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Rural Non-Farm Employment: A Review of the State of the Art

by

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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. The present State of the Art paper fits into this project component. This paper, however, should be viewed as only an initial effort at disseminating and reviewing the existing knowledge, since a major monograph, building on the State of the Art paper and the results of the individual country studies, will subsequently appear in this series along with several other case studies. 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, 1974.

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.

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

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1. INTRODUCTION

International donor agencies and the governments of many developing countries have recently begun to devote increasing attention to the development of policies and programs for expanding productive employment and earnings opportunities in the various rural non-farm activities undertaken in developing countries. This growing interest stems from and reflects the increased international concern for equity and employment objectives, and the corresponding reduction of emphasis on the earlier strategies that had focused primarily on growth and output objectives. The de-emphasis of growth and output objectives reflects a disillusionment with the inequitable results of rapid growth in certain countries and the disappointing results of the attempts to rapidly industrialize by establishing large-scale, urban-based, capital-intensive industries. In a number of developing countries, not only was the overall rate of growth quite low, but employment in the industrial sector failed to keep pace with population growth and, in some cases, even declined in absolute terms.

Unfortunately, there have been few empirical or analytical studies of rural non-farm economic activities in developing countries. The excellent World Bank paper on rural enterprise and non-farm employment (World Bank, 1978a) notes, for example, that "there is little concrete evidence" on many of the important characteristics of these activities, and Morawetz (1974, p. 525), in his recent review of the literature, states that "remarkably little is known about its composition and characteristics." As a result, those charged with formulating and executing rural non-farm programs and policies are generally forced, of necessity, to make decisions "unencumbered by information."

The present paper is an attempt to fill the information lacuna relating to rural non-farm economic activities in developing countries. Although the paper, of necessity, concentrates on rural non-farm activities, one must continually keep in mind that these activities represent only one facet of the rural development process. The first section provides a descriptive profile of rural non-farm activities and sets forth the most important issues relating to their nature, extent, and composition. The second section examines the determinants of their role in development and focuses on factors influencing the demand for and supply of these activities. A final section examines the major policy and program issues relating to rural non-farm activities.

2. DESCRIPTIVE PROFILE OF RURAL NON-FARM ACTIVITIES

There are several important sets of issues relating to the extent and nature of rural non-farm activities. These are mainly descriptive issues, which can usefully serve to provide a foundation for understanding the role of rural non-farm activities in developing economies. The issue areas are: 1) the quantitative significance of rural non-farm activities; 2) their sectoral composition; 3) equity implications; and 4) growth prospects.

2.1 Importance of Rural Non-farm Activities

One of the first issues to be considered is whether or not non-farm activities are quantitatively an important component of the rural economy. Given the paucity of comprehensive income and value added statistics relating to rural areas of most developing countries, one must, of necessity, rely primarily on employment data for illumination of this issue. The

importance of non-farm activities as a source of primary employment in rural areas will be examined first, followed by a consideration of the importance of these activities in providing secondary or part-time employment; the relative importance of non-farm income is then discussed.

2.1.1 Primary Employment

The evidence available from national censuses and various regional and rural surveys indicates that non-farm activities provide an important source of primary employment in the rural areas of most developing countries. In the vast majority of the eighteen developing countries where relatively recent data on the subject are available, one-fifth or more of the rural labor force is primarily engaged in non-farm activities (table 2.1). Although the rural non-farm percentage ranged from 14 to 49 percent, in over three-quarters of the countries the percentage fell between 19 and 28 percent.

The figures provide a minimal estimate of the magnitude of primary employment in rural areas. First, they generally reflect the employment characteristics of the rural villages with populations below 5,000; if the larger rural towns were included, the rural non-farm percentage would likely be larger.¹ Second, there are certain measurement errors that operate to cause systematic undercounting of non-farm activities. In some African countries rural respondents will claim farming to be their main

¹See, for example, the evidence cited in the World Bank, 1978a. The dividing line between "rural" and "urban" is arbitrary, particularly in census data collected in most countries. They are often framed in terms of urbanization characteristics rather than minimum size or occupational structure size and, consequently, settlements of a few thousand are often classified as "urban." The U.N. definition of "urban" is localities with 20,000 or more inhabitants. This broader definition, which includes small and medium sized towns, is used in this paper.

TABLE 2.1

PERCENTAGE OF RURAL LABOR FORCE WITH PRIMARY EMPLOYMENT
IN RURAL NON-FARM ACTIVITIES

Country	Year	Coverage	Percentage of Rural Labor Force Primarily Employed in Non-Farm Sector (%)
Guatemala	1964	All rural	14%
Thailand	1970	All rural	18
Sierra Leone	1976	Male-rural	19
South Korea	1970	All rural	19
Pakistan	1970	Punjab only	19
Nigeria	1966	Male-3 dist. W. State	19
India	1966	All rural	20
Uganda	1967	Four rural villages	20
Afghanistan	1971	Male-Paktia Region	22
Mexico	1970	All-Sinaloa State	23
Colombia	1970	All rural	23
Indonesia	1971	All rural	24
Venezuela	1969	All rural	27
Kenya	1970	All rural	28
Philippines	1971	All rural	28
W. Malaysia	1970	All rural	32
Iran	1972	All rural	33
Taiwan	1966	All rural	49

SOURCES:

1. Guatemala: World Bank (1978a)
2. Thailand: Thailand (1973)
3. Sierra Leone: Byerlee, et al.(1977)
4. Korea: Korea (1972)
5. Pakistan: World Bank (1978a)
6. Nigeria: Mueller and Zevering (1970)
7. India: World Bank (1978a)
8. Uganda: Brandt, et al. (1972)
9. Afghanistan: Gerken (1973)
10. Mexico: World Bank (1978a)
11. Colombia: World Bank (1978a)
12. Indonesia: Leiserson (1974)
13. Venezuela: World Bank (1978a)
14. Kenya: I.L.O. (1972)
15. Philippines: I.L.O. (1974)
16. West Malaysia: World Bank (1978a)
17. Iran: Dhamija (1976)
18. Taiwan: Ho (1976)

occupation even if they engage only part-time in this activity. In addition, women's participation in non-farm activities is often not counted as employed labor even when these activities result in transactions.

2.1.2 Secondary Employment

These primary employment statistics also understate the magnitude of rural non-farm activities, because they fail to reflect those farmers who engage in non-farm activities on a part-time or seasonal basis. Data on secondary employment are not generally available for most countries. The limited evidence indicates that from 10 to 20 percent of the rural male labor force undertake non-farm work as a secondary occupation. In Western Nigeria, for example, 20 percent of the rural males engaged in non-farm work on a part-time basis, while in Sierra Leone, Afghanistan, and Korea, the figures were 11, 16, and 20 percent, respectively.¹

There are significant monthly variations in the amounts of rural farm and non-farm employment over the agricultural cycle. Farm and non-farm employment move in opposite directions. There is no period when non-farm employment disappears and, thus, non-farm employment does compete with farm employment during periods of the peak agricultural demand. Data from Nigeria reveal that the peak in non-farm labor use is nine times that in the slack periods (Norman, 1973). The fluidity of labor between a number of activities on a seasonal basis is thus a striking feature of rural areas.

¹For sources, see table 2.1.

In summary, non-farm activity in rural areas thus appears to provide a source of employment for from 30 to 50 percent of the rural labor force in the developing nations, when primary and secondary occupations are included.¹ Consequently, in terms of employment, non-farm activities are quantitatively an important component of the rural economy² that should not be overlooked in the design of rural development policies or programs.

2.1.3 Importance of Non-farm Income

In view of the magnitude of rural non-farm employment, it is not surprising that non-farm activities also provide an important source of income for rural households. Although data on rural incomes are generally lacking for most countries, the evidence from those countries where information is available indicates that non-farm earnings account for over one-fifth of total rural household income (see table 2.2). Indeed in Sierra Leone, where a detailed rural household survey was recently undertaken, non-farm income was found to provide 36 percent of rural household income, while in Taiwan the comparable figure was 43 percent.³

¹There is evidence that the figure may be as high as 50 percent in some countries. Luning (1967), in a survey of rural villages in Northern Nigeria, reports that 48 percent of the employed males engaged either full or part-time in rural non-farm activities, while Norman (1973) reports that, in the same area, 47 percent of male labor time is devoted to these activities.

²Several recent historical studies have revealed that non-farm activities were important, amounting from one-third to two-thirds of rural occupations, in rural areas of Europe during the 16th and 17th centuries. See, for example, MacFarland (1977, p. 157) for U.K. and DeVries (1974) for Holland.

³Moreover, in the Philippines (I.L.O., 1974, p. 504), 37 percent of the rural households derived their main sources of income from non-farm sources.

TABLE 2.2

SHARE OF NON-FARM INCOME IN TOTAL RURAL HOUSEHOLD INCOME

Country	Year	Percentage
Korea	1975	22%
Pakistan (5 villages)	1968	23
Northern Nigeria (3 villages)	1974	28
Sierra Leone	1974	36
Taiwan	1975	43
Japan	1975	70

SOURCES:

1. Korea: Korea (1975)
2. Pakistan: Kuhnen (1968)
3. Northern Nigeria: Matlon (1977)
4. Sierra Leone: Unpublished results of African Rural Employment Project.
5. Taiwan: Taiwan (1976)
6. Japan: Japan (1976)

2.2 Sectoral Composition of Rural Non-Farm Activities

Another set of issues revolves around the sectoral composition of rural non-farm activities. Specifically, what are the types of activities undertaken within the sector, and which of these are quantitatively the most important?

There is a wide array of activities being undertaken within the rural non-farm sector. In terms of the Standard Industrial Classification categories, the most important components are manufacturing, services, and commerce activities. This composition is revealed in table 2.3, in which data are presented on the breakdown of primary employment in rural areas for selected developing countries. Manufacturing ranges from 22 to 46 percent, commerce ranges from 11 to 35 percent, while services range from 10 to 50 percent of total rural non-farm employment.¹ Other non-farm activities, such as construction, transport, and utilities, generally account for less than 25 percent of rural non-farm employment.²

The relative importance of rural, as opposed to urban, manufacturing may appear somewhat surprising. There is empirical evidence to indicate that employment in small, rural manufacturing enterprises often exceeds that in large urban manufacturing firms. In Sierra Leone, 86 percent of the total manufacturing sector employment and 95 percent of the manufacturing establishments were located in rural areas (Liedholm and Chuta, 1976). The percentage of rural manufacturing employment in other countries ranges

¹Agricultural processing and marketing activities would be reflected in these figures; fishing and livestock activities would not.

²The exception is Afghanistan, where transport (particularly camel driving) is an important rural non-farm activity.

TABLE 2.3

SECTORAL COMPOSITION OF RURAL NON-FARM EMPLOYMENT IN SELECTED COUNTRIES
(Percentage)

	Afghanistan (1970)	India (1966)	Indonesia (1971)	Sierra Leone (1975)	Phil- ippines (1970)	Korea (1970)	Colombia (1970)	Malaysia (1970)	Taiwan (1966)
Manufacturing	46%	39%	29%	40%	34%	30%	33%	22%	27%
Construction	9	14	5	2	11	10	8	5	4
Trade and Commerce	11	14	34	35	15	24	19	22	13
Services	10	24	27	23	30	29	33	41	50
Other ¹	24	9	5	--	10	7	7	10	6
	100%	100%	100%	100%	100%	100%	100%	100%	100%

NOTES: ¹Includes utilities, transport, and miscellaneous; omits "other and unknown."

SOURCES:

1. Afghanistan: Gerken (1973)
2. India: World Bank (1978a)
3. Indonesia: Leiserson (1974)
4. Sierra Leone: C. Liedholm and E. Chuta (1976)
5. Philippines: I.L.O. (1974)
6. Korea: Korea (1972)
7. Colombia: World Bank (1978a)
8. Malaysia: World Bank (1978a)
9. Taiwan: Ho (1976)

from 70 percent in Bangladesh (Bangladesh Institute of Development Studies, 1979), 63 percent in Malaysia (World Bank, 1978b), 57 percent in India (World Bank, 1978b), to 32 percent in Korea (Korea, 1972). These figures may actually understate the true magnitude of rural manufacturing activity because country censuses often fail to pick up the very small rural enterprises. The Sierra Leone small industry survey found that rural manufacturing employment had been underestimated in Sierra Leone by almost one-half (Liedholm and Chuta, 1976). A recent pilot rural industry survey in Bangladesh indicated that, in one rural district, the number of rural firms was twenty times greater than indicated by the official statistics (Ahmed, Chuta, Rahman, 1978).

Within the rural manufacturing component of the rural non-farm sector, there is a surprising diversity of activities undertaken. The most important activity in the majority of countries appears to be clothing production followed by wood working, metal working, and food processing. Clothing production, for example, accounted for 53 percent of the rural manufacturing employment in Sierra Leone, 41 percent in Korea, 24 percent in Taiwan, 32 percent in Western Nigeria, and 52 percent in rural Bangladesh.

Several alternative, sometimes conflicting, classification schemes have been developed that reflect and highlight the differing forms or subsectors of activities within the rural non-farm sector. The "informal sector," a concept popularized by the I.L.O. (1972), refers to activities that "operate largely outside the system of government benefits and regulations" and are characterized particularly by ease of entry, small scale of operation, family ownership, and unregulated and competitive

markets; the "formal sector" activities are essentially the obverse of these "informal activities."¹ Within the manufacturing sector, a distinction is often made between "artisan activities," where production is completely under the direction of the owner, and "small factories," where there is a greater division of labor and the manager, rather than the artisan, is the central figure (Staley and Morse, 1965, p. 7). A common dividing line between the two is frequently ten workers. Finally, the World Bank (1978b) distinguishes "artisan and informal enterprise" from "modern small enterprise having perhaps ten to fifty workers."¹ The available evidence indicates that the vast majority of the existing rural non-farm enterprises in developing countries would fall in the "artisan and informal enterprise" category.²

2.3 Equity Implications of Rural Non-farm Activities

The next set of issues focus attention on the equity implications of rural non-farm activities. Specifically, what is the size of rural non-farm enterprises, what is the relative income earned by those engaged in these activities, and finally, what is the relation of rural non-farm activities to the landless and near landless?

¹Steel (1978) recommends a tripartite division between: (1) "casual and home production," where the marginal product of labor is zero, there are only family employees, and there are no barriers to entry; (2) the "intermediate sector," where there are barriers to entry making the marginal product of labor positive; and (3) the "modern" sector, where there are severe barriers to entry.

²See below, p. 12.

2.3.1 Size of Enterprises Engaged in Rural Non-farm Activities

The size of the enterprises engaging in rural non-farm activities is an issue of some interest. Variations in size are particularly important for ascertaining the equity implications of rural non-farm policies or programs.

The available empirical evidence is limited but does indicate that the vast majority of rural non-farm activities are undertaken by very small-scale,¹ artisan and informal enterprises. In Sierra Leone, the average rural industrial firm employed 1.6 workers, and 99 percent of the firms employed less than 5 individuals (Liedholm and Chuta, 1976). In rural Jamaica (Davies, Fisseha, Francis, and Kirton, 1979), the average rural enterprise engaged 1.8 workers. In rural Western Nigeria, an I.L.O. survey reported that the average industrial firm engaged 2.6 workers (Mueller, et al., 1970). The results from a similar survey in rural Bangladesh revealed the average rural enterprise employed 3.8 workers, inclusive of proprietors, and 84 percent of the enterprises engaged fewer than 6 workers (Bangladesh Institute of Development Studies, 1979). These findings indicate that most rural enterprises are of a very small size and thus may be potentially an important target group for policy makers concerned with the poor.

2.3.2 Rural Non-farm Earnings and Wages

A related issue centers on whether or not the earnings from rural non-farm occupations or the average incomes of non-farm rural households

¹"Small-scale" is not a precisely defined concept. There are at least 50 different definitions used in 75 countries. (See, for example, Staley and Morse, 1965, and Georgia Tech., 1975). As a working definition for this paper, "small-scale" is defined to include those establishments employing less than 50 persons.

are above those in agriculture. This issue is of particular importance given the increased concern with income distribution, and more specifically, the widespread interest in identifying the sectoral characteristics of the rural and urban poor.¹

The rather limited amount of available data suggest that, on the average, the wages and incomes generated by rural non-farm activities generally exceed those generated by farming. In Sierra Leone, for example, the income per consumer equivalent for rural non-farm households was \$155 while that for farming households was \$125.² In Malaysia, the differential was even larger, with the income per family member for non-farm households amounting to \$402 and that for land-abundant padi farmers amounting to \$230 (Bell and Hazell, 1976).³ The lack of detailed data for other areas, however, makes it difficult to assert with complete confidence that such differentials necessarily exist in all countries. Moreover, these figures are averages and mask important variations by season, region, sex, education, skill level, and type of employer (see, for example, Byerlee, et al., 1976).

There is preliminary evidence to indicate that there is a positive association between non-farm income sources and income level in some rural areas. In Northern Nigeria, for example, non-farm income comprised 20

¹See for example, Chenery (1974, p. 19).

²Data from Africa Rural Employment Study - Sierra Leone. The data include the imputed value of home production that is consumed.

³Similar results have been reported from studies in Kenya, Tanzania, Mexico, Tunisia, and Northeast Brazil. In Kenya, the average earnings per annum for adult wage workers on small farms was \$106 while that for rural nonagricultural enterprises was \$126 (I.L.O., 1972, p. 77). The average household income of rural nonagricultural households was 53% higher in Mexico, 41% higher in Tanzania, and 22% higher in Tunisia than the average incomes of farm households in these countries (Van Ginnekan, 1976, p. 41). For Brazil, see World Bank (1978) p. 82.

percent of the total household income of the lowest income decile, but rose to comprise 37 percent of the income of the highest decile (Matlon, 1977, p. 80). Correspondingly, in Sierra Leone, non-farm income was 28 percent of income in the lowest decile and 37 percent in the highest.¹

Although total non-farm income appears to be somewhat concentrated in the higher income groups in the rural areas, average rural non-farm earnings are still substantially below earnings in the urban areas. In both Kenya and Sierra Leone the average rural non-farm earnings are substantially below the statutory minimum wage.² Those engaged in rural non-farm activities thus are for the most part an important component of the poor.

2.3.3 Relation of Non-farm Activities to the Landless and Near Landless

Non-farm activities are particularly important for those rural households with little or no land. Indeed in countries for which data exist, there is a clear negative relationship between the importance of non-farm activity and farm size. As farms become smaller, the share of non-farm income in total household income becomes larger (see table 2.4). In Sierra Leone, for example, rural households cultivating more than 15 acres earned less than 20 percent of their income from non-farm sources, while those cultivating less than 1 acre earned more than 64 percent from such

¹Sierra Leone, Rural Employment Study, preliminary results.

²In Kenya, the annual earnings from nonagricultural rural wages was \$126 while a male subject to the minimum wage would earn \$297. In Sierra Leone, even the small-scale proprietor earned an annual return 13 percent below that earned by an employee in a large-scale urban enterprise (Liedholm and Chuta, 1976).

TABLE 2.4

SIZE OF LAND HOLDING AND RELATIVE IMPORTANCE OF
NON-FARM INCOME IN TOTAL HOUSEHOLD INCOME

Country	Size of Holding	Non-farm Income Share in Total Household Income (%)	Total Household Income (\$)
<u>Korea</u> 1971	0.00 - 1.23 acres	42%	\$ 495
	1.24 - 2.47 acres	19	724
	2.48 - 3.70 acres	10	1015
	3.71 - 4.94 acres	10	1309
	4.95+ acres	8	1781
<u>Taiwan (Taichung Region)</u> 1967	0.00 - 1.19 acres	59	652
	1.20 - 2.39 acres	44	764
	2.40 - 3.58 acres	33	1136
	3.59 - 4.40 acres	27	1200
	4.41 - 7.18 acres	40	1811
	7.19+ acres	15	1989
<u>Sierra Leone</u> 1974	0.00 - 1.00 acres	64	587
	1.01 - 5.00 acres	51	404
	5.01 - 10.00 acres	32	546
	10.01 - 15.00 acres	26	770
	15.00+ acres	17	927
<u>Northern Nigeria</u> 1974	0.00 - 2.46 acres	57	479
	2.47 - 4.93 acres	31	377
	4.94 - 7.40 acres	26	569
	7.41 - 9.87 acres	15	769
	9.88+ acres	24	868

SOURCES:

1. Korea: World Bank (1978a)
2. Taiwan: Taiwan (1970)
3. Sierra Leone: Unpublished data from African Rural Employment Project
4. Northern Nigeria: Matlon (1977)

sources. Clearly non-farm earnings provide a significant portion of the total income of those rural households with little or no land.

Moreover, these non-farm earnings can be sufficiently large in some instances to enable landless or near landless rural households to generate a total household income greater than that of the larger-sized farms. In Sierra Leone the total income of those rural households with less than an acre of land was \$587, while the income of those households with 1 to 5 acres was \$404. A similar pattern was found to exist in Northern Nigeria.¹ Such results call into question the notion that farm size is consistently an accurate measure of total household income or is consistently a good indicator of who are the rural poor. In much of Africa, where land is not a primary limiting factor, there does not appear to be a positive relationship between land holding and total income in the smallest land holding categories. Such a relationship, however, may hold in much of Asia, where land does tend to serve as a primary constraint to income generation.²

2.4 Growth of Rural Non-farm Activities

The final descriptive issue is whether or not rural non-farm activities and employment decline in importance as development proceeds. More specifically, do rural non-farm activities decrease as rural incomes rise and opportunities for trade increase? On this issue, there has been some divergence of views.

¹This relationship is also found in an even more extreme form in Japan. Disposable income per capita in 1974, in index form, is 111 for farms of 0.1 - 0.5 ha., 99 for 0.5 - 1 ha., 89 for 1 - 1.5 ha., 88 for 1.5 - 2.0 ha., and 94 for 2.0 ha. See Kato and Izumida (1977, p. 3).

²See Korea and Taiwan, for example, in table 2.4.

The issue was sparked by the 1969 paper, "A Model of an Agrarian Economy with Non-Agricultural Activities," (1969) by Stephen Hymer and Stephen Resnick. In this paper, they develop a model of the rural economy in which rural non-farm activities, denoted as Z goods, are hypothesized to decline as rural incomes rise and opportunities for trade increase. Resnick, in a subsequent article (1970), provided empirical evidence for the contention by tracing the decline of rural industry in Burma, Philippines, and Thailand from 1870 to 1938. Comprehensive time series data were not available, however, and Resnick, of necessity, was forced to rely on fragments of evidence from various sources. Consequently, the results of the study, while interesting, cannot be considered conclusive.

The empirical evidence available for more recent periods would indicate that rural non-farm activity and employment recently have been increasing, rather than decreasing, with development. Table 2.5 presents the figures from ten countries for which aggregate time series data exist. In all cases, the rates of rural non-farm employment growth were positive, ranging from 3.2 percent per year in Korea to 9.4 percent per year in Taiwan.¹ These results, while not conclusive, would indicate that rural non-farm activities and employment have been increasing in absolute terms over time in developing countries.

There is evidence to indicate that, in most areas, non-farm employment has been growing more rapidly than farm employment. Dennis Anderson, using secondary I.L.O. data, has shown that the rural labor force increased

¹Two qualifications should be noted. The growth of non-farm employment in rural towns - which are rapidly growing centers of such employment - is omitted. On the other hand, part of the "recorded" increase in rural non-farm employment may be monetization of activities previously undertaken in the household.

TABLE 2.5

GROWTH OF RURAL NON-FARM EMPLOYMENT: SELECTED COUNTRIES

Country	Period	Rural Non-farm Employment Growth Rate (per year) (%)	Non-farm Share of Rural Labor Force (%)	
			Initial Period	End Period
Taiwan	1955-66	9.4%	30%	49%
Kenya	1969-74	8.8	NA	NA
Philippines (Gapan area)	1961-71	8.5	NA	NA
Mexico (Sinaloa)	1960-70	5.6	14	23
Indonesia	1961-71	5.5	17	24
Iran	1956-72	4.8	20	33
India	1953-60	4.0	NA	NA
Afghanistan (Paktia)	1964-71	3.9	NA	NA
Korea	1960-74	3.2	18	19

SOURCES:

1. Taiwan: Ho (1976)
2. Kenya: Steele (1976)
3. Philippines: Gibb (1974)
4. Mexico: Mexico (1978a)
5. Indonesia: Leiserson (1974)
6. Iran: Dhamija (1976)
7. India: India (1965)
8. Afghanistan: Gerken (1973)
9. Korea: Korea (1976)

faster between 1959 and 1970¹ than the agricultural labor force in all regions except Latin America. In addition, the specific country data presented in table 2.5 reveal that over time the percentage of the rural labor force engaged in non-farm work has risen. Finally there is some cross-sectional evidence that there is a positive association between the share of the rural labor force engaged in non-farm work and the level of per capita income.² These results indicate that rural non-farm activities, rather than decreasing, are becoming a more important source of employment in rural areas.

Although the available evidence indicates that aggregate employment and output in rural non-farm activities have been increasing, an important, related issue is: What has been the growth performance of the individual types of rural non-farm activities? There are many heterogeneous kinds of activities covered by the rural non-farm umbrella and some of these activities might be expected to have declined while others might be expected to have increased over time.

Unfortunately, much of the available information is anecdotal or episodic. Comprehensive time series data for particular types of rural non-farm activities are generally not available, although some information on specific manufacturing activities do exist for some countries such as the Philippines (Gibb, 1974; Anderson, 1979), Sierra Leone (Liedholm and Chuta, 1976), and Haiti (Haggblade, et al., 1979). Among the major types

¹World Bank (1978a). In Latin America from 1960-70, the agricultural labor force increased 0.8 percent per year while the rural labor force increased 0.6 percent per year. (These results are based on preliminary figures from the I.L.O. and must be interpreted with some caution.)

²The non-farm data in table 2.1 were regressed against levels of per capita income yielding the following result: Percent of rural labor force in non-farm activities = $-.12 + \frac{4.06}{(2.00)} \log \text{ per capita income}$. $R^2 = .2$, $F = 4$.

of existing activities the available evidence indicates that tailoring, dress making, furniture making, baking, and rice milling have continued to grow in importance even after large-scale, domestic factory production of these commodities has begun. Shoe production, leather production, and pottery appear to have generally declined in importance.¹ A mixed record appears with blacksmithing, and spinning and weaving.² It should be noted that the kinds of activities undertaken by some of the important artisan groups have been evolving. In some countries, for example, rural blacksmiths, who previously were primarily engaged in the production or servicing of hand tools, now also produce or service animal-drawn or mechanized farm equipment, and irrigation equipment (Liedholm and Chuta, 1976; Child and Kaneda, 1975). Moreover, several newer types of artisan activities, such as bicycle, auto, and electrical repair activities have grown particularly rapidly in recent years. These newer activities reflect the increased service-oriented nature of many artisan activities as the level of income and urban factory production increase. In addition, certain types of craft-oriented artisan activities designed for the international market, such as gara (tie-dye) cloth in Sierra Leone (Liedholm and Chuta, 1976) and wood carving in Haiti (Haggblade, et al., 1979) have also been growing rapidly in certain countries. Finally, a few "modern" factory activities, some of which have emerged from smaller enterprises, such as metal working factories in India (Berna, 1960) and cement block production and essential oils

¹Additional evidence on the decline of these particular activities is found for India (Prasad, 1963), Ethiopia (Karsten, 1972), and Burma (Resnick, 1970).

²Spinning and weaving has declined in the Philippines and Sierra Leone, but has increased, since Independence, in India.

(luxury perfume) production in rural Haiti (Haggblade, et al., 1979), have also begun to increase in importance.¹

These differential growth patterns are important to recognize in the design of programs and policies for the rural non-farm area. Governmental policies, particularly with respect to large, modern industries and agriculture, influence growth patterns of individual activities within each country.² Although some of the existing rural non-farm activities will evolve and new activities will emerge, the sheer magnitude of these existing informal artisan activities in most countries indicates that any major transformation will take many years to complete. Stewart (1977) has estimated that it will take several decades before the "formal" sector will begin to absorb even the additions to the labor force in most developing countries. Consequently, attention must continue to be directed towards enhancing many of the types of activities represented in the existing structure of rural non-farm enterprise, even if, in the longer run, many of them will eventually decline in importance or disappear.³

¹For an excellent listing of the types of "modern" small enterprises, both urban and rural, likely to increase in importance, see Staley and Morse (1965, p. 97ff). Locational, process and market influences are stressed.

²In India hand loom production declined from 1901-1948 under colonial rule (Prasad, 1963; table 14), but increased after Independence with government encouragement.

³Investments in most "informal" rural non-farm enterprises, for example, would be fully amortized within a ten to twenty year time period.

3. DETERMINANTS OF THE ROLE OF RURAL NON-FARM ACTIVITIES

Both the future and existing patterns of rural non-farm activities are determined by a set of factors influencing the demand for and supply of these economic activities. These demand and supply issues will be examined in the next section.

3.1 Demand for Rural Non-farm Activities

There are three principal sources of demand for the products and services of rural non-farm activities that should be considered. The primary source is the demand generated from the incomes of rural consumers. A second source of demand arises from the backward and forward production linkages with the agricultural and large-scale industrial sectors. The final, important source of demand is provided by the urban and foreign or export sector. The issues relating to each of these demand sources will now be examined.

3.1.1 Rural Income

A central issue is whether or not the demand for rural non-farm activities should be expected to increase as rural incomes increase. There have been some divergent views expressed on this particular matter.

Hymer and Resnick (1969) have argued that rural non-farm goods and services, "Z goods," are "inferior" goods and thus the demand for these goods will decline as rural incomes rise. Pack, in his review (1977) of the report of the 1972 I.L.O. mission to Kenya, also contends that increasing the incomes of the poor may have, at best, only a limited effect on the demand for the goods and services of the "informal sector,"

which includes rural non-farm activities. Neither Hymer and Resnick, nor Pack, present any empirical evidence to support this view and Pack himself admits, "relatively little is known about the magnitudes involved."

Mellor (1976), Liedholm and Chuta (1976) and various I.L.O. Employment Missions (1972), (1974), have contended that there is a strong, positive relationship between rural income and the demand for rural non-farm activities. The available evidence, though limited, tends to support this view. Virtually all the standard analyses of rural household expenditure surveys undertaken in such diverse countries as India (Mellor, 1976), Kenya (Massell, 1969), and Uganda (Massell and Parnes, 1969), indicate that the income elasticity of demand by rural households for nonfood consumption items is positive and, in most cases exceeds unity, and that these activities account for an increasing proportion of a rural household's budget as its income rises.

Although these analyses are indicative, they are not conclusive, because they fail to differentiate between those nonfood consumption items produced in the rural areas and those produced in urban areas or imported. King and Byerlee's (1978) pioneering rural expenditure survey in Sierra Leone, however, does differentiate activities by origin or location and reveals that the rural expenditure elasticity for rurally-produced non-farm consumption activities is 1.4 (i.e., indicating that an increase of rural incomes of ten percent raises the expenditure for rural non-farm goods and services by fourteen percent). Studies by Leurquin in Ruanda-Urundi (1960, p. 313) and Gibb in the Gapan area of the Philippines (1974) also indirectly indicate that an increasing share of income is allocated to rural non-farm activities as income rises. Consequently, these few studies

reveal that rural non-farm goods are not "inferior" (i.e., possess an expenditure elasticity below zero), and rather than being viewed as an over-riding constraint, the demand induced from increasing incomes should be viewed as a strong force for the growth of rural non-farm activities in developing countries.¹ Clearly, further research is needed to verify these relationships in other countries and the magnitude of the elasticities for individual rural non-farm activities.

3.1.2 Backward and Forward Production Linkages

A second major demand issue centers on the nature and extent of the production linkages between rural non-farm activities and other sectors of the economy, particularly the agricultural and large-scale industrial sectors. Specifically, there are the "forward" linkages from the rural non-farm sector, where rural non-farm outputs serve as inputs to other sectors, and the "backward" linkages from the rural non-farm sector, where this sector provides a demand for the output of other sectors. There are diverging opinions and varying empirical evidence on the production linkage issue. In this section, the rural non-farm sector's linkages with the agricultural sector will be examined first, followed by a discussion of its linkages with large-scale industry.

A. O. Hirschman, in his classic book, The Strategy of Economic Development (1958), contends, without detailed empirical evidence, that the linkages between agriculture and other sectors are quite weak. Yet, Mellor (1976), argues that linkages with agriculture are, or could be, potentially quite significant; indeed these agricultural linkages are an essential ingredient in Mellor's "rural-led strategy of development."

¹The composition and magnitude of these effects depends importantly on the pattern of agricultural growth. See below (p. 62) as well as Mellor (1976), and Johnston and Kilby (1975) for further discussions of these effects.

The empirical evidence on rural non-farm linkages with agriculture tends to be somewhat limited. The vast majority of the input-output studies fail to include any explicit rural non-farm activities, and thus they mask or understate the rural non-farm linkages with agriculture.¹ The few input-output studies that specifically include rural non-farm activities, however, indicate the "forward" and "backward" production linkages from this sector to agriculture are often quite important. Such results are found in input-output studies of India (Krishna, 1973; Falcon, 1967); of the Muda River Area of Malaysia (Bell and Hazell, 1976); of the Philippines (I.L.O., 1974) and of Sierra Leone (Byerlee, et al., 1977). Additional support for the strength of these "production linkages" is also found in several detailed industrial case studies undertaken in these and other countries.

With respect to the "forward linkages" from rural non-farm activities to agriculture, the empirical studies indicate that rurally produced agricultural inputs are particularly important where traditional "intermediate" agricultural technologies are utilized. Johnston and Kilby's (1975) analysis of farm equipment in India, Pakistan, and Taiwan stresses that traditional tools are most often made by rural artisans, while improved implements, and irrigation pumps and motors are likely to be fabricated by light engineering workshops located in rural towns.²

¹The rural non-farm activities are either omitted, often for lack of data, or are lumped together with agriculture or "modern" large-scale industrial activities.

²Tractors, combines, and other large items with high performance characteristics, as well as fertilizers, tend to be produced abroad or in urban areas. Consequently, the nature of the agricultural technology adopted has important effects on rural non-farm linkages (see below, p. 64 for a further discussion).

Karsten's study of rural blacksmiths in Ethiopia (1972) and Liedholm and Chuta's analysis of rural artisans in Sierra Leone (1976) provide further support for the crucial role played by rural artisans in providing inputs for traditional agriculture in Africa. Liedholm and Chuta note that approximately one dollar of rural blacksmithing output, particularly in the form of hoes, knives, and axes, is demanded for every one hundred dollars of agricultural output. Moreover, both Child and Kaneda's (1975) analysis of diesel tubewell production in Pakistan and Cartillier's (1975) study of electric tubewell manufacturing in India point out the extensive growth of these light engineering activities in those rural areas where improved agricultural practices have been adopted.

With respect to the "backward" linkages from rural non-farm activities to agriculture, the weight of the empirical evidence suggests that these are quite significant. Most of the studies focus on the linkages between rural agricultural processing and the agricultural sector, although rural transport and rural marketing activities are also potentially important backward linkages. Krishna's (1973) input-output study of India indicates that such activities as the processing of gur, tobacco, sugar, cashew nuts, and flour have among the highest intersectoral linkages. Unfortunately, the location and size of these activities is not specified. Falcon's (1967) study of agricultural-industrial inter-relationships in Pakistan, however, reveals that crop flows to small-scale processing activities, the majority of which are rural, are more than five times the flow to urban, large-scale processing.

Indeed the strength of this "backward" linkage from rural non-farm processing to agricultural production depends crucially on the choice and

location of the processing technology involved. Although there is some indication that a range or mix of technologies will sometimes be optimal, most of the case studies of processing indicate that small-scale, rurally-based processing activities generally are economically efficient in developing countries.¹ Studies of rice processing in Indonesia (Timmer, 1975) and Sierra Leone (Spencer, 1976) reveal the significant links between small, rural rice mills or hand-pounding and rice production. Similar results for palm oil processing in Nigeria are reported by Miller (1965). In summary, these various empirical studies indicate the importance of backward and forward linkages of the rural non-farm sector with agriculture and point to the need for future researchers to incorporate explicitly rural non-farm activities when analyzing sectoral interactions.

The empirical evidence on the production linkages between rural non-farm activities and large-scale industry is also somewhat sparse. Only a few of the input-output studies, as noted previously, explicitly include rural non-farm activities, and case studies in this area are very limited.

The "forward" production linkages from rural non-farm enterprises to large-scale industry, where these enterprises provide intermediate or capital goods to large-scale industry, are most frequently discussed in terms of subcontracting relationships (see World Bank 1978b). Such subcontracting arrangements have been particularly important in Japan, where approximately 60 percent of all small-scale units are subcontractors to large firms (Vepa, 1971; Paine, 1971). There is little evidence on the

¹See below (p. 35) for a more detailed examination of production efficiencies.

location of these subcontracting enterprises, however, and it is difficult to specify how much of these subcontracting activities are undertaken by small, rural enterprises.¹ Subcontracting to small enterprises does not appear to be as extensive outside of Japan, although the empirical evidence is admittedly very sketchy. In India, for example, subcontracting represents about 1 percent of the total product of small-scale industry (Vepa, 1971). In Africa and Latin America, subcontracting and the "forward" linkages from small, rural non-farm enterprises to large enterprises are minimal (Liedholm and Chuta, 1976; Pack, 1978; UNIDO, 1969).²

Indeed the "backward" production linkage from small-scale, rural, non-farm activities to large-scale industry appears more extensive than the "forward" linkage. Even in Japan output flows from large to small enterprises are almost three times as much as that from small to large enterprises (Hoselitz, 1968). Several examples of small, rural non-farm enterprises purchasing their intermediate inputs from larger firms are cited by Pack (1977) for Kenya, Child and Kaneda (1975) for Pakistan, and Liedholm and Chuta (1978) for Sierra Leone.³ In summary, the nature and extent of these production linkages from rural, non-farm activities

¹There is also subcontracting undertaken for foreign firms for component production or assembly. These relationships are found extensively in Hong Kong, Taiwan, Mexico, Singapore, and a few other areas; most of their subcontractors are urban based (see Watanabe, 1976). Some foreign initiated rural subcontracting does exist, however, in a few developing countries such as Haiti, but these relationships have not been studied.

²See below, p. 64 for a discussion of the policy issues relating to the promotion of subcontracting activities.

³These backward linkages may have fewer indirect employment effects than the forward linkages (see Pack, 1977).

have not been extensively examined, and additional, detailed studies of these intersectoral linkages are clearly required.

3.1.3 Foreign and Urban Demand

The final important demand issue centers on the nature and magnitude of the foreign and urban demand for the products of rural non-farm enterprises.¹ The lack of detailed data on the location of productive activities in most countries makes it difficult to derive any definitive conclusion on this issue.

The available evidence does indicate that rural non-farm products do enter into international markets and that, for some activities, the international market is a major component of the total market. In Iran, handicrafts, including carpets, is the largest export item after oil and 60 percent of the handicraft activity is undertaken in rural areas (Dhamija, 1976). In India, handicraft and handloom commodities account for approximately 6 percent of the country's value of exports (Government of India, 1965). Finally, evidence from Sierra Leone indicates that approximately one-fifth of the total production of the rural gara (tie-dye) industry is exported (Liedholm and Chuta, 1976).

The evidence also supports the view that the international market is or is potentially an important component of demand for rural non-farm activities. The only detailed study in this area has been undertaken by Huddle and Ho (1972), who examined the international demand for eighty-one different "culturally-oriented" products. Specifically, their study reveals that the overall income elasticity of demand exceeds one in high

¹The actual and potential demand of government for rural small enterprise goods and services (e.g., school uniforms) should also be considered.

income countries for products such as wood carvings, brassware, and earthenware. Thus the overall demand for these products should be expected to increase importantly as income in high-income countries increases. More detailed studies focusing on the location of these production activities would be useful in determining whether or not there are differences in the elasticities of demand between rurally-produced, "culturally-oriented" commodities. Little is known of the factors determining the proportion of the total market captured by each individual country. Such studies are important for designing effective programs and policies enabling developing countries to take full advantage of this important market.¹

3.2 Supply of Rural Non-farm Activities

Supply factors also play crucial roles in determining both the current and future nature, extent, and composition of rural non-farm activities. The important supply issues relate primarily to the efficiency with which rural non-farm enterprises utilize their economic resources, both in static and dynamic terms. The key static efficiency issues center on the existing labor intensity, capital productivity, factor substitutability, and economies of scale in rural non-farm activities; the dynamic issues relate primarily to the potential for the expansion of capital and entrepreneurship in these activities.

¹Policies such as those designed to improve the rural infrastructure and the marketing system may be crucial for fully exploiting this international market. See below, p. 60 for further discussion of these policy issues.

3.2.1 Labor Intensity of Rural Non-farm Activities

One important supply issue is whether or not rural non-farm activities are more labor-intensive than other segments of the economy. Since in most developing countries, capital and foreign exchange are relatively scarce, and labor, particularly unskilled, is relatively abundant, those activities and techniques of production that are more labor-intensive would generate the largest amount of employment per unit of scarce factor and thus appear to represent activities or technologies most "appropriate" to their factor endowments.¹

The evidence available indicates that existing rural non-farm activities are generally more labor-intensive than other segments of the economy. Most of the studies utilize the capital-labor ratio or its reciprocal to measure labor intensity and this labor intensity measure must be interpreted with caution.² Moreover, the majority of these studies have either examined specific processes within industries or compared large and small enterprises and thus generally have not specifically compared rural non-farm activities with other activities. Since the great bulk of rural non-farm enterprises are very small and utilize certain types of processes, it is possible to impute cautiously from the results of these more general studies.

There have been studies involving at least nine countries comparing the labor-capital ratio, or its reciprocal, of large- and small-scale enterprises. In every country, the smaller scale enterprise group possess a higher labor-capital ratio (or lower capital-per-worker ratio)

¹See White (1978), and Morawetz (1974) for a general discussion.

²Such factors as excess capacity, heterogeneity of capital and labor, stock versus flow problems, and use of market prices have been mentioned (see Bhalla, 1975).

than the larger scale enterprise group, with the labor intensity of small firms ranging from four to fifteen times higher than the large firms (see table 3.1).

Although these studies reveal that smaller enterprises are more labor-intensive than larger enterprises, they do not differentiate between rural and urban enterprises and thus do not conclusively verify whether rural non-farm activities are themselves more labor-intensive. There is one exception that sheds some light on the issue. The Sierra Leone small enterprise survey (Liedholm and Chuta, 1976) does differentiate by location and indicates that the small-scale, rural enterprises in Sierra Leone are at least twice as labor-intensive.¹ Although additional studies in this area are needed, the analysis points to the relative labor intensity of rural non-farm activities.

3.2.2 Labor Productivity

A second supply issue centers on how the labor productivity of rural non-farm activities compares with labor productivity in other segments of the economy. The relevance of this issue, however, is perhaps as important as the conclusions derived from the various empirical studies.

During the 1950s and 1960s several international study groups and productivity missions² equated "efficiency" with labor productivity;

¹The differences were statistically significant.

²See, for example, the I.L.O. report cited in Kilby (1962).

TABLE 3.1

SIZE OF ENTERPRISE AND LABOR INTENSITY (K/L)^a IN SELECTED COUNTRIES

Country	Size of Enterprise	Fixed Capital Per Worker (\$)		
		1-10 workers	11-50 workers	50+ workers
<u>Asia</u>				
Japan (1966)		\$ 934	\$1040 ^b (30-49)	\$4333 (1000+)
India (1965)		278 ("small")	557 ("medium")	2450 ("large")
Malaysia (1968)		521	997 (20-29)	2671 (500+)
Philippines (1970)		1020 ("small")	2850 ("medium")	8000 ("large")
<u>Africa</u>				
Sierra Leone (1974)		158	225	1175
Kenya (1960)		772	986 (15-19)	3108 (100+)
Ghana (1970)		1372	3724 (10-29)	6468 (100+)
<u>Latin America</u>				
Mexico (1970)		3700 ("small")	9500 ("medium")	14,500 ("large")
Colombia		3000	---	13,400

SOURCES:

1. Japan: Okhawa and Tajima (1976)
2. India: World Bank (1978b)
3. Malaysia: Okhawa and Tajima (1976)
4. Philippines: World Bank (1978b)
5. Sierra Leone: Liedholm and Chuta (1976)
6. Kenya: I.L.O. (1972)
7. Ghana: Steel (1977)
8. Mexico: World Bank (1978b)
9. Colombia: World Bank (1978b)

NOTES:

- ^aFixed capital per worker (\$)
- ^bNumbers in brackets refer to size distribution when they differ from heading

consequently, enterprises with high average labor productivities were considered the most "efficient."¹ The efficacy of this view has rightly been questioned by many observers (see White, 1978). Although the level of labor and managerial skills do affect the labor productivity measure, the amount of capital with which each employee works is a crucially important determinant of labor productivity. A low labor productivity figure for a rural non-farm establishment may be a reflection, as White notes, "of the efficient combination of labor with low levels of capital in developing countries" (White, 1978, p. 30). The average productivity of labor thus would not appear to be a very useful efficiency criterion, particularly if labor is not viewed as the binding, scarce resource constraint.²

The available empirical evidence generally indicates that the average productivity of labor is lower in small-scale enterprises than in the larger scale enterprises (see the results of the studies listed in table 3.1). The results from Sierra Leone (Byerlee, et al., 1979) indicate that small, rural, non-farm enterprises have somewhat lower labor productivities than do their larger scale counterparts in urban areas. Such findings are not surprising in light of the results presented in the previous section that the larger enterprises possess greater amounts of capital per worker.

¹In a dynamic framework, the World Bank (1978a) argues that, "gains in labor productivity are essential." The crucial issue is, however, how the increase in output (the numerator) is to be maximized given the scarce resource constraints.

²If any labor measure is to be used, it would be the marginal rather than the average product of labor. Specifically, the value of the marginal product would be equated to the wage in any efficiency measure. Skilled labor or managerial labor might be a scarce resource in certain industries.

3.2.3 Capital Productivity of Rural Non-farm Activities

A third supply issue revolves around whether or not rural non-farm enterprises use the scarce factor, capital, as efficiently as do other enterprises or activities. There have been divergent opinions expressed on this issue.

Several international groups and individuals, including Nicholas Kaldor, argued during the 1960s that small-scale, labor-intensive activities would use not only more labor, but also more of the scarce factor, capital, than their larger scale counterparts.¹ Hence they argued that these small-scale, labor-intensive activities would possess lower output-capital ratios and would be consequently less efficient than the larger, more capital-intensive enterprises. There could be a conflict between the objectives of maximizing output and employment if such a condition exists. (See Baer and Herve, 1966; Morawetz, 1974). During the 1970s several sources (World Bank, 1978a; World Bank, 1978b; Pack, 1974; Liedholm and Chuta, 1976; Marsden, 1969) have argued that small-scale labor-intensive enterprises might also be more efficient in the utilization of capital (i.e., possess higher output-capital ratios) than their more capital-intensive counterparts. There need not be a trade-off in such a case between output and employment objectives.

The available empirical evidence relating to the capital productivity of rural, non-farm activities, while indicative, is not conclusive. Most of the studies compare either large and small enterprises or processes within activities and thus do not explicitly focus on rural, non-farm

¹See, for example, Robinson (1965), Barber (1969), I.L.O. Report in Kilby (1962) and I.L.O. (1961).

activities. There are also measurement problems, particularly for the smallest enterprises, as well as several conceptual problems relating to the comparison of large and small enterprises.¹ Thus any aggregate comparison must be interpreted with extreme caution.

The majority of the empirical evidence does appear to provide some support for Marsden's (1969) contention that "the smaller enterprises, with a lower level of investment per worker, tend to achieve a higher productivity of capital than do larger, more capital-intensive enterprises." An examination of table 3.2, where the relationship between the output-capital ratios and size of establishment in the nine countries where sufficiently detailed results are available, reveals that in only one country, India, does the overall capital productivity of the largest enterprises appear to exceed that in the small enterprise. India may not even be an exception since several other studies (see World Bank, 1978b and Shetty, 1963) found that the capital productivity of larger enterprises in India is lower than that found in smaller Indian firms.²

¹Data from the smallest enterprises (i.e., one through nine worker category) are very unreliable since the majority do not keep books and memory recall is limited (see below, p. 50). Aggregate data comparing large and small enterprises mask the differences in capital productivity between individual lines of activity. The appropriate, but less readily available, comparison is between firms producing the same product with the same degree of vertical integration (White, 1978). See below, p. 42 for size comparison by roughly comparable product groups. Finally, the most desirable comparison between small and large enterprises would involve the marginal rather than the average product of capital, but unfortunately, such data are generally not available; thus average products must serve as rough proxies. A related issue in a dynamic or investment framework is how rapidly the marginal productivity of capital declines with additional capital invested in rural small enterprises.

²See also the debate and exchange on this issue in India between Mehta (1969) and Sandesara (1966, 1969).

TABLE 3.2

SIZE OF INDUSTRIAL ENTERPRISE AND CAPITAL PRODUCTIVITY (Q/K)^a
IN SELECTED COUNTRIES

Country	Size of Enterprise	1-10 workers	11-50 workers	50+ workers
		Value Added Per Unit of Fixed Capital		
<u>Asia</u>				
Japan (1966)		1.55	3.32 ^b (30-49)	1.50 (500-999)
India (1953)		0.10 (1-19)	0.47 (20-49)	0.73 (500-999)
Pakistan (1960)		1.16	0.37 (20-49)	0.28 (100+)
Malaysia (1968)		2.01	1.32 (20-29)	1.02 (100-199)
Philippines (1960)		0.96 (5-19)	0.98 (20-49)	1.11 (500+)
<u>Africa</u>				
Sierra Leone (1974)		3.20	1.50	0.72
Ghana (1976)		0.60	0.30	0.60 (100+)
Kenya ^c (1972)		5.60 (0-4)	2.60 (20-29)	1.10 (100+)
<u>Latin America</u>				
Mexico (1965)		1.34 (1-5)	0.64 (16-25)	0.61 (500+)

Sources:

1. Japan: Okhawa and Tajima (1976)
2. India: Okhawa and Tajima (1976)
3. Pakistan: Ranis (1961)
4. Malaysia: Okhawa and Tajima (1976)
5. Philippines: Okhawa and Tajima (1976)
6. Sierra Leone: Liedholm and Chuta (1976)
7. Ghana: Steel (1977)
8. Mexico: Okhawa and Tajima (1976)

NOTES:

^aValue added per unit of fixed capital

^bNumbers in brackets refer to size distribution when they differ from heading

^cRefers to distribution activities only

Since the majority of rural non-farm enterprises fall into the smallest size category (i.e., one through nine) the relative capital productivity of this size enterprise group is of particular interest. Several sources (World Bank, 1978b; Okhawa and Tajima, 1976) have contended that the capital productivity of the "very smallest enterprise group" (i.e., one through nine) might be lower than the next largest small-scale size category (i.e., ten to fifty). An examination of table 3.2 reveals that such a result appears to hold only for Japan and perhaps India; thus the capital productivity of the smallest size enterprise, where most of the rural non-farm enterprises are found, generally compares favorably with that of the larger-sized enterprises.

Direct evidence on the relative capital productivity of rural non-farm activities is available only in the Sierra Leone industry study (Liedholm and Chuta, 1976). This survey indicates that the output-capital ratios for rural non-farm enterprises are markedly higher than those of their urban, small-scale counterparts. These various results, while certainly not conclusive, thus do tend to indicate that rural non-farm enterprises generally are not only more labor-intensive, but also may generate more output per unit of capital than their larger scale counterparts; thus there may not be any output-employment trade-off, at least in a static sense.¹ More detailed case studies of rural non-farm enterprises are required before more conclusive judgements can be made.

¹These results by themselves do not provide a sufficient condition for additional investment in rural non-farm enterprises. Analytically, data on the marginal productivity of capital as well as information on how rapidly the marginal productivity would decline with additional capital are required. Other potentially scarce resources, such as skilled labor, management, and foreign exchange, should ideally be included in a measure of total scarce factor productivity rather than simply capital productivity; these inputs should be examined at their social prices (see, Morawetz, 1974).

3.2.4 Alternative Production Techniques in Rural Non-farm Activities

Another important issue is whether or not there is an array of efficient alternative processes in use or available for the types of non-farm activities undertaken in rural areas. This issue has significant policy relevance because it provides an indication of whether changes or distortions in factor prices have any effect on the optimal production technique or factor proportions. An examination of the efficiency of alternative processes within individual industries, rather than the broadly defined aggregates such as large versus small-scale establishments, is central to resolving the output-employment trade-off issue.

A central theme among engineers and even some economists, particularly during the 1950s and 1960s, was that few, if any, efficient alternatives to the capital-intensive processes of the developed countries existed.¹ This contention has been strongly attacked in recent years by a wide array of individuals and organizations.²

The accumulated, empirical evidence supports the view that a wide, although not unlimited, number of alternative processes exist within most lines of manufacturing activities.³ One of the empirical approaches has been to measure, by means of econometric estimation procedures, the elasticity of substitution between capital and labor in a number of activities. These studies have been carried out in at least 25 developing

¹See sources mentioned in footnote one on the preceding page, as well as Francis Stewart (1972) and Eckhaus (1955).

²See White (1978) and Morawetz (1972) for a listing of these views.

³See ibid. for a good summary of the evidence.

countries and the vast majority find that estimates of the elasticity of substitution are positive and tend to bunch between values of 0.5 and 1.2. Although these studies indicate that efficient factor substitution is possible, they all suffer from several methodological difficulties.¹ Consequently, these results must be interpreted with some degree of caution.

A second empirical approach has been to delineate, through individual case studies, the main production techniques and processes in a given line of activity. The factor-intensity and efficiency of both existing and potential techniques are then examined. There have been detailed studies of only a few products or processes. The results from these studies consistently indicate that factor substitution is possible and the difference in factor ratios can be quite substantial (White, 1978, p. 34). Unfortunately, many of the case studies do not directly include rural non-farm processes or products.

The evidence from the limited number of case studies explicitly involving rural non-farm products or processes does indicate that there is factor or process choice within many lines of rural non-farm activity. In the various case studies of Sierra Leone rural and urban manufacturing there were at least five clothing processes, six bread processes, five gara (tie-dye) processes, three metal-working processes, and five rice milling processes delineated, all of which possessed different factor

¹Morawetz (1974), Gaude (1975), and O'Herlihy (1972).

proportions.¹ Similar results have been reported elsewhere by Bhalla (1965) and Timmer (1972).²

The few case studies involving rural non-farm activities have revealed that rural non-farm processes are generally both more labor-intensive and more productive per unit of capital than their larger, often urban-based counterparts in the same industry. Studies in Indonesia (Timmer, 1972) and Sierra Leone for rice processing (see table 3.3), indicate that both traditional handpounding and small, rural rice mills were more labor-intensive and generated more output per unit of capital than the larger scale mills.³ For cloth production, several studies of spinning and weaving in India (Sen, 1968; Bhalla, 1964, Raj, 1957) indicate that the output-capital ratios for traditional hand loom spinning and weaving activities, the majority of which are rural, are higher than those for factory production. Similar results are found for clothing production in Sierra Leone (see table 3.3). Finally, for bread production, rural bakers using traditional, mud ovens are found to be more labor-intensive and more productive with capital than the larger, urban-based bakers (see table 3.3). Similar results are found indirectly

¹ See Chuta (1978), Liedholm and Chuta (1976), and Spencer, et al., (1976).

² Although there is evidence that several differing techniques and processes are being used within many lines of rural non-farm activity, the range of choice is undoubtedly far from complete. There is thus scope for the development of new processes or products, particularly those that increase overall factor productivity or will be, at least, more labor-intensive. For an excellent, recent review of the evidence on technical progress, and research and development in developing countries, see White, 1978. See also Marsden (1971), and Strassmann (1968).

³ In India Bhalla (1965) found that handpounding possessed a lower output-capital ratio (capital productivity) than machine-milled rice. Small mills, however, possessed higher output-capital ratios than did the large mills.

TABLE 3.3

CAPITAL PRODUCTIVITY AND LABOR INTENSITY BY PROCESS AND LOCATION FOR SELECTED ACTIVITIES

Activity/Country	Labor-Capital Ratio (man-hours per \$ of capital)	Output- Capital Ratio
A. <u>Rice Milling</u>		
1. <u>Sierra Leone</u>		
Rural handpounding	638.00	40.90
Rural small-steel-roller mill	1.25	1.80
Urban large rice mill	0.12	1.20
2. <u>Indonesia</u>		
Rural handpounding	NA	NA
Small rice mill	0.14 ^a	2.60
Large rice mill	0.02 ^a	0.80
3. <u>India</u>		
Rural handpounding	1.70 ^a	1.20
Small rice mill	0.04 ^a	2.20
Large rice mill	0.04 ^a	1.90
B. <u>Spinning and Weaving</u>		
1. <u>India - Spinning</u>		
Rural, traditional cotton spinning	4.70 ^a	0.15
Factory spinning	0.02 ^a	0.11
2. <u>India - Weaving</u>		
Rural fly-shuttle hand-loom	NA	4.50
Automated power loom	NA	0.30
C. <u>Clothing - Sierra Leone</u>		
Rural tailor, small-scale non- electric sewing machine	16.60	8.30
Urban tailor, small-scale electric sewing machine	4.30	2.60
Urban clothing factory, large-scale	2.20	1.70
D. <u>Bread-making - Sierra Leone</u>		
Rural baker, small-scale, traditional oven	38.00	19.00
Urban baker, small-scale, multiple-deck oven	5.30	3.20
Urban baker, large-scale, tunnel oven	2.60	2.60

SOURCES:

Rice milling: Sierra Leone: Spencer, et al. (1976); Indonesia: Timmer (1972);
India: Bhalla (1965).

Spinning and weaving: India-spinning: Bhalla (1964); India-weaving: Sen (1968).

Clothing: Byerlee, et al. (1979).

Baking: Chuta (1979)

NOTE: ^aNumber of workers per \$100 of capital stock

for sugar processing in India (Baron, 1975). These studies, while certainly not conclusive, do indicate in several lines of activity at least there are rural small-scale processes that generate more employment and output per unit of capital than their larger scale, urban-based counterparts; consequently, in these cases, employment-output conflict would appear to vanish.¹

3.2.5 Economies of Scale in Rural Non-farm Activities

A related issue is the extent of the economies of scale in the existing or potential lines of activity engaged in by rural non-farm enterprises. This issue is important in determining whether scale economies are so predominant that policies to emphasize small, rural activities might result in a loss in economic efficiency or in a rapid elimination of rural enterprises as markets expand.

The empirical evidence on this issue, though limited, indicates that the importance of the scale factor varies importantly by type of industry or activity. There are certain lines of activity where scale effects appear to be important such as in chemicals, petroleum refining, and brewing, where surface areas and volume relations become dominant features, or metal finishing where the setting-up costs of a production run become important (White, 1978; Scherer, 1970). There are only a limited number of empirical studies that have verified the existence of significant scale economies in developing countries. For metal

¹These findings must be interpreted with some caution since they are subject to many of the same measurement and conceptual problems described in the previous subsection. In addition, Kilby (1964) and Stewart (1977) have argued that even within the same industry there are important differences in product quality and that these quality differences are related to the size and capital intensity of the enterprise. It is not clear, however, that these quality differences are sufficiently large to vitiate the results.

machinery (Boon, 1976) in Mexico, and cement block manufacture (Stewart, 1976) in Kenya, recent empirical studies have shown that "there are appreciable economies of scale and that capital-intensive methods are necessary to capture these economies."

Several other studies have indicated a number of lines of activity where scale economies do not appear to be significant. In Sierra Leone results of production function analyses revealed that there was no evidence of economies of scale in cloth making, wood working, metal working, and baking (Liedholm and Chuta, 1976). Similar results were found in India for textiles (Murti and Sastry, 1957) and in Pakistan for textiles, light engineering, plastics, and leather (Ranis, 1962). A similar finding was reported for machine goods production in Pakistan (Child and Kaneda, 1972).¹ Finally, Pack (1974), using world-wide cross-section data, found no evidence of significant scale economies in the bicycle, wheat milling, tire, and woolen yarn textile industries. Thus the limited available evidence indicates that economies of scale do not appear to be significant in a wide range of activities where rural non-farm enterprises are involved.

The results of these various empirical studies indicate that many small rural non-farm enterprises are relatively efficient in their utilization of existing resources.² It is also important to ascertain whether these activities are efficient in a dynamic sense.

¹ See also Pack and Todaro (1969) for a general discussion of scale economies in the capital goods industry in developing countries.

² These findings do not suggest that these rural non-farm activities are permanently superior to large, urban-based activities or that they merit support to the exclusion of urban-based, larger scale activities. Certain types of activity may be better served by large-scale enterprises. Moreover, both small and large enterprises can and do co-exist and often serve different markets.

3.2.6 Profit, Savings, and Reinvestment Rates of Rural Non-farm Activities

An important dynamic efficiency issue centers on the relative profit, savings, and reinvestment rates of rural non-farm activities. This capital growth issue is significant for policy because it sheds light on the economy's growth rate and whether or not there might be output-employment conflicts over time.¹ Galenson and Leibenstein (1955) and Sen (1968), argue that even though efficient, small-scale, labor-intensive activities or processes might exist, large capital-intensive activities or processes should be chosen because they generate the most savings and reinvestment and, consequently, generate the most rapid growth of output and employment over time. This outcome occurs, they argue, because such activities or processes produce the highest returns (profits) to capital and capital owners have higher savings and reinvestment rates than do workers. If these contentions are true, then rural non-farm activities, which tend to be small and labor-intensive, would appear to provide less growth support for the economy than others.

There are three empirical components bearing on this capital growth issue that must be examined. The first relates to the relative savings propensities from profit and employment income; the second relates to the relative rate of profit per unit of capital generated by rural non-farm activities as opposed to those generated by others; the last relates to the relative savings and reinvestment propensities of these activities.

¹Power (1962) used the following formulation to relate the components of growth: $(Y/K)(S/Y) = S/K$. This criterion was used to judge the contribution of small and large units.

For some of these components, the empirical evidence is available and indicative, but for others it is limited and not conclusive.

The empirical evidence on the savings propensities from employment and profit sources is perhaps the strongest. Studies by Houthackker (1961), Williamson (1968), as well as others reviewed by Mikesell and Zinser (1973), do tend to support Galenson and Leibenstein's contention that savings out of labor income is low while that out of profits tends to be high.

The evidence relating to the returns to capital or profit rates is much more limited, but is also somewhat indicative. Accurate data on profit rates of small, rural non-farm enterprises are very difficult to collect and, consequently, there are only a few studies that can shed light in this area. Nevertheless these few studies indicate that the profit rates of small, rural non-farm enterprises are substantial. Child (1973) found that the median gross profit rate for his sample of rural industries in rural Kenya was approximately 75 percent. Liedholm and Chuta (1976) report that the average "economic profit"¹ of rural small-scale enterprises in Sierra Leone ranged from 20 percent for tailoring to about 200 percent for gara (tie-dyeing). Finally, Huddle (1977) reported that the financial profit rates generated by a sample of rural artisans in Colombia exceeded 150 percent. In all these instances, the rates of return to capital were markedly higher than rates of return generated by their larger scale, capital-intensive, urban-based counterparts.²

¹The opportunity cost of the proprietor's and family's labor has been deducted.

²There is evidence from urban-based surveys, such as those undertaken for Karachi (Ranis, 1961) and Delhi (Dhar, 1961), that small-scale, labor-intensive enterprises generate a higher rate of return to capital than their large-scale, capital-intensive counterparts.

Thus Galenson and Leibenstein's contention that the profit rates of capital-intensive enterprises would exceed those of the smaller, labor-intensive enterprises does not appear to be supported by the limited empirical evidence to date. Clearly more studies of the profitability of small, rural enterprises are needed.

Finally, the evidence relating to the savings and reinvestment propensities of various enterprises is the most scanty and least reliable of the empirical components. The only empirical studies of the savings propensities of small enterprises have been of urban enterprises (Ranis, 1961; Dhar, 1958), and the quality of their savings and reinvestment data for the smallest enterprises was admittedly very poor. Both authors concluded that "the percentage of total profits which the small scales are capable or willing to save (i.e., one-half to two-thirds) is not significantly smaller than that in other scales" (Ranis, 1961, p. 20). For the small, rural-based enterprises, the majority of which are family owned activities, the profits from the enterprise often become mixed with savings and expenditures from other household activities; thus it becomes very difficult to isolate the savings and reinvestment rates for those small rural enterprises that are merely a component of a more complex rural household. Huddle, in a recent study of Colombian artisans (1977), however, did find that the average savings propensity of the smallest, self-employed artisan household was 16 percent, a rate double that of the general population. There is evidence that a large part of the initial capital and reinvested capital from small, rural enterprises is derived from savings. For rural non-farm enterprises in Sierra Leone (Liedholm and Chuta, 1976) 60 percent of the initial capital came from

agriculture or business, while over 90 percent of the expansion capital came from reinvested profits.¹ These few limited studies indicate that rural non-farm enterprises may have a savings and reinvestment potential that is not markedly below that of their larger counterparts. Clearly more detailed and careful surveys are needed in this area. In summary, the empirical evidence does not provide support for Galenson and Leibenstein's contention that the profit, savings, and reinvestment rates of the kinds of activities that are undertaken by rural non-farm enterprises will necessarily result in less output and employment for the economy over time.²

3.2.7 Supply of Entrepreneurship

Another dynamic efficiency issue centers on how responsive the supply of entrepreneurship³ in rural non-farm activities is to changing conditions over time. This issue is of importance for policy because it provides an indication of the nature and extent of any constraints to an expansion of entrepreneurial supply and the efficacy of various policies and programs designed to overcome them.

¹Similar results on the importance of self-financing are reported for small-scale urban enterprises in India (Singh, 1963; Berna, 1960) and for small and medium size urban enterprises in Nigeria (Harris, 1970).

²Data on the rate of growth of individual rural enterprises are generally lacking and thus the total relationship between profits, savings, reinvestment, and firm growth cannot be easily examined. Results from Haiti (Haggblade, et al., 1979) indicate that the average net rate of equipment investment by individual small-scale enterprises was 6 percent per year between 1974 and 1978. Moreover, the previously described rapid growth of rural small-scale enterprise employment in general is also somewhat indicative; even if the growth occurs primarily via the establishment of new, small-scale enterprises, it could be argued that the savings is being used to establish new, small enterprises rather than to expand existing ones.

³Although there are numerous definitions of entrepreneurship, a common theme is that the entrepreneur is a key decision maker. As such, the entrepreneur can be treated as a factor of production where performance is determined by supply factors (Harris, 1970).

There are contrasting views concerning the responsiveness of the supply of entrepreneurship over time. Economists such as Harris (1970), Papanek (1971), and Leibenstein (1969) argue that the supply of entrepreneurship is responsive and that any deficiencies are either transient or due to market or policy imperfections. Indeed a recent review article by Leff (1979) argues that it is a "slack variable" and not a crucial constraint to development.¹ Kilby (1971), as well as those stressing the importance of either psychological (e.g., Hagen, 1962; McClelland, 1961) or sociological (e.g., Weber, 1930; Cochran, 1965) theories of entrepreneurial supply are much more pessimistic about the entrepreneurial supply responsiveness. The relative importance of the determinants of entrepreneurial supply and success, such as ethnicity, status, education (both formal and non-formal), are central to the validation of these views.

Unfortunately, there have been very few detailed studies of rural entrepreneurs that focus on the determinants of entrepreneurial supply in developing countries (see Broehl, 1978 for India, and Liedholm and Chuta, 1976 for Sierra Leone). Most of the studies examine entrepreneurship in somewhat larger, urban-based firms and thus their findings are only of limited usefulness.²

A common finding of all of these studies is that there are generally serious deficiencies in the entrepreneur's managerial and technical

¹He does not include the management function in his analysis, however, and focuses on the innovation and risk-taking functions.

²See, for example, those in India of Berna (1960), Singh (1963), Gadgil (1959), and Lamb (1955); Kilby (1971) and Harris (1970) in Nigeria; Marris and Somerset (1973) in Kenya; Carroll (1965) in the Philippines; and Cochran (1959) in Puerto Rico.

performance in most countries (see Kilby, 1971 for a listing and review). A crucial question then is whether or not the provision of training would enable this supply constraint to be overcome. Kilby (1971) and Cochran (1959) argue, however, that these marginal shortcomings are "enduring impediments rooted in sociological variables" that cannot be overcome by training, while Harris (1967) and others argue that appropriate training would be sufficient to expand entrepreneurship.

The empirical evidence on this issue is somewhat mixed. With respect to formal education, for example, Kilby (1965), Harris (1970), and Liedholm and Chuta (1976) have found little or no evidence that formal education and entrepreneurial success are related. One explanation for this finding is that nonformal education may be a more relevant form of education than the formal kind for smaller rural enterprises. In most rural areas the apprenticeship system is the primary vehicle for providing technical training; indeed in Sierra Leone 90 percent of the proprietors had previously served as apprentices. Other nonformal methods of training are also available in rural areas. One aspect of this training that appears crucial is record keeping, a skill that can be imparted by non-formal methods. Yet, most rural entrepreneurs do not keep any records.¹ The Sierra Leone study (Liedholm and Chuta, 1976), indicates that those rural enterprises that maintain even a rudimentary set of books are more successful (i.e., generate more profits) than those that do not. This same study also reveals that another nonformal type of education, number of years of on-the-job "experience", is also a significant determinant of a rural enterprise's success.

¹In Sierra Leone, only 17% of the proprietors kept any books; in rural Bangladesh only 6% kept books (Bangladesh Institute of Development Studies, 1979), while in Jamaica only 11% of the rural proprietors kept any records (Davis, Fisseha, Francis, and Kirton, 1979).

The nature of the managerial and technical constraint on the entrepreneurial supply, however, may vary by the type of expansion envisaged. The supply of entrepreneurial services can be enlarged either through an expansion of existing enterprises or through a proliferation of new enterprises. There is some evidence that there may be some deterioration in managerial performance as very small enterprises expand (Harris, 1970; Kilby, 1969; Marris and Sommerset, 1972). Harris points out, "When the business expands beyond the point that the owner can control everything himself, serious problems are encountered. The ability to delegate responsibility and authority while still keeping control, is generally lacking." The type of training required for overcoming these difficulties might thus be somewhat different than that required for ensuring the proliferation of new firms. In the latter case, the existing apprenticeship system, the training ground for new entrepreneurs in most countries, may play a more crucial role.

With respect to the other socioeconomic variables that might be expected to affect the supply of rural entrepreneurship, there is little empirical evidence. The few existing studies generally have not been able to verify that sociological factors, such as caste, ethnicity, and parent's occupation, are important determinants of entrepreneurial supply (see Harris, 1970; Nafziger, 1971). Many of these socio-cultural variables are interrelated with economic ones, and indeed interact with them. Consequently, the individual effects cannot be easily measured. Moreover, the various economic and socio-cultural determinants of entrepreneurial supply most likely vary from country to country. Thus detailed studies of entrepreneurial success would be useful

before designing policies and programs for rural non-farm enterprises. The major policy and program issues will now be examined.

4. MAJOR POLICY AND PROJECT ISSUES

4.1 Introduction

The foregoing analyses and other studies have established that the rural non-farm sector is much more important than has been generally recognized and, given even a neutral economic environment, the sector could contribute much more to employment, equity, and output objectives. Unfortunately, the economic policies of most developing countries are generally biased in favor of large, mostly urban, capital-intensive activities. The direct or indirect consequences of many of these policies generally have been strongly negative for the non-farm sector, and specific policies pertaining to the sector have been given little explicit consideration.

An analysis of the policy environment within which rural non-farm activities operate is consequently an important ingredient in the formulation of specific projects and programs. Such an analysis would reveal the degree to which the existing policies affect the viability of various rural non-farm projects as well as indicate the potential efficacy of various policy changes. Indeed, changes in existing policies might even reduce or remove the need for specific projects in this area.

This policy analysis, however, must take account of not only economic, but political considerations as well. The government's real attitude toward rural non-farm activities is often difficult to ascertain and frequently its position is not clear-cut or self-evident. The government

may assert strong support for rural non-farm activities in its Plan, yet allocate few resources to this area, and may, in fact, be pursuing a set of policies and programs for large-scale enterprises that have a strong negative impact on the rural non-farm sector.

Since the national governments frequently consist of or represent those individuals who benefit from the existing structure of the economy, they may be reluctant to institute new policies and programs that might adversely affect their interests. If these individuals are benefiting from existing policies and programs favoring large-scale enterprises they may be unwilling to institute even "neutral" policies for rural non-farm enterprises whenever these are perceived to have potentially deleterious effects on larger scale enterprises. Moreover, small rural non-farm enterprises are widely dispersed and politically are frequently neither well organized nor effectively represented. Presenting governments with an analysis of the effects of various policy and program changes on existing interests, including a determination of the distribution of costs and benefits, is important to permit judgements as to the government's willingness and ability to institute any policy changes.

In this portion of the paper, specific issues will be raised with respect to the major policy variables that influence non-farm activities. Policies causing input price distortions will be discussed first, followed by a brief discussion of the major nonprice distortions. A brief discussion of policy variables which influence demand for the sector's output will conclude this section. Following this discussion of policy issues, questions will be raised with respect to the major types of projects designed to affect rural non-farm enterprises.

4.2 Policies Resulting in Factor Price Distortions

Distortions of input prices often originate from unsuspected sources and, as emphasized in the earlier section, have very significant, pervasive effects on rural non-farm activities. Five of the major sources of price distortion will be discussed - interest rates, tariff rates, foreign exchange rates, fiscal policies, and minimum wages.

4.2.1 Interest Rates

In most developing countries, two distinct capital markets exist - the "formal" and the "informal." Banks and similar institutions constitute the formal market while money lenders, raw material suppliers, and purchasers constitute the bulk of the informal market. Interest rates vary widely between the two. For eight countries shown in table 4.1, official interest rates, where government imposed ceilings generally exist, ranged from 9 to 24 percent, while the "nonofficial" rates ranged from 29 to over 200 percent. Particularly under inflationary conditions, the formal real rates become very low, sometimes negative. Thus, not surprisingly, the banks have tended to lend only to the established, large-scale firms, which may appear to the banks to involve lower risks and lending costs. Most of the recipients are urban based and they have tended to become more capital-intensive than would have been the case at the "opportunity costs" of capital. For the rural non-farm activities, an important question is: To what extent has the fragmented capital market resulted in depressed enterprise creation, capital formation, employment generation, and labor productivity?

TABLE 4.1

A COMPARISON OF OFFICIAL AND NONOFFICIAL RATES OF
INTEREST IN SOME DEVELOPING COUNTRIES

Country	Nonofficial Rate of Interest (%)	Official Rate of Interest (%)
Thailand	29%	9.0%
Korea	35-60	17.5
Afghanistan	33	---
Gambia, Sudan, and Sierra Leone	50-100	10-12
Colombia	36-60	24.0
Haiti	40-240	12-15

SOURCES:

1. Thailand: Ingle, et al. (1973)
2. Korea: Morrow and White (1973)
3. Afghanistan: Norvell (1973)
4. Gambia, Sudan: United Nations, F.A.O. (1963)
Sierra Leone: Bank of Sierra Leone (1969)
5. Colombia: Kochav, et al. (1974)
6. Haiti: Haggblade, Defay, Pitman (1979)

An important related issue is the extent to which the government-imposed ceiling on "formal" interest rates contributes to the gap between the demand for and supply of credit for rural non-farm enterprises at a given time in a country.¹ An artificially depressed rate of interest can be expected to reduce credit availability in rural areas as compared to what would prevail if the rates were equated with "opportunity costs."

4.2.2 Tariffs

The import duty structure can be an important source of differential treatment for the urban large-scale over the rural small-scale enterprise. For most developing countries, import duties are lowest for heavy capital goods and become progressively higher through intermediate and consumer durable goods categories (see table 4.2). Yet, many items classified as intermediate or consumer goods in tariff schedules are capital goods for rural small-scale firms. In Sierra Leone the sewing machine, an important capital item for tailoring firms, was classified as a luxury consumer good and taxed accordingly (Liedholm and Chuta, 1976).

Further escalating the distortion in capital cost is the frequent practice of granting concessions or even total waiver of import duties on capital goods or raw materials for specified periods as an inducement for industrial development. In some cases, small firms may technically qualify for similar concessions, but may be unaware of this opportunity or, even when aware, they may find the process so complicated and time

¹See below, p. 66, for a more detailed discussion of credit programs.

TABLE 4.2

AVERAGE TARIFF RATES BY END-USE GROUPS FOR
SOME DEVELOPING COUNTRIES

Group	Countries		
	Ghana 1966	Pakistan 1965/66	Brazil 1964
	%	%	%
I. Capital goods:			
Machinery and equipment	2.05%	34%	44%
II. Intermediate goods:			
1. For industries producing capital goods			
a. Unprocessed	9.26	46	73
b. Processed	6.95-14.85	69	73
2. For industries producing consumer goods			
a. Unprocessed	9.58	31	73
b. Processed	12.99-21.66	81	73
III. Consumer durables	25.04	114	104
IV. Consumer nondurables			
1. Essentials	24.00	70	82-118
2. Semi-luxuries	54.80	148	82-118
3. Luxuries	128.00	180	82-118

SOURCES:

Ghana: Steel (1972, p. 219)

Pakistan: Lewis (1970, p. 68)

Brazil: Bell (1971, p. 47)

consuming that it is not economic for them to exercise the option. In many other cases, small firms do not even qualify.¹

4.2.3 Foreign Exchange

Many developing countries institutionally maintain a high price for foreign exchange but grant concessionary rates to large firms. Small firms are deprived of comparable advantages since they usually do not qualify for concessional rates. Even if there are no concessions the large firms usually import relatively more equipment and inputs and therefore benefit more than the small ones. The consequence is to encourage greater capital intensity among urban large-scale industries and a less than optimum use of capital among rural non-farm industries. Under conditions of rationed foreign exchange, the larger firms are more likely to have access to these scarce resources than the small firms.

4.2.4 Other Tax Incentives

Several countries employ tax incentives to encourage industrial development. These incentives have differed with respect to timing and coverage. Qualifying firms have been eligible for such incentives as: (1) tax holiday periods, (2) accelerated depreciation and investment allowances, and (3) exemptions from some import duties, as discussed above. These incentives provide an advantage to those enterprises able to qualify.

Many of these fiscal incentives have had pronounced differential effects as between large and small rural non-farm firms. Income

¹Tariffs can also bring direct benefits to rural non-farm enterprises when they are placed on commodities that the small enterprises produce. These may benefit large, local enterprises as well.

tax exemptions in many countries are only made available to enterprises above a certain minimum investment or employment threshold. In those countries with no minimum requirements, the qualifying procedures are often so sophisticated and time consuming that they discourage small entrepreneurs. On the other hand, smaller enterprises, particularly those at the lower end of the size spectrum, often do not pay any income taxes due either to explicit size exemptions or to a tax administration that is ineffective in reaching the smallest firms.

There is also an array of indirect taxes that may discriminate against smaller enterprises. Sales and excise taxes, which apply at all stages in the production process fall more heavily on smaller enterprises, which usually must pay taxes on each input, than on the larger, vertically-integrated enterprises (World Bank, 1973). Such taxes as licensing and municipal fees and stamp taxes tend to be regressive in nature.

4.2.5 Minimum Wage Regulations

Minimum wages, often initiated to achieve socially sound objectives, often apply only to larger enterprises in urban areas of developing countries. Where they are applicable country-wide, they are often not enforced as effectively among the smaller-scale, rural non-farm activities. Minimum wages in most developing countries have tended to cause greater capital intensity in urban areas and a greater rural-to-urban migration. The latter may be the consequences of potential migrants' perception rather than actual urban employment opportunities and thus exacerbate the (perhaps partially revolving) urban unemployment

problem. For the rural areas, the overall direct effect has been a possible reduction in the number of potential entrepreneurs (Berg, 1966, p. 201) and a deterrent to development of a permanent skilled rural labor force (Weeks, 1971; Berg, 1966; Isaac, 1963).

4.3 Policies With Nonprice Supply Effects

Some policies employed by developing country governments have effects on rural non-farm activities other than through input prices. These may originate from unexpected sources and can range from very general to rather specific influences. These are discussed under two categories - infrastructure and industrial policies.

4.3.1 Development of Infrastructure

Policies designed to develop the infrastructure of a developing economy could indirectly affect the performance of rural non-farm enterprises. The provision or expansion of electricity, water, or roads would appear to benefit these enterprises (World Bank, 1978a). These same amenities also benefit their larger scale urban-based counterparts, which may now be able to enter markets previously dominated by rural non-farm enterprises. Indeed, one differential advantage possessed by rural non-farm enterprises may be that they do not require large amounts of potentially costly infrastructure.

If clear-cut advantages of expanded infrastructure are indicated, two guidelines are relevant: (1) the substantive nature and/or sophistication of the installation or service, and (2) the scale or rate of installation of the service. In the case of electricity, for example,

the initial installations may be small on-premise generating units for key enterprises; next there could be larger generators serving several enterprises, followed by phasing up to community or area-wide service from a single generator. An important overall objective is the compatibility between the infrastructure contemplated and the enterprise clientele to be serviced, if there is to be balance between social costs and benefits. It is also important to make sure that rural non-farm enterprises are not discriminated against in their access to the infrastructure once it has become available.

4.3.2 Industrial Policies

Many policies designed primarily with reference to large-scale urban firms are also made applicable to small firms, but often work a relative hardship on the latter. Simple licenses or permits to engage in business may be so exacting in requirements or so formidable administratively as to constitute virtual barriers to entry for small firms. On the other hand, some countries, such as India, have taken positive measures by reserving certain business activities for the rural non-farm or small-scale sector. Such actions pose an issue as to whether they may bring over-corrections and raise barriers to development of other subsectors.

Conditions of employment and product standards specified by government can be obstacles for the small firms if the measures do not take into account sufficiently the realities facing such firms. These regulations can have both positive and negative impacts on consumers as well as on the firm and its workers. Meritorious are those which realistically safeguard the health and safety of workers and the consuming public.

Quantity controls of different kinds also can have relative or absolute negative effects on rural non-farm activities. Examples are import quotas on raw materials, such as special cloth for small textile producers. In any general quota program, the large-scale firms are usually more likely to be accommodated than are the small ones.

4.4 Policies Affecting the Demand for Rural Non-farm Activities¹

The analyses in the earlier sections of this paper have revealed that the primary demand for most rural non-farm goods and services stems from the agricultural sector and that this demand is transmitted through both income and production linkages. Since the available evidence indicates that the rural households' income elasticity of demand for rural non-farm goods is positive and agriculture generates the largest share of rural income, policies designed to increase agricultural output and/or income have an important indirect effect on the demand for rural non-farm activities. Consequently, pricing policies that improve the terms of trade between agricultural and the large-scale urban sector or specific investment programs and policies designed to increase, directly or indirectly, agricultural production and income can generate an increased demand for a wide array of rural non-farm goods and services.

The nature and composition of these agricultural policies and programs, however, should also be considered, since they can have important, differential effects on the demand for rural non-farm activities. There

¹Demand is also crucially affected by specific marketing projects, such as government purchasing programs or export marketing schemes. These and others are described below on p. 76.

is some evidence that the higher income rural households have a somewhat lower income elasticity of demand for rural non-farm activities than do the lower income households, the majority of which are small-scale farmers (see King and Byerlee, 1978). Moreover, as noted previously, the agricultural inputs such as tractors and fertilizers used by large-scale, high income farmers are less likely to be produced in rural localities than are those inputs used by the small-scale farmers (see Johnston and Kilby, 1975).¹ Consequently, policies and programs designed to benefit a larger number of small-scale, low income farmers are likely to generate a larger demand for rural non-farm activities and services than those designed to benefit a few, larger scale farmers. These differential effects on rural non-farm activities must be recognized when designing agricultural policies.

Government policies also can affect the demand for rural non-farm activities that arise from production linkages with large-scale industry. Sub-contracting is the most frequently discussed industrial linkage (see p. 27). Properly designed, such policies can provide relatively stable demand for certain products at prices which will not adversely affect the profitability of rural enterprises or the quality of the work environment. Unfortunately, some policies of developing countries have had a deleterious effect on sub-contracting. The system of "cascading" sales tax, for example, whereby taxes apply to all stages of activities relating

¹The small scale farmers are also more likely to use primarily the smaller, rurally-based agricultural processing establishments, while the large-scale farmers might be expected to make more use of the larger scale, urban-based processing plants.

to any one product discourage sub-contracting and encourages vertical integration into single, capital-intensive units. Some of the previously mentioned factor price distortions also tend to reduce the incentive for large scale units to sub-contract with small, non-farm units.¹

4.5 Rural Non-farm Enterprise Project Issues

4.5.1 Introduction

In most developing countries, important issues relating to those existing or potential projects that directly influence rural non-farm enterprises also need careful examination. Some of the issues are of a general nature while others are project specific, but all are important for consideration in the process of designing, implementing, and evaluating rural non-farm enterprise projects.

4.5.2 General Project Issues

One of the major general issues confronting designers of projects for rural non-farm enterprises is: How does one identify the intended project beneficiaries? The descriptive profile presented earlier in this paper has revealed that, although most of those engaged in rural non-farm activities are relatively poor, the enterprises themselves are heterogeneous and widely dispersed geographically. Since it may be impossible with a single project or set of projects to address the needs of all rural non-farm enterprises, it will usually be necessary to develop some criteria for more sharply delineating the project beneficiaries. Geography, enterprise size, or enterprise types are some elements that might be incorporated into the formulation of

¹Specific programs and projects designed to facilitate sub-contracting such as information dissemination, quality control, management training, are described in Staley and Morse, 1965, chapter 9. The minimum wage policy might tend to encourage sub-contracting while capital subsidization and other policies would tend to discourage it.

these criteria. It would be useful to identify the types of rural non-farm activities and the specific enterprises within them that possess the greatest potential for expanding employment, output and income in the rural areas. Such information, however, is not generally available and some in-depth surveys may need to be undertaken in the early stages of project preparation.

A related general issue confronting designers of rural non-farm enterprise projects is: How does one decide the types of direct assistance to be provided? A crucial element involves the identification of the types of constraints facing the rural enterprises. Only after these constraints have been identified, can the type and nature of direct assistance be ascertained. Otherwise, inappropriate interventions may be proposed.

A final general issue is: How does one establish an effective monitoring and evaluation system for these projects? Some useful ex-post evaluations of rural non-farm projects have been undertaken (see Kilby, 1979). Yet, a crucial element that is frequently missing is adequate benchmark data from which performance can be measured. Once again, the need for detailed surveys in the project preparation stages becomes apparent.

4.5.3 Specific Project Issues

Various types of direct assistance have been utilized in developing countries to promote rural non-farm enterprise. Although there does not appear to be any standard way of classifying the various kinds of direct assistance (see, for example, World Bank, 1978a, 1978b; Staley and Morse, 1965), a listing of the types of direct intervention would include

the provision of credit, technical/production, management, and marketing assistance and common facilities (usually industrial estates). The form which each type of assistance takes and its associated delivery channels are presented in table 4.3. The major issues that relate to each of these types of direct assistance for rural non-farm enterprises will now be examined.

4.5.3.1 Credit Assistance

There are several issues related to the design of credit projects for rural non-farm enterprises. These issues can be usefully grouped into those that center on the rural non-farm enterprises' demand for credit and those that relate to the supply of credit to these enterprises.

One important demand issue is: What is the extent of the effective demand for credit by rural non-farm enterprises? Some evidence would appear to indicate that this demand is quite sizable. Rural non-farm entrepreneurs, for example, when asked directly to identify their greatest assistance needs and greatest perceived bottleneck, will usually list credit and capital first (Liedholm and Chuta, 1976; Schatz, 1977; Haggblade, et al., 1979). There is evidence that for many types of rural non-farm enterprises, the rates of return on existing capital are quite substantial (see above, p. 46). These high rates of return indicate that the potential demand for credit could be quite large.

Yet, other evidence indicates that the rural non-farm enterprises' demand for credit may be somewhat less extensive than indicated above. Detailed analyses of entrepreneurs undertaken in Sierra Leone (Liedholm and Chuta, 1976) and Kenya (Harper, 1978) revealed that, although lack of credit was perceived to be the crucial bottleneck, some other problems,

TABLE 4.3

TYPES OF ASSISTANCE, THEIR VARIOUS FORMS AND DELIVERY CHANNELS

Type of Assistance	Form	Delivery Channel
Credit	-Loans in cash and/or kind for fixed assets and/or working capital	-Commercial Banks -Specialized Banks -Finance Corporations -Extension Agents -Credit Schemes -Loan Boards -Cooperatives -Private Voluntary Agencies -Informal Channels
Technical/ Production Assistance	-Advice on processes, design of products, tools, equipment, machines, quality control, plant layout	-Vocational Training Institutes -Trade Centers -Extension on-the-spot, at Development Centers or through mobile workshops -Appropriate technology units -Consultancy -Local entrepreneurs
Management Assistance	-Bookkeeping -Accounting -Auditing -Production planning -Inventory control -Capital budgets, etc. -Personnel management -Entrepreneurship development	-Vocational Training Institutes -Management Development Institutes -Extension on-the-spot, at the Industrial Development Centers, through mobile workshops -Formal and informal meetings -Newsletters -Consultancy
Marketing Assistance	-Advice on packaging, merchandising, product demand -Raw material procurement -Maintain emporia sales and displays at home and abroad -Serve as collection centers -Buy on consignment basis -Undertake export service -Offer credit insurance	-Extension Services -Trading Corporations -Credit and Export Schemes -Customer Service Centers -Handicraft Centers -Display Centers -Cooperatives -Consultancy
Common Facilities	-Buildings -Roads -Engineering Workshops -Electricity and water	-Industrial Estates, Areas or sites -Workshop complexes -Cooperatives

such as inadequate management or raw material procurement difficulties, proved, in actuality, to be the crucial basic constraints facing these enterprises. Unless these other difficulties are recognized and dealt with, the simple provision of credit could, at a minimum, be wasteful and could actually prove to have a deleterious effect on the rural non-farm enterprises. Several studies have indicated that at least some of the demand for finance is met through self-financing or through the informal credit market. Recent evidence from Sierra Leone (Liedholm and Chuta, 1976), Ghana (Steel, 1977), Bangladesh (Ahmed, et al., 1978), and Haiti (Haggblade, et al., 1979) reveal that personal and family savings accounted for over 80 percent of the funds used for establishing rural non-farm enterprises, while about 90 percent of the funds used for expansion were reinvested profits. Are these self-financing and informal credit sources sufficient to satisfy the major capital needs of these enterprises? One might argue that rural non-farm enterprises are simply forced to use these sources because they are denied access to the apparently lower cost, "formal" credit markets.¹ Clearly, more studies are needed to ascertain the magnitude of the rural non-farm enterprises' effective demand for credit.

Another demand issue relates to the composition of this credit demand from rural non-farm enterprises. In particular, is the credit demand primarily for fixed or for working capital? The composition of the credit demand does appear to vary somewhat depending on the size and

¹This is a supply issue, which will be examined below. Although the interest rate in the formal market may be low, the borrowing costs may be high due to high transactions costs. The complicated procedures and long processing time required by these institutions may make the "transactions" costs very high if not prohibitive, particularly for those enterprises needing working capital quickly.

type of rural non-farm enterprise. For the smallest enterprises, which account for the bulk of the rural non-farm sector, the primary credit demand appears to be for working capital (see Haggblade, et al., 1979). It is important to ascertain how much of the credit demand is simply a manifestation of some other problem such as a raw material shortage, inadequate management or a lack of demand.

One important supply issue centers on what is the appropriate delivery channel for providing financial services to rural non-farm enterprises? In most developing countries, formal credit institutions such as commercial banks, specialized small enterprise banks, specialized divisions of development banks, credit unions, cooperative and worker banks have typically been used to channel funds to rural non-farm enterprises. Although such devices as rediscounting facilities, guarantees, and earmarked funds are frequently introduced to entice these "formal" institutions into expanding their lending to rural non-farm enterprises, it is not yet clear that these have been successful in significantly expanding the amount of formal credit available to these enterprises, particularly the smaller ones.¹

Indeed, the vast majority of these rural non-farm enterprises have never even applied for funds from formal credit institutions.² Thus, alternative institutional mechanisms to the formal ones might also need to be considered. Informal financial institutions such as money lenders, input suppliers, purchasers and rotating credit societies, provide most

¹For a review of alternative institutional arrangements, see Kochav, et al., 1974.

²In Haiti, 94 percent had never applied (Haggblade, et al., 1979), while in Sierra Leone, the figure was 96 percent (Liedholm and Chuta, 1976).

of the institutional credit to rural non-farm enterprises. Studies of these institutions might reveal how these formal and informal financial institutions are linked and how the informal institutions might be better integrated into the formal credit system. Finally, consideration might also be given to establishing new intermediary institutions, possibly linked with private voluntary organizations, which might, in turn, link into the formal financial system. Clearly, no single delivery system has emerged as a solution for providing credit to the wide array of rural non-farm enterprises.

Another related supply issue centers on the costs and risks associated with lending to rural non-farm enterprises. It is argued that, owing to the geographical dispersion and vast number of rural non-farm enterprise-borrowers, the administrative costs of lending to this group are significantly higher than lending to large-scale borrowers.¹ Another allegation which is often made against lending to rural non-farm enterprises is that, due to the vulnerability of these firms to adverse economic conditions, failure rates are high and therefore the incidence of default is higher compared to large firms (World Bank 1978b). Furthermore, the risk factor in lending to rural non-farm enterprises is compounded by the fact that these firms possess very little collateral and the actual losses of principal could be fairly high.

These contentions, while valid in some cases, need to be tempered somewhat. There is evidence in some countries that the default rates

¹In the Philippines, it was estimated that the administrative costs incurred by two lending institutions for small-scale loans were 3 percent, for a given value of lending, while those for large-scale loans were 0.5 percent.

among small farmers and small businessmen are lower than among larger borrowers (Steel, 1976, p. 182; Meyer, 1978). Moreover, alternative procedures for reducing risks and administrative costs can perhaps be developed. Instead of relying only on collateral, which many rural non-farm enterprises may lack, the underlying economic viability and cash flow potential of the borrowers can be emphasized. Also, loan repayment schedules can be designed to fit the nature of the different rural non-farm enterprises. The appraisal and supervision of the loans for rural non-farm enterprises could be standardized and streamlined. In addition, managerial, technical and other assistance could be provided both borrowers and lenders.¹ Finally, if loans are made at rates which even approximate the opportunity cost of capital, the financial institutions could probably cover any higher costs associated with lending to rural non-farm enterprises.

A final issue that relates both to the demand for and the supply of credit is: What should be the interest rate for small-scale enterprise credit projects? In many countries, and within some donor agencies, there is a feeling that rural non-farm enterprises should receive credit at a rate below the opportunity cost of capital. It is argued that these enterprises generally are owned by the poor and that they are already operating in a policy environment that discriminates against them. Moreover, they contend, if large-scale enterprises already receive subsidized interest rates, then it would be unfair, and politically unwise, to charge higher interest rates to rural non-farm enterprises.

¹A related issue is whether or not the credit and noncredit assistance should be separated or provided by the same institution.

There are persuasive arguments for an interest rate that closely approximates the opportunity cost of capital. First, a subsidized interest rate may encourage rural non-farm enterprise to adopt technologies that are too capital-intensive. Secondly, most studies (see Liedholm and Chuta, 1976; Haggblade, et al., 1979) indicate that the viable rural non-farm enterprises are able and willing to pay higher interest rates than currently exist in the formal market, especially if the only alternative is the informal money lender's very high rate. Higher interest rates may also serve to increase the rate of savings in rural areas. Finally, the economic viability of the lending institution is seriously compromised if the interest rate is unduly subsidized. Yet, although strong arguments exist for interest rates closely approximating the opportunity cost of capital, political, social, and economic realities may necessitate some degree of interest rate subsidization for rural non-farm enterprise projects.

4.5.3.2 Technical Assistance

Several major issues need to be considered while designing technical assistance for rural non-farm enterprises. First, it is important to ascertain the magnitude of the demand for technical assistance. There is some evidence to indicate that entrepreneurs are not aware of their need for technical assistance and the benefits they may derive from it (see Liedholm and Chuta, 1976; Harper, 1978). Consequently, case studies may be needed to identify the amounts and required forms of technical assistance, particularly since assistance needs will likely vary by the size and type of enterprise.

A second general issue which deserves careful consideration is: What are the most cost-effective institutional mechanisms, if any, for delivering technical assistance to rural non-farm enterprises? One important channel that has been utilized in some developing countries such as Kenya (Harper, 1978), Ghana, and India is a rural industry extension service. Unfortunately, there are no systematic analyses of the experiences with or the effectiveness of this approach. An important issue which needs careful consideration is: What quality of personnel should be utilized for delivering these services to rural non-farm enterprises? Is there a place for both generalists and specialists in view of the heterogeneity of rural non-farm enterprises and the complex range of technical operations they face? Another related issue is whether these services should be offered free, at some token fee, or at economic costs to be paid by the rural non-farm entrepreneurs. If extension services should be delivered free to rural non-farm enterprises, who should underwrite the necessary costs and for how long? A final issue is whether this active outreach approach is as cost effective as a more centralized assistance approach, in which clients would approach a centrally located institute for assistance. The Rural Industrial Centers in Kenya (see Livingston, 1977) and the Industrial Development Centers in Nigeria (see Hawbaker and Turner, 1972) are examples of the more centralized approach to the delivery of assistance.

Vocational training institutes also have been relied upon for delivering technical assistance, particularly to unemployed youth in developing countries. For some already employed personnel, vocational training has been utilized for developing alternative job opportunities

or enhancing capabilities in existing lines of activity. But, unfortunately, the progress of clientele has not been ascertained and overall effectiveness of vocational training has not been determined.

An already existing institutional mechanism is the apprenticeship system, and an important issue is whether or not it can be effectively utilized for transferring technical skills to existing and potential rural non-farm enterprises. The available empirical evidence reveals that in most developing countries, the apprenticeship system is the primary vehicle for skill formation in rural non-farm industry (Liedholm and Chuta, 1976; Steel, 1977; Haggblade, et al., 1979). Recently, Mabawonku's study (1979) revealed that with respect to both private and social rates of return in employment, apprentice training compares quite favorably with government trade and vocational school programs. Yet, the apprenticeship system, which is an important channel for skill formation in rural non-farm industry, is often overlooked by donor agencies and host governments of developing countries when designing technical assistance programs.

Another related issue is the degree to which technical assistance delivery institutions should be separated from the regular governmental machinery. There would appear to be some advantages associated with utilizing semi-public organizations or even private sector approaches; confidence among entrepreneurs would likely be higher and qualified staff could perhaps be more easily recruited and retained. At the same time it is unlikely that, in practice, donor agencies can remain completely detached from the existing governmental technical assistance institutions.

Finally, there is the question of whether there are effectively staffed in-country research institutions to address relevant researchable problems of small rural non-farm enterprises. Are the institutions linked to comparable research centers in the world and, within the country, are there effective links with personnel handling information dissemination and technical advisory services?

4.5.3.3 Management Assistance

An important issue which should be addressed while designing a rural non-farm project is to ascertain whether or not there is a demand for management assistance. Indeed, most rural non-farm enterprises scarcely recognize that lack of management capacity could pose a serious problem. Yet, previous studies of rural non-farm enterprises have revealed that managerial competence is a key determinant of business success (Harris, 1967; Liedholm and Chuta, 1976; Steel, 1977). It is, therefore, crucial to ascertain not just what are the perceived, but also the actual needs in this area.

Another related issue which must be considered is what forms of management skills these rural non-farm enterprises really need; these needs will likely vary somewhat depending on the size and nature of the enterprises. Most rural non-farm entrepreneurs use simple technologies and possess little or no educational background. Consequently, it may be important to design management assistance to enable rural non-farm entrepreneurs to be able to distinguish between personal and business transactions, evaluate resources (especially their labor input) at their appropriate opportunity costs, understand effective inventory plans,

adjust their businesses to viable sizes, and adopt methods of production that utilize local resources.

A third issue which deserves careful consideration is what delivery mechanism, if any, will be cost-effective in carrying out management assistance projects for rural non-farm enterprises. This issue, which raises other questions relating to the appropriate use of an apprenticeship system, extension services and other institutional mechanisms, has already been discussed under issues relating to technical assistance.

4.5.3.4 Marketing Assistance

The design of marketing assistance for rural non-farm enterprises raises several issues. First, it is important to ascertain what existing or new sources of domestic demand are available and how these could be further stimulated or developed. Many of these sources and programs have been discussed previously. In addition, the governments themselves have frequently developed programs to purchase the products of rural non-farm enterprises, but sales to governments have been hampered by cumbersome purchase procedures and unrealistic quality standards (Schatz, 1977,p. 199). A relevant issue is whether official procedures should be streamlined and excessively high quality requirements waived to facilitate the purchase of rural non-farm enterprise products by government departments and the public?¹

¹ Large-scale enterprises frequently use packaging or promotional devices to create product "quality" differentials. Some of these "quality differentials" may be specious and can have a deleterious effect on rural non-farm enterprises operating in these same industries. The Kenyan soap industry (Langdon, 1975) and the Egyptian carpet industry (El Karanshawy, 1975) provide illustrative examples.

A second issue that is relevant for designing marketing assistance relates to the external demand for the products of rural non-farm enterprises. In particular, a key issue is how one develops and delivers information to rural enterprises on the details of both the existing and new product demand in foreign markets as well as information on product handling and financial transactions. In addition, since products of rural non-farm enterprises must be competitive in foreign markets, a related issue is how one ensures at least minimum product quality.

Thirdly, there is the issue of whether there exists an accessible, cost-effective, institutional support which can enable rural non-farm enterprises to purchase raw materials and produce for and effectively reach the export markets. In most countries this institutional support is urban based. Decentralization of such facilities to service the needs of rural non-farm enterprises becomes crucial.

With respect to raw material purchase, evidence from some developing countries such as Haiti and Bangladesh (Haggblade, et al., 1979; Ahmed, et al., 1978) reveals that the lack of raw materials constitutes a major constraint in rural non-farm enterprise. An important issue which deserves careful attention is what forms of delivery channels will be cost-effective in providing raw materials to rural non-farm enterprises? Some developing countries' governments have relied on the formation of rural cooperatives or producer associations for bulk purchasing of inputs in order to lower costs of production. However, evidence from some developing countries reveals that rural cooperatives have often failed due to personal rivalry, lack of effective leadership and management problems (Shetty, 1963, pp. 184-185). In other countries, such as Honduras,

the government operates a raw materials bank so that scarce intermediate inputs can be provided to rural non-farm enterprises; administrative procedures for distributing inputs often become quite cumbersome.

4.5.3.5 Common Facilities

In many developing countries, the most popular type of assistance used in providing common facilities for rural non-farm enterprises is industrial estates. In some developing countries, industrial estates have been utilized for decentralizing industry toward small rural towns and villages (Dhar and Lydall, 1961, p. 36). An important issue which arises is whether estates located in rural areas where basic infra-structural facilities are lacking can be cost-effective. Experience from India, reveals that there are relatively few economic justifications for establishing estates in rural areas (Kochav, et al., 1974, p. 33).

5. SUMMARY

Rural non-farm activities in developing countries have begun to receive increased attention from international assistance agencies and the governments of developing countries. This growing interest has paralleled the increased international concern for equity and employment objectives and the realization that expanded rural non-farm activities might contribute to both growth and improved equity within countries. Unfortunately, there have been relatively few empirical studies of these activities. Consequently, those charged with formulating and executing programs and policies to expand productive rural non-farm employment and earning opportunities have been generally forced, of necessity, to make decisions "unencumbered by information." In order to fill that void, this paper has attempted to assemble and interpret the currently existing data concerning rural non-farm activities. The major issues relating to these activities have been considered in the body of the paper and are summarized briefly below.

A first major issue concerns the overall importance and composition of rural non-farm activities. The available evidence indicates that rural non-farm activities are quantitatively very important with from 30 to 50 percent of the rural labor force in most developing countries either primarily or secondarily engaged in some form of rural non-farm activity. Currently, the rural non-farm sector encompasses a wide variety of activities, although manufacturing, commerce, and services generally predominate. Manufacturing appears to be particularly significant; in fact, employment in rural manufacturing often exceeds that in urban manufacturing establishments.

Related to the issue of the current importance of rural non-farm activities is the question of how rural non-farm activities have evolved as development proceeds. Hymer and Resnick, for example, hypothesize that these activities have declined and will continue to do so as rural incomes rise and opportunities for trade increase. Although some specific types of rural non-farm activities appear to have declined over the recent past, the empirical evidence indicates that, overall, rural non-farm activities and employment have been increasing in most developing countries.

Several important issues, which have additional implications for the future growth of the sector, relate to the nature of the demand for the goods and services produced by rural non-farm activities. One crucial issue, on which there has been a divergence of opinion, is whether or not the demand for these activities increases as rural incomes increase. Hymer and Resnick have argued that rural non-farm activities are "inferior," which means that the demand for them would be expected to decline as rural incomes rise. Mellor, Liedholm and Chuta, and various I.L.O. Missions, on the other hand, have contended that there is a strong, positive relationship between income and the demand for these activities. The few empirical studies of rural demand, particularly that of King and Byerlee, support the latter position.

Another demand-related issue is whether or not there are strong backward and forward linkages between rural non-farm activities and other sectors of the economy, particularly agriculture. Hirschman has contended that linkages between agriculture and other sectors are quite weak, while others, such as Mellor and Johnston and Kilby, have argued

that the linkages between rural non-farm activities and agriculture, in particular, are or could be potentially very strong. The available empirical evidence indicates that these linkages are quite important. The rural non-farm sector is influenced by the pattern of agricultural growth, but, also, the rural non-farm sector can influence the course and rate of agricultural development. The evidence on linkages with large-scale industry is sparse but the evidence available indicates that they are somewhat limited. Finally, there is some empirical and analytical evidence that the international market is an important component of demand for certain types of rural non-farm products.

With respect to supply, one important issue is whether or not rural non-farm activities are more labor-intensive and thus generate more employment per unit of capital than other non-farm components of the economy. The available empirical evidence is generally quite consistent in indicating that small-scale, rural enterprises are more labor-intensive than their larger-scale counterparts.

A key related issue is whether or not these same labor-intensive rural non-farm enterprises use the scarce factor, capital, more efficiently than other larger-scale enterprises. Several international groups and individuals, including Nicholas Kaldor, have argued that the capital productivity (i.e., the output-capital ratio) of small, rural enterprises is lower than that of their larger-scale counterparts. Marsden, Liedholm and Chuta and others have contended that the reverse situation holds. The available aggregate country data are generally not of high enough quality to provide a conclusive answer to these conflicting views, although there are many instances where the small, rural non-farm

enterprises appear to possess the higher capital productivity. When rural non-farm and urban large-scale enterprises within the same narrowly-defined industry are compared, there is evidence, in several industries, that the rural non-farm enterprises are not only more labor-intensive, but also more productive per unit of scarce capital than their larger-scale counterparts. Consequently, in these cases, there need not be a trade-off between output and employment objectives, at least in a static sense.

These findings are reinforced by evidence on profitability, which indicates that profit rates in many rural non-farm enterprises are also higher than those in urban, larger-scale firms. Moreover, in a dynamic context, there is no empirical evidence to support Galenson and Leibenstein's contention that the profit, savings, and reinvestment rates of small-scale or rural non-farm enterprises are necessarily lower than those of the large, capital-intensive enterprises.

Although static and dynamic efficiency considerations are of great importance to policymakers, the equity implications of rural non-farm activities also are attracting increased attention. The limited evidence shows that, on the average, the income of rural non-farm households is somewhat higher than that of farming households, but is substantially below urban incomes. Rural non-farm activities are generally undertaken by very small-scale, artisan and informal enterprises, which employ on the average, fewer than five individuals. These activities are particularly important for those rural households with little or no land.

Given the great potential of rural non-farm activities for increased employment, increased income, and favorably affecting income distribution,

many governments are showing increasing interest in assisting rural non-farm enterprises. Governments can assist these enterprises by general policy measures, which affect the environment in which rural non-farm enterprises operate, and by providing direct project assistance.

Several major policy options are available to those governments interested in influencing rural non-farm activities. However, great care must be exercised in policy selections as many government actions, seemingly unrelated to rural non-farm activities, can have inadvertently adverse effects on them. For example, policies that result in input price distortions have significant, though often unintended, negative effects on rural non-farm activities. In most developing countries, interest rates, tariff rates, foreign exchange rates, and tax policies have been designed to benefit large-scale enterprises and consequently are generally biased against the small, rural non-farm enterprise. Government policies with respect to the infrastructure, industry, and agriculture also have important indirect effects on the expansion of rural non-farm employment and income opportunities. Because of the strong linkages between agricultural and rural non-farm activities, agricultural policies and programs, in particular, have a strong influence on rural non-farm activities.

The major types of direct assistance projects used to promote rural non-farm activities include a broad spectrum of interventions: the provision of credit, technical, management, and marketing assistance and common facilities (usually industrial estates). A crucial element in determining which form of direct intervention is most appropriate is the identification of the key constraint or constraints facing the

rural enterprise. Rural entrepreneurs, when asked to identify their primary constraint, will usually state that it is a lack of credit. Yet, in-depth analyses frequently reveal that other underlying constraints are more crucial. Such analyses are important for identifying both the types and forms of assistance that are most needed.

Another key project issue that deserves careful consideration relates to the supply of this assistance. What are the most cost effective mechanisms for delivering this assistance? Should existing institutions be used or should new ones be established? Should these be separated from the existing governmental structure? Should several forms of assistance be provided by the same institution? Because rural non-farm enterprises are so heterogeneous and conditions vary so markedly from country to country, there are no single answers to these questions; rather, the appropriate institutional arrangements will depend importantly on the country and the nature of the non-farm enterprises that are to receive this assistance.

Although rural non-farm activities represent only one facet of the rural development process, their importance in this process is becoming increasingly recognized. With judicious governmental policies and carefully formulated direct assistance measures, the already sizable contribution of rural non-farm activities to this process can be significantly enhanced.

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