. Within the Food group, roughly 47% of enterprises keep records, with the highest (79%) for bakeries. In the other major enterprise type, condiment making, only a third of establishments keep records. In bakeries, 100% keep records in the Rural E.D.'s compared with 78% in Rural Towns, 80% in Major Towns, and 67% in Kingston. Similarly, in the case of condiments, the highest percentage is attained in the rural areas.

3.6.2. Wearing Apparel. In the Wearing Apparel group which accounts for 44% of manufacturing enterprises, only 5% of the enterprises engage in any form of record keeping. This confirms the view that only a minimal number of small enterprises keep records; however, this masks a great variation at the specific type of enterprise. The higher the number of workers per establishment, the more it is organized along factory type lines and hence the greater the possibility that it will keep records. For example, 63% of firms in garment production and 40% in leather work keep records; this is quite high compared with 7% for tailoring, 3% for shoemaking and 2% for dressmaking. Locationally, increasing levels of urbanization are associated with rising percentages of record keeping.

3.6.3. Craft. Not unexpectedly, very few (1%) Craft enterprises keep records of business transactions; in general, more bagmaking enterprises (14%) maintain records as opposed to coir (under 1%) and bamboo (6.0%) establishments. In this group, the level of record keeping decreases with distance from urban areas. Significantly, none of the rural small enterprises in this group maintain any records.

3.6.4. Woodwork. One-fifth of this group keep records. The most significant (i.e., woodwork/cabinet making) has an average of 24%, slightly above that of the group of the other categories; only sawmilling enterprises (17%) have over 10% of firms engaged in record keeping. In this group, the general pattern indicates a decreasing level of record keeping with movement from urban centers to Rural E.D.'s.

3.6.5. Metalwork. In the metalwork group, about 15% of all enterprises have any system of record keeping; this is just below the national average of 16%. Goldsmithing (67%) and locksmithing enterprises (44%) are the enterprise groups characterized by fairly high levels of record keeping while blacksmithing (7%) and welding (9%) have few enterprises keeping records. Predictably, the level of record keeping is greater in urban centers (Kington 37% of the firms in the group) than in rural areas (about 16%).

3.6.6. Repairs. The three most important enterprise types in the Repairs group, car repairs, plumbing and other machinery repairs, show respectively 22%, 18%, and 53% of the firms keeping records. The percentage for car repairs, which completely dominates this group, is slightly higher than the national average for all firms. Increasing levels of urbanization are associated with higher percentages of record keeping.



3.6.7. Other Manufacturing. Enterprises in the group classified as Other Manufacturing show less than 40% of firms keep records. Not surprisingly, charcoal production shows no record keeping, while 100% of the firms in tile production keep records. This enterprise type is followed by printery (72%) and pottery (43%). Locationally, as one moves to the less urbanized areas, the level of record keeping within the same enterprise type declines.

### 3.7. Workshop Structure

The Phase I questionnaire generated information on the type of workshop structure used by small-scale enterprises. The structure was initially identified as being either of a temporary or permanent nature; if permanent, the type of structure was listed according to the dominant materials from which it was constructed (i.e., zinc, wood, or cement). The national data show that all groups (except woodwork, metalwork, and repairs) are characterized by over 50% of their structures being cement type construction. In addition, at the national level, some 88% of all small-scale enterprises have wooden or cement type structures. Compared with manufacturing, the non-manufacturing groups tend to exhibit more permanent structures. This may be due to the fact that in the manufacturing group, enterprise groups like wearing apparel and craft, which account for a significant number of establishments, have a high percentage of their enterprises "housed" on verandahs; at the same time, the other enterprise groups in manufacturing have relatively more temporary structures. Additional information is presented in Table 7.

3.7.1. Food. Roughly 60% of all food workshop structures are of concrete construction. In the two main establishment types, the patterns are

TABLE 7

Jamaica: Workshop Structure of Establishments - 1978

Enterprise	Percent of Establishments of Type of Workshop Structure					
	Verandah	Temporary	Mud	Zinc	Wood	Cement
Foods	1.9	20.7	0.8	2.7	14.2	59.8
Wearing Apparel	21.9	1.7	-	0.2	19.2	57.2
Craft	29.8	3.9	-	0.4	15.2	50.6
Woodwork	3.6	11.6	0.3	10.6	34.9	38.9
Metalwork	2.1	21.3	6.2	18.7	2.8	48.9
Repairs	2.6	23.5	0.2	16.4	11.7	45.7
Other Manu- facturing	0.7	28.1	-	6.4	13.8	51.0
Manufacturing Sub-Total	18.7	7.4	0.3	3.6	17.9	52.1
Distribution	0.9	0.9	0.3	1.0	24.7	72.2
Other Non- Manufacturing	0.8	0.7	0.1	0.1	12.1	86.2
Non-Manufacturing Sub-Total	0.9	0.8	0.2	0.8	21.7	75.6
Grand Total	7.2	3.1	0.2	1.8	20.3	67.3

SOURCE: Survey Data

markedly different. For bakeries, 91% of structures are of concrete, with the other 9% distributed between temporary, zinc, wood, and verandahs. For condiments, over half of the workshops (58%) are temporary with those of cement taking second place (40%). The patterns over different locations are of interest in the case of bakeries, as the E.D.'s and the Rural Towns both have a higher percentage of cement structures than Kingston and the Major Towns.

3.7.2. Wearing Apparel. The data show that almost all of the enterprises in this sector are housed in permanent wood and concrete structures. Except for dressmaking and shoemaking, more than 80% of enterprise structures are permanent. The corresponding figures for dress and shoemaking are 71% and 79%, respectively. A higher percentage of dressmaking (29%), tailoring (18%), and shoemaking (13%) tend to be located on verandahs. Again, garment production and leather work have close to 90% of their structures of concrete.

3.7.3. Craft. Of the workshop structures for craft enterprises, 66% are fairly permanent (i.e., made of concrete (51%) and wood (15%)), while the remainder (30%) are more temporary, being located on verandahs. A disaggregated picture of categories show coir enterprises having the highest percentage of "verandah-type" operations (33%) as opposed to bamboo enterprises (7%).

3.7.4. Woodwork. About 75% of the firms in the Woodwork group operate in permanent (wood, concrete) structures. For carpentry, 89% of the enterprises operate in permanent structures, with comparable statistics for woodwork/cabinet making and upholstery 76% and 71%, respectively. This pattern remains the same throughout all locations. About 70% of saw milling enterprises are located in temporary structures.

3.7.5. Metalwork. In the case of Metalwork enterprises, only one-half of the structures are of a permanent nature (mainly wood), with 21% temporary and 19% zinc. Of all the enterprise types, only blacksmithing (22%) and welding (47%) have under 60% of their total enterprises in concrete structures. Goldsmithing and locksmithing enterprises have the highest percentage of permanent structures with 100% of their enterprise structure either of concrete or wood. Blacksmithing (36%) and welding (22%) have the highest percentage of temporary structures.

3.7.6. Repairs. Except for the two most dominant enterprises in this group -- car repair and plumbing -- these enterprises have more than 70% of their structures permanent of wood or concrete. The corresponding figures for car repair and plumbing are 56% and 46%, respectively. Thus, a high percentage of the firms are housed in temporary structures. Locationally, decreasing levels of urbanization are associated with lower percentages of permanent structures for each type of repair enterprise.

3.7.7. Other Manufacturing. Here again, the majority of enterprise types have, except for charcoal and brick making, a high percentage of their workshop structures of permanent nature. Charcoal production is completely in the open; close to half of the enterprises in brick making are located in temporary structures, as is a high percentage (20%) of tile making.

#### IV. SUMMARY AND CONCLUSIONS

The Phase I survey data which has been analyzed in this paper provides information which can assist public policy decision-making relating to the growth and development of the small enterprise sector in Jamaica. There are an estimated 40,000 small scale enterprises employing some 80,000 people, over one-tenth of the national work force. Firms engaged in manufacturing activity account for 35% of all small enterprises, generating employment for about the same percentage of small enterprise workers. However, enterprises involved in Distribution dominate the sector, accounting for 50% of total firms and 46% of employment. Significantly, three-quarters of the total number of small enterprises and 60% of the work force are located in rural districts.

Apart from Distribution and Other Non-Manufacturing, the most dominant enterprise groups are Wearing Apparel, Craft, Woodwork, and Repairs. Nationally, the average number of workers per small enterprise is 2.1; however, in manufacturing, the figure ranges from 1.5 in Wearing Apparel to 7 in Foods. Additionally, the data show that increasing levels of urbanization are associated with higher averages per firm.

For all small enterprises, the majority of the work force are proprietors; the one-man business therefore assumes a high level of importance. Only a small percentage of workers are trainees and these are found mainly in Woodwork, Metalwork and Repairs. There is widespread use of powered machines by small enterprises with the exception of Craft. In addition,

increasing levels of urbanization are associated with increasing usage of powered machinery. Not unexpectedly, about 85% of all small enterprises maintain no system of record keeping. There also seems to be a direct relationship between greater urbanization, larger firm size, and improved techniques of record keeping.

Further analysis (in Phases II and III) will concentrate on the manufacturing category although non-manufacturing activity is obviously important because of its dominance both in terms of the number of establishments and employment. With respect to policy guidelines, certain clear-cut proposals are already arising out of the findings and these are now outlined briefly.

First, the geographical dispersion of small-scale enterprises suggests the need for greater decentralization of government agencies established to service the industry. Presently these agencies are relatively inaccessible to small businessmen located outside of Kingston. If small enterprises are to be adequately developed a variety of infrastructural services are required.

Second, the dominance of one-man businesses is instructive. A one-man business means that a single person has the responsibility for production, finance, marketing, and numerous other business functions. The anticipated result of this type of management cannot be determined a priori. Still the key question that arises is how to deliver cost effective assistance to such small enterprises.

Third, widespread use of powered machines indicates a willingness of the sector to utilize modern technology but simultaneously raises serious questions about the knowledge and availability of "appropriate" technology. National institutions with responsibility for technological development

such as the Scientific Research Council (SRC), and the Jamaica Industrial Development Corporation (JIDC) should be more responsive to the needs and opportunities for the small enterprise sector. To complement this thrust, there should be cooperation between these agencies and those with special concerns to promote small enterprises.

Fourth, the generally low percentage of small enterprises which maintain records is a serious limitation on their ability to obtain loans from local and foreign financial institutions. Low levels of record keeping are so widespread in certain enterprise groups like Wearing Apparel, Craft, and Metalwork that it raises the question as to whether the strict rules being applied by government institutions like SEDCO ought not to be modified. This relaxation of rules could be tied to a period of intensive training for proprietors in the fundamentals of record keeping.

The average size of establishments especially in rural E.D.'s (1.7 workers per establishment), which provide over 60% of employment in the small-scale industry, raises a special challenge as to whether there exists scope for expansion of their economic activity. Numerous difficulties arise in small, especially a one-man, business when policy issues related to employment creation are to be assessed. The operations of many of these enterprises are so unstructured that a major re-organization of the industry in general, and the modus operandi of individual establishments in particular, may be a prerequisite for any meaningful expansion in production. Certainly, the data suggest that Food, Woodwork, Metalwork and Repair enterprise groups offer the best prospects for expansion and, ceteris paribus, government policies should reflect this concern. Specifically, in terms of immediate

employment creation, government may wish to examine the possibilities of actively promoting the apprenticeship system, especially among those enterprises we have just identified.

Finally, in Craft and Wearing Apparel, certain possibilities may exist for cooperative forms of organization and community based enterprise organizations. These possibilities could facilitate improvement in performance generally, and optimization of scale economies.



## V. APPENDICES

## APPENDIX I - Jamaica: Breakdown of All Enterprise Groups - 1978

Enterprise Type	Enterprise		Workers		Average Workers per		Percent Keeping Records
	Number	Percent	Number	Percent	Enterprise	Powered Machine	
FOODS:	289	0.8	2,001	2.5	6.9	3.9	47.1
Bakery	123	0.3	955	1.2	7.8	3.1	78.9
Condiments	98	0.3	905	1.1	9.2	4.9	33.7
Meat Processing	32	0.1	65	0.1	2.0	-	3.1
Others	36	0.1	76	0.1	2.1	4.7	13.9
WEARING APPAREL:	5,915	15.7	8,831	11.1	1.5	3.3	5.0
Dressmaking	2,803	7.4	3,457	4.4	1.2	4.0	1.9
Tailoring	1,889	5.0	2,902	3.7	1.5	3.4	7.1
Shoemaking	1,091	2.9	1,564	2.0	1.4	5.4	2.7
Garment making	109	0.3	820	1.0	7.5	1.3	63.3
Others	23	0.1	88	0.1	3.8	3.1	34.8
CRAFT:	3,801	10.1	6,826	8.6	1.8	59.3	1.0
Coil/straw/sisal	3,271	8.7	6,042	7.6	1.8	287.7	0.1
Bamboo/Bag making	523	1.4	751	0.9	1.4	9.4	6.0
Bag making	7	-	33	-	4.7	2.4	14.2
WOODWORK:	1,191	3.2	3,382	4.3	2.8	1.7	20.8
General Woodwork	906	2.4	2,696	3.4	3.0	1.5	24.2
Upholstering	244	0.6	496	0.6	2.0	3.4	9.0
Sawmilling	41	0.1	190	0.2	4.6	3.2	17.1

Enterprise Type	Enterprise		Workers		Average Workers per		Percent Keeping Records
	Number	Percent	Number	Percent	Enterprise	Powered Machine	
METALWORK:	429	1.1	1,668	2.1	3.9	2.3	14.7
Welding	202	0.5	732	0.9	3.6	1.6	8.9
Metalwork	116	0.3	607	0.8	5.2	2.2	27.6
Blacksmith	86	0.2	251	0.3	3.0	2.1	7.0
Others	25	0.1	78	0.1	3.1	3.5	28.0
REPAIRS:	1,172	3.1	4,763	6.0	4.1	3.7	22.3
Car Repair	1,048	2.8	4,401	5.6	4.2	3.7	21.8
Plumbing	54	0.1	155	0.2	2.9	8.4	18.5
Appliance Repair	30	0.1	102	0.1	3.4	4.6	53.3
Others	40	0.1	105	0.1	2.6	4.8	17.5
OTHER MANUFACTURING:	546	1.4	1,887	2.4	3.5	1.9	26.0
Plastic Products	28	0.1	423	0.5	15.1	0.9	7.1
Brick/Tile making	68	0.2	319	0.4	4.7	3.2	14.7
Printing	47	0.1	269	0.3	5.7	1.1	72.3
Pottery	60	0.2	188	0.2	3.1	26.9	43.3
Others	343	0.9	688	0.9	2.0	2.3	20.4
DISTRIBUTION:	18,677	49.5	36,445	46.0	2.0	4.4	18.1
Grocery	15,794	41.8	27,197	34.3	1.7	4.1	13.3
Retail store	2,330	6.2	6,614	8.3	2.8	4.9	39.8
Hardware	324	0.9	1,732	2.2	5.3	11.2	63.0
Others	229	0.6	902	1.1	3.9	15.8	63.3

Enterprise Type	Enterprise		Workers		Average Workers per		Percent Keeping Records
	Number	Percent	Number	Percent	Enterprise	Powered Machine	
OTHER NON-MFG. SERVICES:	5,720	15.2	13,481	17.0	2.4	3.4	26.0
Bar/Restaurant.	5,128	13.6	11,753	14.8	2.2	4.7	25.6
Hair Dresser/ Barber	421	1.1	827	1.0	1.9	1.2	24.7
Others	171	0.5	901	1.1	5.3	2.6	39.8
All Enterprises	37,738	100	79,284	100	2.1	3.9	16.1

SOURCE: Survey Data

APPENDIX II - Kingston: Distribution of Small-Scale Establishments  
and Employments by Enterprise Group-1978

Enterprise Group	Number of Establishments	Number of Workers	Percentage of Workers in Manufacturing	Percentage of Workers in all Establishments	Average Number of Workers per Establishment
Food	65	470	6.8	3.3	7.2
Wearing Apparel	609	2,017	29.1	14.2	3.3
Craft	100	275	4.0	1.9	2.7
Woodwork	285	1,202	17.3	8.5	4.2
Metalwork	129	621	8.9	4.4	4.8
Repairs	407	1,871	26.9	13.1	4.6
Other Manufacturing	120	489	7.0	13.4	4.1
Manufacturing Enterprises	1,715	6,945	100.0	48.8	4.0
Distribution	1,472	4,080	-	28.7	2.8
Other Non-Manufacturing Services	1,057	3,199	-	22.5	3.0
Non-Manufacturing Enterprises	2,529	7,279	-	51.2	2.9
All Enterprises	4,244	14,244	-	100.0	3.3

SOURCE: Survey Data

APPENDIX III - Major Towns: Distribution of Small-Scale  
Establishments and Employment by Enterprise Group-1978

Enterprise Group	Number of Establishments	Number of Workers	Percentage of Workers in Manufacturing	Percentage of Workers in all Establishments	Average Number of Workers per Establishment
Food	28	288	8.8	3.4	8.1
Wearing Apparel	295	703	27.3	10.6	2.4
Craft	125	207	8.0	3.1	1.7
Woodwork	105	444	17.2	6.7	4.2
Metalwork	44	168	6.5	2.5	3.8
Repairs	151	633	24.6	9.6	4.2
Other Manufacturing	42	207	8.0	3.1	4.9
Manufacturing Enterprises	790	2,590	100.0	39.2	3.3
Distribution	882	2,547	-	38.5	2.9
Other Non-Manufacturing Services	444	1,477	-	22.3	3.3
Non-Manufacturing Enterprises	1,326	4,024	-	60.8	3.0
All Enterprises	2,116	6,614	-	100.0	3.1

SOURCE: Survey Data

APPENDIX IV - Rural Towns: Distribution of Small-Scale  
Establishments and Employment by Enterprise Group - 1978

Enterprise Group	Number of Establishments	Number of Workers	Percentage of Workers in Manufacturing	Percentage of Workers in all Establishments	Average Number of Workers per Establishment
Food	46	378	10.5	3.5	8.1
Wearing Apparel	536	1,036	28.8	9.7	1.9
Craft	26	44	1.2	0.4	1.7
Woodwork	176	536	14.9	5.0	3.0
Metalwork	54	154	4.3	1.4	2.9
Repairs	264	1,184	32.9	11.1	4.5
Other Manufacturing	84	266	7.4	2.5	3.2
Manufacturing Enterprises	1,186	3,598	100.0	33.6	3.0
Distribution	1,798	4,668	-	43.7	2.6
Other Non-Manufacturing Services	894	2,430	-	22.7	2.7
Non-Manufacturing Enterprises	2,692	7,098	-	66.4	2.6
All Enterprises	3,878	10,696	-	100.0	2.8

SOURCE: Survey Data

APPENDIX V - Rural Enumeration Districts: Distribution of  
Small-Scale Establishments and Employment by Enterprise Group-1978

Enterprise Group	Number of Establishments	Number of Workers	Percentage of Workers in Manufacturing	Percentage of Workers in all Establishments	Average Number of Workers per Establishment
Food	150	925	5.7	1.9	6.2
Wearing Apparel	4,475	5,075	31.3	10.6	1.1
Craft	3,550	6,300	38.8	13.2	1.8
Woodwork	625	1,200	7.4	2.5	1.9
Metalwork	200	725	4.5	1.5	3.6
Repairs	350	1,075	6.6	2.9	3.1
Other Manufacturing	300	925	5.7	1.9	3.1
Manufacturing Enterprises	9,650	16,225	100.0	34.0	1.7
Distribution	14,525	25,150	-	52.7	1.7
Other Non-Manufacturing Services	3,325	6,375	-	13.3	1.9
Non-Manufacturing Enterprises	17,850	31,525	-	66.0	1.8
All Enterprises	27,500	47,750	-	100.0	1.7

SOURCE: Survey Data

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