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RURAL SMALL SCALE ENTERPRISES

IN EASTERN UPPER VOLTA:

SURVEY RESULTS

by

David C. Wilcock

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**Department of Agricultural Economics
Michigan State University
East Lansing, Michigan 48824
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^{**}Assistant Professor of Agricultural Economics, Michigan State University.

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FOREWORD

The African Rural Economy Program was established in 1976 as an activity of Michigan State University's Department of Agricultural Economics. The African Rural Economy Program is a successor to the African Rural Employment Research Network which functioned over the 1971-1976 period.

The primary mission of the African Rural Economy Program is to further comparative analysis of the development process in Africa with emphasis on both micro and macro level research on the rural economy. The research program is carried out by faculty and students in the Department of Agricultural Economics in cooperation with researchers in African universities and government agencies. Specific examples of on-going research are, "Economics of Dairy Farming in Northern Tanzania," "Economics of Long Distance Livestock Marketing in West Africa," "Income Distribution and Technical Change in Africa," "Rural Small Scale Industry," "Female Participation in the Development Process in West Africa," and "Alternative Farming and Marketing Systems in sub-Saharan Africa."

Carl K. Eicher
Professor of Agricultural Economics
Michigan State University

I. INTRODUCTION

In the past ten years there has been a dramatic increase in interest in small scale rural industrialization in the Third World. This is due partially to a perception that, in many countries, larger scale, more capital intensive industry has not been effective in achieving an optimal utilization of scarce investment capital and locally available raw materials, in the promotion of employment and more equitable distribution of benefits, and, in general, in the stimulation of economic growth. Increasingly it was felt that small scale enterprises, with capital, technical and management assistance, might do better in meeting some of these objectives on a more decentralized, labor-intensive basis using technologies more appropriate to a lower level of overall industrial development. In any case it is clear that research on small scale industry, particularly in rural areas, should receive high priority in Third World countries. Chuta and Liedholm (1979) provide convincing support for this position noting that most of the few research results available are confined almost entirely to studies of urban small scale industry.

This report presents results of a survey of small scale business enterprises conducted in the Eastern Department of Upper Volta in April and May of 1980. The survey focused on approximately 25 types of enterprises in small manufacturing, repairs, agricultural and food processing, retail distribution and services. It was conducted by personnel of the Eastern Regional Development Organization (ORD) aided by members of a

Michigan State University technical assistance team working at the ORD under a USAID-funded Integrated Rural Development Project.¹

The ORD is primarily an agricultural extension service but its rural development mandate is broader, covering non-agricultural activities as well. The survey field work was conducted by trained interviewers in the ORDs Bureau of Economic Analysis and Planning as part of that Bureau's three year regional planning program.

Within the context of regional planning, there are four major reasons for the ORDs interest in the small scale sector. First, a number of enterprise types are directly relevant to the support of ORD sponsored agricultural development actions. For example, blacksmithing, welding and wood-working are important in the production and repair of plows and weeding equipment for oxen and donkeys. Second, many of the enterprises are involved in processing agricultural products of the region, notably food grains (sorghum, millet and rice), peanuts, soybeans, shea nuts and locust bean seeds. This interest involves the potential of keeping in the region a greater proportion of the value added through processing to facilitate expanded economic development. Third, most persons involved in small scale enterprises in the region are themselves part time farmers or are in households which contain farmers. There are thus questions at the household level concerning the trade-offs between farm and non-farm production activities. Finally, the ORD, as a credit institution, has the possibility of financing non-agricultural activities particularly those

¹For a general introduction to the work of the Michigan State University team in Eastern Upper Volta, see Eicher, *et. al* (1976) and Mehretu and Wilcock (1979) for a detailed geographical survey of the area. A bibliography of 65 different reports stemming from this contract work is available from the African Rural Economy Program, Department of Agricultural Economics, Michigan State University.

putting its credit funds to most productive use in a balanced program of loans to stimulate agricultural production, to improve crop processing and to finance those non-farm economic activities which can improve the quality of life of the rural population.

This survey was also intended to be of assistance to the USAID-funded Rural Enterprise Development Project currently providing credit and management assistance to small enterprises in the Diapaga and Fada N'Gourma sections of the Eastern Department. Members of the Partners for Productivity technical assistance team provided useful advice from their practical experience which aided in the conceptualization of the survey. The findings reported here should also be of interest to the Upper Volta Office of Enterprise Promotion (OPEV).¹

The design of the survey draws heavily on previous small scale enterprise surveys which have been undertaken by Michigan State University since 1974 in Sierra Leone, Nigeria, Jamaica, Haiti, Bangladesh, Egypt, Honduras and Botswana.² Dr. Enyinna Chuta, formerly of MSU and currently employed by International Labour Organization, provided major assistance in survey conceptualization and design during a field visit to Fada N'Gourma in February 1980.

The major objective of this paper is to paint an overall picture of the nature, extent and principle characteristics of the small scale sector. Analysis of data on capital requirements, management practices and enterprise problems will permit, however, certain summary recommendations to

¹OPEV: Office de Promotion des Entreprises Voltaïques.

²See, for example, Liedholm, 1973; Liedholm and Chuta, 1976; Chuta, 1978; Mabawonku, 1979; Haggblade, et al., 1979; Davies, et al., 1979; and Chuta, 1980.

be drawn for use in rural enterprise development activities and for more detailed follow-up investigation in the field.

In the following section of this report survey methodology and sample characteristics will be presented. Section III contains information on levels of employment, types of workshop and use of machinery for the overall sample of 1,358 enterprises. Section IV presents more detailed data on the characteristics of enterprise owners and their enterprises for a sub-sample of 793 enterprises. Section V discusses the implication of this initial survey for small scale enterprise development programs and for further field research.

II. SURVEY METHODOLOGY AND SAMPLE DESCRIPTION

A. Definitional Issues

The first question that must be addressed in approaching the small scale enterprise sector is the definition of "small scale." Normally an enterprise is considered to be small scale if it has less than 25 or 50 employees. Even using the more restrictive cut-off of 25 employees all private, non-governmental, non-religious enterprises in the Eastern Region fall into the small scale category.

The lack of larger scale enterprises is due partially to the fact that the survey only covered the Eastern Region which contains no major urban centers.¹ The largest town is Fada N'Gourma, the regional capital, which had a population in 1975 of 13,067.² Of 645 official census villages in the region only 40, including Fada N'Gourma, had populations of over 2,000 in 1975. Fada was the only town in the region considered to be "semi-urban," all other were classified as "rural." Normally substantial emphasis is placed on the size of the locality containing enterprises under study, since characteristics such as number of employees, use of machinery, capitalization, etc. tend to vary directly with locality size. While this factor has been examined in the analysis of the survey data it will receive

¹The Eastern region covers about 20 percent of the land area of Upper Volta but contains only 7 percent of the population. The resulting population density of 8.2 persons/km² is one of the lowest of the country's 10 Departments.

²Upper Volta, 1975 Population Census, Vol. "Fichier des Village."

less emphasis in this report due to the overwhelmingly rural nature of the region.

Another issue is what non-agricultural occupations or enterprises to include in this type of survey. A major criterion used in this study, as in others, is that the enterprise should have a fixed place of work or business. This eliminates certain occupations which are basically itinerant in nature such as masonry, plumbing and other construction trades, peddling, etc. Further, certain enterprises can be subjectively included or excluded according to an assessment of their overall importance in the area or their importance to those sponsoring the study. In this study, for example, certain traditional enterprises, such as the fabrication of "stick furniture," were not included.

B. Methodological Approach

Data used in this report were collected using three survey instruments:

1. A village level "socio-economic inventory" questionnaire administered in all villages of the region; and
2. The "Phase I" and "Phase II" questionnaires of the small enterprise survey, administered in a sample of the region's villages.

The socio-economic inventory, part of the Eastern ORDs regional planning program, collected data on (among other things) the presence/absence and number of different types of small scale industries in each of the 645 villages in the region.¹ The small scale enterprise survey was conducted in a sample of 192 villages. The "Phase I" questionnaire recorded very basic information for the maximum number of enterprises: number of

¹For a detailed presentation of the results of this inventory see Mehretu (1981) and Wilcock (1981).

employees, type of work space, and use of machinery. The "Phase II" questionnaire was used to record more complete information on entrepreneur characteristics, financial and management practices of available enterprise owners.

The following procedures were used in survey data collection. The interviewer would first make contact with the village chief and/or other knowledgeable persons in the village. He would explain the nature and reasons for the study and, with a group of village residents, would fill in the socio-economic inventory form. In the sub-sample of 192 "small scale survey villages" he would then record, by enterprise type, the name and location of each enterprise owner. He would then visit each enterprise and record the "Phase I" data on the number of employees, type of workshop and use of machinery. Finally, he would return to all enterprises, except those engaged in home processing of certain crops, and, if the enterprise owner were available, would administer the more detailed "Phase II" questionnaire.

In many villages, due to the limited number of enterprises, it would be possible to complete the entire process in less than a day. In a few larger towns such as Fada N'Gourma, Diapaga and Kantchari it was necessary to do part of the work by moving from one quarter of the town to the next. This took considerably more time to complete. The interviewing for the survey was completed by approximately 20 ORD interviewers and supervisors with two years of survey data collection experience. It is a tribute to these interviewers that the survey was completed in a short period of time. They often had to travel long distances by motorbike to reach smaller villages which had been randomly selected and which, in some cases, were 30 to 40 kilometers from the next nearest village.

C. Sample Characteristics

The sample for the small scale survey was selected by first locating all 645 census villages on maps for each of the eight ORD administrative "sectors." Lists were then prepared within each sector for clusters of villages which were chosen to facilitate survey administration. The socio-economic inventory was administered to all village on these lists. In selecting the small scale survey village sample it was decided to stratify the overall village list for each sector into two groups, villages under and above 2,000 population. Given the assumed importance of larger villages in containing a greater proportion of enterprises, particularly those of a more "modern" nature, 100 percent of villages over 2,000 were included in the small scale sample. For the 605 villages under 2,000, 25 percent were selected at random in each sector.

Table 1 on the following page describes the sample of villages employed in the two surveys. First the total number of villages by sector is noted and those that were reached by the village inventory study. The ORD interview force was not able to locate 8 of the 645 official villages due to name confusion or the disappearance of the village.¹ Table 1 also

¹The concept of village is more fluid in Eastern Upper Volta than it may be in other parts of the world. Villages are created and disappear faster than official listings are changed. This is particularly true in this "land-surplus" area where smaller villages may start out as seasonal agricultural camps and gradually develop into permanent settlements. Other villages disappear because of health, water and soil fertility problems or because of clan disputes.

This situation is further complicated by overlapping of state and traditional political jurisdictions and by the rather arbitrary designation of villages which often dates back to colonial times. Villages are also used administratively for tax collection and thus, one can find settlements which have existed for 60 years and which are larger than the original village still paying taxes and counted in the population of the original villages. This is particularly the case in the Diapaga Sector where the average village population is 1,800 persons (versus an ORD average of 645). At the opposite extreme many of the administrative villages in the Diabo Sector

Table 1 TOTAL AND SAMPLED VILLAGES BY EASTERN ORD SECTOR

ORD Sector	Total Villages			Sampled Villages		Villages With Enterprises as Percent of Total Inventoried
	1975 Census	1980 Inventory		Total	Number With Enterprises	
		N	%			
Bogande	178	176	27%	53	33	19%
Diabo	105	103	16	29	14	14
Diapaga	37	37	6	20	15	41
Comin Yanga	44	43	7	12	8	19
Fada N'Gourma	135	134	21	37	23	17
Kantchari	38	38	6	11	9	24
Matiacoali	45	44	7	13	9	20
Pama	63	62	10	17	10	16
ORD TOTAL	645	637	100%	192	121	19%

Sources: 1975 Census, 1980 ORD Village Inventory, 1980 Small-Scale Survey.

contains the number of villages sampled by sector and the number of villages for which useable small scale enterprise data was collected. Of 192 villages sampled, 121 villages (or 63 percent) produced valid information on small scale enterprises. Of the other 71 villages, a few were not located, in a few survey procedures were not followed correctly and the results were not useable but, for the most part, these were villages, mostly quite small, where there were no persons engaged in the pre-determined list of enterprises. By sector the lowest percentage of villages sampled (14 percent) was in the Diabo Sector where many of the official "villages" are simply quarters of larger traditional villages. The highest percentage was in the Diapaga Sector where 21 of 37 have populations over 1,000 and the population is more concentrated in this area of higher agricultural productivity.

Table 2 gives more detail on the distribution of ORD villages, population, and sampled enterprises grouped by village size class. The distribution of villages into size categories of course reflects the sampling strategy. Thirty-five of 40 villages in the over 2,000 population categories (or 88 percent) were sampled. For villages under 2,000, 86 or 14 percent were sampled. In the village size categories under 2,000 the sample percentage rises smoothly from 9 to 23 percent reflecting the greater number of targeted types of enterprises in larger localities. The percentage distribution of sampled villages follows the percentage distribution of the 1975 census population closely except for

were arbitrarily designated and often are simply "quarters" of traditionally recognized villages. According to the traditional authorities in Diabo, of the 105 official villages in the Sector which have an average population of only 373 persons, only approximately two-thirds are considered to be villages in terms of traditional political organization.

Table 2 DISTRIBUTION OF ORD VILLAGES, POPULATION AND
SMALL SCALE ENTERPRISES BY VILLAGE
SIZE CLASS

Village Size Class	Villages				Enterprises					
	Total		Small Scale Sample		Population 1975		Village Inventory		Small Scale Survey	
	N	% of Total	N	%	Total	%	N	%	N	%
1 to 249 Persons	237	9%	22	8%	31,447	20%	2,442	20%	68	5%
250 to 499 Persons	173	14	24	15	59,501	20	2,438	20	71	5
500 to 999 Persons	110	20	22	18	72,320	18	2,087	18	114	8
1,000 to 1,999 Persons	77	23	18	26	105,306	23	2,715	23	226	20
2,000 to 4,999 Persons	33	85	28	22	91,886	15	1,779	15	668	49
5,000 or more Persons	7	100	7	11	47,246	4	482	4	171	13
TOTAL ORD	637	121	19%	100%	407,706	11,943	100%	1,358	100%	100%

Sources: 1975 Census, 1980 ORD Village Inventory, 1980 ORD Small Scale Survey.

those villages size categories over 2,000 where the sampling target was 100 percent coverage.

For 20 of 25 target enterprises the village inventory recorded the presence and number of these enterprises in each of 637 villages. The distribution of these enterprises by village size class is also shown in Table 2 along with the percentage distribution of the 1,358 enterprises interviewed in the sample survey.

The percentage distribution of total enterprises (counted in the village inventory) and sampled enterprises makes it look initially as though the sample is quite unrepresentative. It must be remembered however that these figures reflect the sampling strategy. When the sample figures are weighted according to sampling percentages the results are much more representative. Further, analysis of sampling percentages showed that the interview staff was less likely to proportionally sample certain more traditional enterprises (such as dolo making, peanut and shea butter extraction, weaving etc.) which were disproportionately most heavily represented in the smallest village size categories.¹

Table 3 on the following page contains a breakdown of the numbers of enterprises counted in the village inventory and interviewed in the sample survey by eight enterprise groups and 25 specific enterprise types.²

¹This was partially off-set by a strong "under-sampling" of enterprises in Fada N'Gourma the regional capital. This was due to the mistrust of small business operators in Fada concerning the motives of the survey. Many operators feared it involved fiscal or tax control. These fears were heightened by two visits to Fada during the survey period by national price control officials which led, for example, to several shutdowns of the large Fada market place. Thus, for Fada, many businesses were counted in the village inventory but not interviewed.

²It should be noted that information was also sought for 6 additional enterprise types: car repair, tire repair, watch repair, bookstores, charcoal making, and hand pounding of rice. However due to lack of responses, generally 1 interview for each enterprise was useable, these have not been included in the presentation of survey results.

Table 3 NUMBER AND PERCENT DISTRIBUTION OF ENTERPRISES
COUNTED IN VILLAGE INVENTORY AND SAMPLED
IN SMALL SCALE SURVEY BY
ENTERPRISE TYPE

Enterprise Group	Enterprise Type	Number of Enterprises			Small Scale Survey as Percent of Total	
		Village Inventory	Phase I	Phase II	Phase I	Phase II
A. Metalwork	1. Blacksmithing	407 ^a	131	101	32%	25%
	2. Welding	- ^a	14	14	-	-
B. Crafts	3. Carpentry	35	8	8	23	23
	4. Pottery	1,126 ^a	84	72	7	6
	5. Leatherwork	- ^a	45	33	-	-
C. Clothing	6. Tailoring	428	119	103	28	24
	7. Weaving	2,499	137	38	5	2
	8. Cloth Dying	599	95	82	16	14
D. Repairs	9. Motorbike	89 ^a	28	25	31	28
	10. Radio	- ^a	14	14	-	-
E. Food Processing	11. Grain Milling	105	43	42	41	40
	12. Baking	68	25	23	37	34
F. Agricultural Processing	13. Dolo Making	1,581	196	- ^b	12	-
	14. Peanut Oil	428	34	- ^b	8	-
	15. Shea Butter	2,212	23	- ^b	1	-
	16. Soumbala	1,560	111	- ^b	7	-
G. Retail Distribution	17. Gas Stations	- ^a	3	3	-	-
	18. Gas Selling	- ^a	46	43	-	-
	19. Pharmacies	33	7	7	21	21
	20. General Stores	208	54	52	26	25
H. Other Services	21. Bars	181	49	48	27	27
	22. Restaurants	165	55	50	33	30
	23. Coffee Stands	42	31	26	74	62
	24. Photographers	11	3	3	27	27
	25. Barbers	46	6	6	13	13
TOTALS		11,823	1,358	793	10% ^c	11% ^c

Sources: 1980 Village Inventory and Small Scale Enterprise Surveys.

^aThese enterprise types were not counted in the village inventory.

^bThese enterprise types were excluded from the Phase II portion of the small scale survey.

^cPercentages for totals calculated only for relevant categories.

Enterprise groups "A" through "F"--metalwork, light craft manufacturing, clothing, repairs, food and agricultural processing--encompass manufacturing enterprises, while groups "G" and "H"--retail distribution and other services--make-up the non-manufacturing enterprises. Given the very rural and non-industrial environment of the Eastern ORD study area these terms must be used with some caution and interpreted within their socio-economic context.

In this table we see the preponderance of a few traditional enterprises in the village inventory: of 11,823 enterprises enumerated, 9,406 or 80 percent were of the following enterprise types: pottery, weaving, dolo beer brewing,¹ peanut oil extraction, shea butter and soumbala² production.

Basic characteristics ("Phase I": number of employees, type of work area, use of machinery) were collected for 1,358 of the almost 12,000 enterprises or about 10 percent of the enterprises in the corresponding categories for the village inventory. Of the "Phase I" total, 793 interviews (58 percent) were completed for the more detailed characteristics of entrepreneurs and their enterprises (Phase II). Since detailed characteristics were not collected for the 4 enterprise types in agricultural processing the Phase II interviews represented about 11 percent of the total number of 16 enterprises also counted in the village inventory.

Basic Phase I characteristics are described in the following section and more detailed characteristics are presented in Section IV.

¹Dolo is a general term for locally produced, non-bottled sorghum beer.

²Soumbala is a condiment made from locust bean seeds or soybeans. Resembling fermented, black "boullion cubes" in composition it is a high-protein flavoring additive for sauces consumed with sorghum or millet paste.

III. SMALL SCALE ENTERPRISE PROFILE: BASIC CHARACTERISTICS

A. Size of Firm and Employment

One of the most important characteristics to be examined in an analysis of the small scale sector is employment. Table 4 on the next page presents a breakdown of the average number of persons employed in each of 25 enterprise types for our overall sample of 1,358 enterprises. We note that the average sampled enterprise employs 2.09 workers.¹ Most of this average "work force" is comprised of the enterprise owner and other family members (1.92 workers/enterprise). Hired labor and apprentices make-up the remaining small proportion, .06 workers/enterprise and .11 workers/enterprise respectively.

Also in Table 4 we see that 42 percent of all enterprises employ only one person. This ranges from a low of 0 to 3 percent of enterprises employing only one person for pharmacies and blacksmiths to a high of 83 to 86 percent for barbers, soubala makers and weavers. This is reflected in average total employment where barbering, weaving and soubala making employ 1.17 to 1.25 workers versus the overall average of 2.09. On the high side, blacksmithing (3.58), carpentry (3.57) and gas stations (3.00) were the only enterprises to employ at least 3 persons on the average.

¹This estimate is fairly close to average firm size estimates from Sierra Leone (1.6 persons), Jamaica (1.8) and Western Nigeria (2.6); see Chuta and Liedholm (1979).

Table 4 SMALL SCALE ENTERPRISE EMPLOYMENT BY WORKER CATEGORIES
AND ENTERPRISE TYPES

Enterprise Group	Enterprise		Percentage of One Person Enterprises	Average Number of Persons Employed			
	Type	Number		Owner & Family	Hired Workers	Apprentices	Total
A. Metalwork	1. Blacksmithing	131	3%	3.44	.03	.11	3.58
	2. Welding	14	21	1.93	.00	.43	2.36
B. Crafts	3. Carpentry	8	14	1.86	.57	1.14	3.57
	4. Pottery	84	61	1.75	.00	.04	1.79
	5. Leatherwork	45	69	1.51	.00	.04	1.55
C. Clothing	6. Tailoring	119	56	1.40	.01	.20	1.61
	7. Weaving	137	85	1.15	.00	.04	1.19
	8. Cloth Dying	95	59	1.92	.00	.07	1.99
D. Repairs	9. Motorbike	28	18	1.61	.00	.96	2.57
	10. Radio	14	50	1.25	.00	.25	1.50
E. Food Processing	11. Grain Milling	43	12	1.72	.51	.16	2.39
	12. Baking	25	16	2.28	.16	.08	2.52
F. Agricultural Processing	13. Dolo Making	196	18	2.47	.03	.07	2.57
	14. Peanut Oil	34	50	1.68	.00	.03	1.71
	15. Shea Butter	23	52	1.74	.00	.00	1.74
	16. Sombala	111	86	1.22	.00	.03	1.25
G. Retail Distribution	17. Gas Stations	3	33	1.33	1.00	.67	3.00
	18. Gas Selling	46	24	2.03	.15	.00	2.18
	19. Pharmacies	7	0	2.15	.14	.14	2.43
	20. General Stores	54	30	1.94	.15	.07	2.16
H. Other Services	21. Bars	49	20	1.84	.37	.10	2.31
	22. Restaurants	55	33	1.45	.13	.02	2.60
	23. Coffee Stands	31	74	1.16	.06	.06	1.28
	24. Photographers	3	67	1.33	.00	.33	1.66
	25. Barbers	6	83	1.17	.00	.00	1.17
TOTALS		1,358	42%	1.92	.06	.11	2.09

Source: 1980 Small Scale Survey Data.

The largest enterprise sampled employed 13 persons. The importance of family labor is underlined by the fact that 50 percent of enterprises report using family labor who work along with 98 percent of enterprise owners. Of those firms using family labor, they employ 1.9 family members on the average, with a maximum of 10.

Non-family hired and apprentice labor is used relatively infrequently in the Eastern ORD small scale sector.¹ Only 5 percent of sampled enterprises reported using hired labor. Of those firms an average of 1.3 hired workers was employed with a maximum of only 4 workers. Seven percent of sampled enterprises reported using apprentice labor with an average of 1.5 workers per enterprise for those doing so and a maximum of 5 per enterprise.

More detail on estimated hired and apprentice labor is presented in Table 5 which projects total Eastern ORD employment levels (for 20 enterprise types) on the basis of survey estimates. This projection produces an estimate of 291 hired workers and 703 apprentices. For hired workers bars and traditional beer brewing account for 39 percent of the total and an additional 44 percent work in grain milling, general stores, restaurants and carpentry combined. These enterprises which employ 83 percent of estimated hired workers only employ 30 percent of apprentices. Fifty-four percent of all apprentices are employed in 4 enterprises: traditional beer brewing, weaving, motorbike repair and tailoring. Forty-seven

¹This is also true in farming in the Eastern Region. The 1978-79 ORD Farm Level Survey showed almost no use of wage labor in agricultural production. The rural labor force is augmented primarily by increasing family size (multiple wives, larger number of children), by richer families taking care of relatives (generally children or young adults), and by reciprocal, cooperative labor parties ("invitations") for certain types of agricultural work.

Table 5 ESTIMATED DISTRIBUTION OF TOTAL HIRED LABOR
AND APPRENTICES BY ENTERPRISE TYPE

Enterprise Type	Hired Workers		Apprentices	
	N	%	N	%
1. Bars	67	23%	18	3%
2. Grain Milling	54	19	17	2
3. Dolo (Beer) Making	47	16	111	16
4. General Stores	31	11	15	2
5. Restaurants	21	7	3	1
6. Carpentry	20	7	40	6
7. Blacksmithing	12	4	45	6
8. Baking	11	4	5	1
9. Gas Selling	11	4	0	-
10. Tailoring	4	1	86	12
11. Weaving	0	-	100	14
12. Motorbike Repair	0	-	85	12
13. Soumbala Making	0	-	47	7
14. Pottery	0	-	45	6
15. Cloth Dying	0	-	42	6
16. Shea Butter	0	-	13	2
17. All Others	13	4	31	4
TOTALS	291*	100%	703*	100%

Sources: 1980 Village Inventory and Small-Scale Enterprise Surveys.

*The total of estimated hired and apprentice workers (994) is approximately 5 percent of the total small scale enterprise workforce estimated in Table 6. Note that the percentage is lower than the 8 percent one would obtain from the all firm sample average obtained in Table 6 ($.17 \div 2.09$). This is due to differences in the percentage distribution by enterprise type in the village inventory and the small scale survey samples.

percent of apprentice labor is employed in 6 types of enterprise which reporting using no hired labor. In some enterprise types the distinction between hired and apprentice labor is fairly imprecise. But in total amount neither type of labor is very significant compared to the use of family labor.

A projection of total small scale sector employment in the Eastern Region in 20 enterprise types, ranked in order of level of employment, is contained in Table 6 on the following page. In it we see that total employment in these enterprises is estimated to be over 21,000 persons. This represents about 5 percent of the total regional population. The impact of these 20 enterprises on households in the region is far greater. With an estimated average household size of 7.27 persons,¹ it is safe to say that between 20 to 25 percent of households in the region contain members employed--at least part time--in one or more of these 20 non-farm occupations.² Since there are other small scale enterprise types not covered here the total impact on rural incomes is even greater. This is particularly true since, as Barrett *et al.* (1981) demonstrate, only a small portion (5 to 10 percent on average) of farm production is sold for cash. Thus non-farm cash income--even if employment is only part time--can contribute substantially to rural incomes.

The most striking information contained in Table 6 is that the top 8 enterprises, ranked in terms of total employment, are the 8 "more traditional" village-based enterprises; from traditional beer making,

¹1978-79 Eastern ORD Farm Level Survey.

²Estimate derived by first assuming that there are approximately 60,000 households in the region. Multiplying 21,000 employees times 57 percent (48 percent owners, 9 percent employees from other households) gives about 12,000 households involved in the 20 enterprise types. This is 20 percent of total estimated households.

Table 6 TOTAL EMPLOYMENT IN 20 SMALL SCALE
ENTERPRISES IN EASTERN
UPPER VOLTA, 1980

Enterprise Type	Total Employment	Percentage of Total Employment	Average Total Employment Per Enterprise
1. Dolo (Beer) Making	4,063	19.2%	2.57
2. Shea Butter Extraction	3,849	18.1	1.74
3. Weaving	2,999	14.1	1.19
4. Pottery	2,016	9.5	1.79
5. Soumbala Making	1,934	9.1	1.25
6. Blacksmithing	1,453	6.8	3.58
7. Cloth Drying (Indigo)	1,192	5.6	1.99
8. Peanut Oil Extraction	732	3.5	1.71
9. Tailoring	689	3.2	1.61
10. General Stores	451	2.1	2.16
11. Restaurants	429	2.0	2.60
12. Bars	418	2.0	2.31
13. Grain Milling	251	1.2	2.39
14. Motorbike Repair	229	1.1	2.57
15. Baking	171	0.8	2.52
16. Carpentry	125	0.6	3.57
17. Pharmacies	80	0.4	2.43
18. Coffee Stands	54	0.3	1.28
19. Barbers	54	0.3	1.17
20. Photography	18	0.1	1.66
TOTALS	21,207	100.0%	2.11

Source: 1980 Village Inventory and Small Scale Enterprise Survey.

weaving, pottery, blacksmithing to various agricultural processing trades. Overall these 8 contain 85.9 percent of total persons employed in the 20 types of small enterprises. This should be of significance to programs and projects attempting to promote the development of off-farm employment. Obviously these enterprises vary in terms of profitability and the degree to which they are responsive to the introduction of improved production technologies. These and other issues will be briefly discussed in the final section of this report.

B. Type of Work Area

When looking at the small scale sector we often first look at the type of workshop used because it gives us some crude indication of the production process, the permanency of the enterprise and the level of capital assets. The latter is often of interest to credit programs which require collateral for loan purposes. The type of workshop structure was recorded in the Phase I questionnaire for 1,322 or 97 percent of the overall sample of 1,358 enterprises. This information is presented in Tables 7 and 8. In Table 7 eight types of structures are distinguished for the entire sample, ranging from a cement block building with a tin roof to no structure at all for enterprises working in the open air. Of these structures, the straw roofed shed was most common (36 percent), followed by work done in the open air (30 percent), home used for work purposes (17 percent), and separate mud walled buildings with tin roofs (13 percent). The remaining categories accounted for 4 percent of the total. These more detailed categories were aggregated into 3 general types of "work area": separate building or metal-roofed shed, straw-roofed shed, and home or open air. These 3 categories respectively make-up 17, 36, and 47 percent of the sample.

Table 7 TYPE OF WORKSHOP STRUCTURES AND AGGREGATED
TYPES OF WORK AREAS

Structures		Work Areas		
Type	Number	Type	Number	%
Cement Building, Tin Roof	9			
Mud Building, Tin Roof	174	Separate Building or Metal Roofed Shed	233	17%
Mud Building, Straw Roof	34			
Shed, Metal Roof	16			
Shed, Straw Roof	472	Straw Roofed Shed	472	36
Home	219			
Open Air, at Home	233	Home or Open Air	617	47
Open Air, Elsewhere	165			
ALL STRUCTURES	1,322	ALL WORK AREAS	1,322	100%

Source: 1980 Small Scale Survey Data.

Table 8 TYPE OF WORK AREA BY ENTERPRISE TYPE

Enterprise Type	Percentage of Enterprises Where Work is Performed			Sample Size (n)
	In Separate Building or Metal Roofed Shed	In Straw Roofed Shed	At Home or in Open Air	
Pharmacies	100%	-	-	7
Grain Milling	97	3%	-	39
General Stores	89	2	9%	53
Welding	86	0	14	14
Bars	80	9	11	46
Photography	67	0	33	3
Gas Stations	67	0	33	3
Gas Sellers	59	2	39	46
Carpentry	57	14	29	7
Tailoring	28	37	35	119
Barbers	17	67	17	6
Baking	10	38	52	21
Radio Repair	8	50	42	12
Dolo (Beer) Making	5	29	66	195
Blacksmithing	4	86	10	127
Motorbike Repair	4	85	11	27
Restaurants	4	85	11	55
Coffee Stands	4	39	57	28
Pottery	1	62	37	81
Leatherwork	-	59	41	44
Weaving	-	39	61	132
Peanut Oil	-	21	79	34
Cloth Dying	-	17	83	93
Shea Butter	-	13	87	23
Soumbala	-	3	97	107

Source: 1980 Small Scale Survey Data.

Table 8 breaks down the entire sample into these 3 categories of work area for each enterprise type. We see that most of the previously mentioned top 8 "traditional" enterprises are largely done at home, in the open air, or under straw roofed shelters while a greater proportion of the more "modern" enterprises are operated in separate buildings. Thus of 792 sampled "traditional" enterprises in 8 types, 2 percent were in separate buildings, 37 percent were conducted in straw roofed sheds, and 61 percent were located at home or in open air work areas. This means that for most of the enterprises which provide 86 percent of total employment, there is little or no capital expenditure for building rental or construction.

C. Use of Machinery

The third major characteristic recorded in the Phase I questionnaire for every sampled enterprise was the use of machinery. The results, shown in Table 9 below, indicate a very low rate of machinery useage. Only 114

Table 9 USE OF MACHINERY BY SAMPLED ENTERPRISES

Enterprise Type	Total Number	Number Using Machinery	Percent Using Machinery
Grain Milling	43	43	100%
Tailoring	119	62	52
Welding	14	2	14
Carpentry	7	1	14
Bars	49	4	8
Shea Butter Production	23	1	4
General Stores	54	1	2
ALL TYPES	1,358	114	8%

Source: 1980 Small Scale Survey Data.

enterprises, or 8 percent of the sample, indicated the use of any machinery. Of these 114 enterprises, 92 percent are in the categories of grain milling and tailoring. In grain milling there is a fairly standard use of one technology: generally a one cylinder diesel motor (usually a "Lister") is linked to the grain mill by a transmission belt. This machinery has a long service life and traveling repairmen can reach most villages when needed. For tailoring enterprises the treadle sewing machine is almost universally used.

One of the major reasons for the low use of machinery is the lack of electricity. No locality in the Eastern region has a public electricity system; what electricity is produced is by private generators run by government services or missionary religious groups. In Fada N'Gourma, for example, there are at least 13 separate generators inefficiently producing small amounts of electricity.¹ Six separate government services have their own generating capacity. Only a few enterprises (welders and photographers primarily) in the entire region have their own generating capacity.

¹Fada N'Gourma is scheduled for "re-electrification" in the near future (the town had a public electricity system until 1967) which should provide substantial opportunities for several types of enterprises.

IV. SMALL SCALE ENTERPRISE PROFILE: DETAILED CHARACTERISTICS

Of 1,358 enterprises initially surveyed in Phase I of this study, more detailed questions were asked of 793 enterprise owners in Phase II. The resulting tabulations of this more detailed information on the entrepreneurs and on the enterprises themselves are presented in this section.

A. The Entrepreneurs

1. Levels of Formal Education

In Upper Volta overall rates of schooling and literacy are very low. In 1975, 7.5 percent of the total population were classified as being literate.¹ In the Phase II questionnaire enterprise owners were asked their level of formal education or technical training. Of 793 owners, 15 percent had received some formal education or training; 11 percent had some primary school only, and 4 percent had received the CEP,² gone beyond this or had technical training (9 of 793 owners had received some formal technical training). These results are shown in more detail in Table 10 where we also note that the percentages with some formal education vary widely from 0 to 100 percent across enterprise types. For the enterprise groups involving small manufacturing (metalwork, crafts and clothing) 10 percent of owners have some education (7 percent some primary, 3 percent

¹Upper Volta, "Principaux Resultats du Recensement de 1975," January 1979, p. 12.

²CEP: the primary school certificate.

Table 10 PERCENTAGE DISTRIBUTION OF FORMAL EDUCATION,
OTHER EMPLOYMENT, AND OWNERSHIP OF OTHER
ENTERPRISES BY ENTERPRISE GROUP
AND TYPE

Enterprise Group	Enterprise		Formal Education		Other Employment		Percentage Who Own Another Enterprise
	Type	Number	% Some Primary	% CEP or Above or Technical	% With Other Occupation	% Who Farm	
A. Metalwork	1. Blacksmithing	101	4%	-	94%	90%	2%
	2. Welding	14	7	21%	57	50	36
B. Crafts	3. Carpentry	8	25	38	50	50	25
	4. Pottery	72	1	-	81	54	-
	5. Leatherwork	33	-	-	97	97	-
C. Clothing	6. Tailoring	103	20	6	80	73	11
	7. Weaving	38	-	-	8	8	-
	8. Cloth Dying	82	1	1	98	91	4
D. Food Processing	9. Grain Milling	42	14	16	88	21	33
	10. Baking	23	13	-	77	57	17
E. Repairs	11. Motorbike	25	12	8	68	56	20
	12. Radio	14	36	-	77	50	36
F. Retail Distribution	13. Gas Stations	3	33	67	33	-	-
	14. Gas Selling	43	7	-	95	17	44
	15. Pharmacies	7	20	40	71	57	57
	16. General Stores	52	12	8	67	52	37
G. Other Services	17. Bars	48	27	6	89	48	29
	18. Restaurants	50	4	-	38	20	6
	19. Coffee Stands	26	42	-	39	27	23
	20. Photographers	3	33	-	33	-	33
	21. Barbers	6	-	-	83	50	17
TOTALS		793	11%	4%	75%	58%	15%

Source: 1980 Small Scale Phase II Survey Data.

CEP or above); for the groups in food processing, repairs, retail trade and other services, 22 percent of owners have some formal education (16 percent some primary and 6 percent CEP or above).

The lack of formal technical training of enterprise owners is due to the nature of the region's small scale enterprises and to the lack of employment and market opportunities in this predominantly rural area. This is also reflected in the fact that almost none of the past graduates of the highly respected Fada N'Gourma Technical Training Center are employed in the region.¹

Most training in the surveyed occupations takes place on-the-job. The owner will usually provide training for other members of his family. Twenty-three percent of enterprise owners interviewed for more detailed information reported that they provide some on-the-job training of non-family apprentices. The percentage of enterprises providing on-the-job apprentice training to non-family members and the average length of the training period is shown by enterprise group in Table 11.

The highest percentages providing apprenticeship training are in repairs (motorbike and radio), metalwork (welding and blacksmithing) and food processing (grain milling and bread baking).²

¹Personal communication with the Director of the "Centre de Formation Technique" (CFP) in Fada N'Gourma. The Center provides practical training in carpentry, masonry, electricity and small engine mechanics. Most graduates find employment in Ouagadougou or a few other larger towns where there is a substantial demand for these skills in the construction and transportation industries.

²These enterprise types are more heavily represented in the Phase II sample so the overall percentage training apprentices (23 percent) is higher than the percentage using apprentices reported in the previous chapter.

Table 11 PERCENTAGE DISTRIBUTION OF ENTERPRISE GROUPS
 PROVIDING APPRENTICESHIP TRAINING AND
 AVERAGE LENGTH OF TRAINING
 IN MONTHS

Enterprise Group	% Enterprises Training Apprentices	Average Length of Training in Months
1. Repairs	54%	29
2. Metalwork	36	24
3. Food Processing	31	13
4. Clothing	20	19
5. Craft Manufacturing	19	17
6. Retail Distribution	18	13
7. Other Services	14	7
ALL GROUPS	23%	19

Source: 1980 Small Scale Phase II Survey Data.

2. Other Employment and Enterprise Ownership

Given the small size and limited production of most of the surveyed enterprises, they provide only part-time or seasonal employment for most owners. Of 793 owners, three-quarters have another job; 58 percent of owners farm and 17 percent are engaged in some other occupation. The percentage breakdown for each type of enterprise is shown in Table 10 which also contains the percentage of owners who own another enterprise in the 25 enterprise types surveyed. Fifteen percent of owners own a second enterprise. These relationships vary among enterprise groups. Owners of enterprises in small manufacturing are more likely to have another occupation, principally farming, but less likely to own another enterprise. Multiple enterprise ownership is concentrated much more heavily in the non-manufacturing groups. These results are summarized below:

Enterprise Groups	Percentage of Owners		
	With Other Employment	Who Farm	Who Own a Second Enterprise
<u>Small Manufacturing:</u>			
Metal, Crafts and Clothing	80%	71%	5%
<u>Non-Manufacturing:</u>			
Food Processing, Repairs, Retail Distribution, Other Services	69%	41%	27%
All Enterprise Groups	75%	58%	15%

3. Father's Occupation, Years of Experience, Reasons for Operation

Other information collected in the Phase II questionnaire shed some further light on the nature of the small scale enterprises and why enterprise owners engage in these activities. Information was collected on the occupation of the father of the enterprise owner, on the length of time the enterprise had been in operation, and on the owner's principle reason for operating that particular enterprise.

These 3 types of owner characteristics are presented for 2 enterprise groupings in Table 12. Group 1 contains the more traditional craft manufacturing enterprises; Group 2 contains the non-manufacturing enterprises plus tailoring. Concerning the owner's father's occupation, Table 12 indicates that for 54 percent of Group 1 enterprises the father was engaged in the same enterprise versus only 3 percent for Group 2 which are generally newer types of enterprises. The father's of Group 2 owners were more likely to have been employed in trading enterprises (11 versus 0 percent). Group 1 enterprises have also been in operation substantially longer (mean, 17.4 years) and those in the service and distribution Group 2 (mean, 6.6 years).

The third section of Table 12 deals with the owner's principle reason for engaging in the enterprise. The answers to this open-ended question were somewhat difficult to categorize but they do show that a large percentage of Group 1 owners (34 percent) stated they were engaged in the enterprise because they had inherited the enterprise or the necessary tools. Fifty-five percent of all owners gave reasons which were summarized as "for financial gain." Other answers given included helping the family, providing employment opportunities and providing help to the village. For the latter category, for example, 58 percent pharmacy owners and 18 percent

Table 12 DISTRIBUTION OF OWNER'S FATHER'S OCCUPATION,
YEARS EXPERIENCE IN ENTERPRISE AND REASONS
FOR OPERATING ENTERPRISE BY MAJOR,
ENTERPRISE GROUPS

	Group 1 7 Enterprises ^a	Group 2 14 Enterprises ^b	Total All Enterprises
A. Father's Occupation			
1. Same Enterprise	54%	3%	25%
2. Commerce, Trade	0	11	6
3. Other Enterprise	6	9	8
4. Farming	40	77	61
TOTAL	100%	100%	100%
B. Owner: Average Number of Years Experience in the Enterprise	17.4	6.6	11.2
C. Principle Reason for Owner's Operation of Enterprise			
1. For Financial Gains	50%	59%	55%
2. Inherited Enterprise or Tools	34	5	18
3. To Provide Employment	2	9	6
4. To Help Family	11	20	16
5. To Help Village	3	7	5
TOTAL	100%	100%	100%
Sample Size	348	445	793

Sources: Phase II Survey Data

^aBlacksmith, Welding Carpentry, Pottery, Leatherwork, Weaving, and Cloth Dying.

^bTailoring, Grain Milling, Baking, Repairs, Gas Stations and Selling, Pharmacies, Stores, Bars, Restaurants, Coffee, Photography, and Barbers.

of grain mill owners said they had started their enterprise to assist the village.

4. Owner's Ethnic Group

The geographical distribution of owner's ethnic origins basically follows that of the overall population or reflects migratory routes which would bring "outsiders" into the Eastern region. The overall ethnic breakdown of enterprise owners is as follows: Gourmantche, 72 percent; Mossi, 16 percent; Hausa, 5 percent; Peuhl, 1 percent and Other, 6 percent. Peuhl (or Fulani) are proportionately underrepresented with respect to their percentage of the overall population while persons not of the region (Hausa, other) are overrepresented. Of the sampled owners this latter category is most important in ORD sectors along international boundaries: Kantchari, 37 percent; Diapaga, 9 percent; and Pama, 36 percent. In the predominately Mossi regions of Comin-Yanga and Diabo, Mossi owners make-up 100 and 93 percent respectively of the total owners.

There are however differences in the distribution of each ethnic group into enterprise groups as shown in Table 13. The Gourmantche sub-sample of owners is split fairly evenly into those in Group 1 and those in Group 2. All other ethnic groups are more heavily represented in Group 2, with percentages ranging from 63 percent of the Mossi sub-sample to 95 percent of the 41 Hausa owners. This reflects the common role of the outsider as innovator in many traditional societies and may also reflect the fact that, traditionally, it was not culturally acceptable for Gourma people to engage in certain occupations, particularly commerce or trade. The traditional craft manufacturing occupations (blacksmithing, pottery, weaving, leatherwork, indigo dying, etc.) in contrast had accepted roles in traditional Gourma society and this helps explain why few "outsiders"

Table 13 DISTRIBUTION OF OWNERS ETHNIC GROUP BY
MAJOR ENTERPRISE GROUP

Enterprise Groups	Ethnic Groups					All
	Gourmantche	Mossi	Hausa	Peuhl	Other	
<u>Group 1: 7 Enterprises:</u> Blacksmith, Welding, Carpentry, Pottery, Leather, Weaving, Cloth Dying	51	37	5	22	14	44
<u>Group 2: 14 Enterprises:</u> Tailoring, Grain Milling, Baking, Repairs (2), Gas Stations & Selling, Pharmacies, Stores, Bars, Restaurants, Coffee, Photography, Barbers	49	63	95	78	86	56
TOTALS	100%	100%	100%	100%	100%	100%
Sample Size (n)	565	126	41	9	49	790

Source: 1980 Small Scale Phase II Survey Data.

engage in these crafts in areas where the Gourmantche are the dominant ethnic group.¹

B. The Enterprises

1. Ownership, Daily Management, Recordkeeping and Banking

It should be remembered that in this study we are dealing with very small, self-financed, family operated business which generally use fairly low levels of technology and few modern management techniques. This is borne out by a review of some general enterprise characteristics. These characteristics are shown on Table 14 and are broken down by enterprises in small manufacturing categories and those in food processing, repairs, retailing and services.

Ownership of small enterprises is largely in individual or family hands. Overall, 99 percent of enterprises are in this category. Ninety-one percent are recorded as being individually owned and 8 percent are family owned. Ten enterprises are owned in partnership (7) and by cooperatives (3). No enterprises were held in corporate ownership. Family ownership is more important in small manufacturing enterprises (13 percent) than in non-manufacturing enterprises (2 percent). The former group is also the one where the occupation is more likely to be inherited as we have seen.

The owners of the majority of enterprises (66 percent) manage operations on a daily basis. This is somewhat more true in the non-manufacturing

¹Going far beyond the scope of the survey data one can also state that in a general sense one is more likely to see more western, commercial (or "capitalistic") behavioral patterns among non-manufacturing entrepreneurs than among these traditional craft manufacturers. The fact that the traditional crafts may have been engaged in historically only by certain clans means that this occupation is part of one's predetermined life occupation role (corroborated by the fact that a high percent of owners inherited the enterprise or the tools or that the enterprise was owned "by the family"). Retail and service trades--generally not indigenous to the region--are more likely to be undertaken for reasons one associates with western, commercial entrepreneurship.

Table 14 ENTERPRISE OWNERSHIP, DAILY MANAGEMENT, RECORD KEEPING AND BANKING BY ENTERPRISE GROUPS

Characteristics	Enterprise Groups			
	Small Manufacturing: Metalwork, Crafts, Clothing (8)	Non-Manufacturing: Food Processing, Repairs Retail Distribution, Other Services (13)	Total All Enterprises	
A. Ownership: % Enterprises Owned:				
1. Individually	86 %	97 %	91 %	
2. In Partnership or Cooperative ^a	1	1	1	
3. By Family	13	2	8	
TOTAL	100 %	100 %	100 %	
B. Daily Management				
Percent of Enterprises Where Owner Manages Daily	55 %	79 %	66 %	
C. Record Keeping				
1. Percent of Enterprises Where Owner Periodically Determines Profit	51 %	82 %	64 %	
2. Percent of Enterprises Which Keep Some Kind of Records ^b	39 %	72 %	53 %	
D. Banking				
Percent of Enterprises With Bank or Postal Checking or Savings Accounts	1.6%	10.2%	5.3%	
E. Sample Size (n)	451	342	793	

Source: 1980 Small Scale Phase II Survey Data.

^aThere are 10 enterprises in this category, 7 owned in partnership and 3 cooperatives (1 each in carpentry, gas selling, general store).

^bThese percentages are probably overestimated due to some misunderstanding of the question in local languages.

groups (79 percent) than in the manufacturing group (55 percent). This may be partially due to the fact that in the manufacturing group family members or apprentices may be able to continue production on an unsupervised basis while the other group of owners may be more concerned with supervision of sales and firm finances.

Development of recordkeeping, accounting and the objective assessment of profit and loss tend to become more widespread as education increases, as businesses become larger and more complex, and as the overall level of economic development increases. In Table 14 these questions are addressed, if only imprecisely. When enterprises were asked whether and how often they attempted to determine net profits, 64 percent of the overall sample indicated they did so with this percentage being higher in the non-manufacturing group. Of these 500 enterprises who indicated a deliberate profit estimation, this was done at the following intervals:

Daily	31%
Weekly	21%
Bi-weekly	7%
Monthly	32%
Other	9%.

This survey was not detailed enough to inquire into how profits were determined but questions were asked about the use of recordkeeping in the enterprise. Overall 53 percent of the enterprises reported that some type of records (not necessarily written) were kept of business operations with non-manufacturing enterprises almost twice as likely to keep records and those in manufacturing. Given the low level of literacy in the area and the small percentage of enterprise owners with some education, these figures seem to be highly overestimated. This is probably due to a misunderstanding of precisely what was meant by "record" when the questions were translated into local languages.

Finally, Table 14 reports the percentage of enterprise owners with bank or postal accounts. Ten percent of owners of non-manufacturing enterprises had accounts while less than 2 percent of those in manufacturing did, for an overall sample percentage of 5. Of the 45 accounts held by owners 13 were bank checking accounts, 12 bank savings accounts and 20 postal savings accounts.

2. Levels of Initial Capital and Sources of Financing

Enterprise owners were asked what amount of capital was necessary to begin the enterprise. Of 741 valid responses, 101 cases were excluded in calculating the enterprise averages since they reported that no capital was required. Most likely these were cases in which the enterprise was inherited.¹

For 640 enterprises, the average amount of required "start-up" or initial capital was approximately 86,000 CFA francs or \$430.² The overall sample mean is, of course, biased upwards by the high start-up costs of more capital-intensive enterprises. This is demonstrated in Table 15 on the following page. When enterprises are grouped into those with low and high initial capital costs, we see that for 12 "low-cost enterprises" the average amount of capital required was 9,349 CFA. For 9 enterprise types with start-up costs over 25,000 CFA we see that the average is almost 200,000 CFA. We should note that for this group most of the initial capital is required for the purchase of machinery, the construction of buildings

¹The amount reported by the enterprise owner, uncorrected for the age of enterprise, was used to calculate averages. This would probably account for some enterprise averages being quite low.

²At 200 CFA francs to a U.S. \$1.00.

Table 15 AVERAGE INITIAL CAPITAL BY ENTERPRISE TYPE
IN LOW AND HIGH CAPITAL GROUPS

Enterprise Group	Low Initial Capital			High Initial Capital		
	Enterprise		Average Initial Capital ^b CFA	Enterprise		Average Initial Capital ^b CFA
	Type	N ^a		Type	N ^a	
A. Metalwork	Blacksmith	74	13,767	Welding	13	408,077
B. Crafts	Pottery	12	3,392	Carpentry	6	85,833
	Leatherwork	30	607			
C. Clothing	Weaving	21	1,203	Tailoring	91	38,125
	Cloth Dying	62	5,898			
D. Food Processing	Baking	21	17,673	Grain Milling	38	675,544
E. Repairs	Motorbike	24	18,440			
	Radio	14	9,029			
F. Retail Distribution	Gas Selling	42	12,385	Gas Stations	3	1,000,000
				Pharmacies	7	302,857
				General Stores	52	104,254
G. Other Services	Restaurants	50	9,696	Bars	46	116,865
	Coffee Stands	26	4,889	Photography	3	196,667
	Barbers	5	4,200			
TOTAL ALL GROUPS	Low Capital Enterprises	381	9,349	High Capital Enterprises	259	198,714

Source: 1980 Small Scale Phase II Survey Data.

^aThis table excludes 19 percent of the sample; 52 missing observations and 101 cases where initial capital was zero.

^b200 CFA = U.S. \$1.00.

or purchase of initial stock for certain retail outlets. (See Tables 8 and 9 on Type of Work Space and Use of Machinery.)

When inquiry was made into the sources of this initial capital it was found that overall personal sources were most frequently mentioned (92 percent) and that numerically loans and other sources were much less important (8 percent of sources mentioned).¹ As we would expect, private and bank loans were more frequently cited as the source of financing for enterprises in the high capital cost group. These results are shown in Table 16.

Table 16 SOURCES OF CAPITAL BY ENTERPRISES GROUPED BY HIGH AND LOW INITIAL CAPITAL

Source of Financing	Percentage of Sources Cited		
	Average Level of Initial Capital		All Enterprises
	Low	High	
Personal Savings	79%	72%	77%
Family or Gift	8	10	9
Profits from Commerce	8	3	6
Loans of All Types ^a	4	13	7
Other	1	2	1

Source: 1980 Small Scale Phase II Survey Data.

^aOf a total of 46 loans, 35 were made by private persons, 5 by banks, 3 by the Rural Artisan Training Center (CAR) and 3 by other organizations such as PFP.

It is clear that access to capital may be an important constraint on participation in some of the more "expensive" enterprise groups. It should

¹It should be emphasized that these percentages refer to the number of times a particular source of financing was mentioned and not to the percentage of average initial capital made-up by that source.

also be noted that rural enterprise development projects in Upper Volta have found that even the low capital costs for certain traditional enterprises may discourage participation given very meager levels of cash flow in these households. This presents obvious implications for projects with limited financial resources in assessing the total impact of their lending policies.

3. Problems Faced by Small Scale Enterprises

A final area covered by the detailed questionnaire to enterprise owners concerned the problems facing their enterprises. Several "open-ended" questions were asked and the answers were then categorized and tabulated for each enterprise type. This revealed an overall pattern of problems facing the total sample of enterprises and sub-sets of problems which were particular to certain enterprise types.

The distribution of cited problems for the overall sample is presented in Table 17 on the following page and shows that the supply of raw materials or the supply of specific commodities needed in the operation of the enterprise was cited most frequently, 41 percent of the time. Transportation or bad roads were mentioned as a major problem in 9 percent of the total and is a particular problem for gas sellers, general stores, tailors and bars. That means that one-half of the problems cited had to do with availability of needed materials, of the right quality and price, or normal supply of commodities used in the business. This is not surprising given the very poor road network in the Eastern region, long distances from wholesale supplies, and lack of cheap, reliable vehicle transportation of any kind.

Lack of market outlets for production or lack of clients represented 9 percent of problems mentioned and this was distributed across all

Table 17 PROBLEMS FACED BY TOTAL SAMPLE OF
SMALL ENTERPRISES

Type of Problem	Percentage of Times Cited
1. <u>Supply of Materials</u> : too expensive, unavailable or bad quality	34%
2. <u>Special Material or Supply Problems</u> : enterprise specific	7
3. <u>Transportation</u> , bad roads	9
4. Lack of <u>market</u> outlets, lack of clients	9
5. <u>Machinery</u> : breakdown or excessive wear	9
6. Lack of operating <u>capital</u>	8
7. <u>Employees</u> , lack of experience	5
8. <u>Government regulation</u> : price control, licenses, taxes	3
9. Lack of adequate <u>building</u> , construction	3
10. <u>Credit</u> sales, recovery of credit	2
11. <u>Sickness</u> , accidents	2
12. <u>Other problems</u> : specific to enterprise types	9
Total: ALL Problems (number cited = 445)	100%

Source: 1980 Small Scale Phase II Survey Data.

enterprise types. Machinery breakdown or excess wear was concentrated in the two enterprise types using most of the machinery: tailoring (20 percent of problems listed for that enterprise) and grain milling (60 percent of problems). Employee problems or lack of experience in the occupation was more often cited by small manufacturing enterprises; problems with government regulation (price control, taxes and licenses), credit sales and recovery, and lack of adequate building were almost always cited by enterprises in retail distribution.

The answers given by specific types of enterprises provide some increased insight into the nature of those enterprises and their major operating problems. These types of problems are summarized below for 11 enterprise types:

a. Blacksmiths cited difficulties in supply and price of raw materials 71 percent of the time. Most often this involved the supply of metal but adequate supplies of wood and water were also listed. Lack of capital, market outlets, and experienced personnel made-up another 22 percent of their problems.

b. Pottery enterprises described technical problems related to their occupation. Of 28 problems cited, 25 dealt with different steps in pottery making and marketing:

Digging clay	5
Clay of bad quality	7
Forming or shaping clay articles	2
Firing formed pottery	5
Breakage and transport	6

c. Leatherwork enterprises cited general supply problems 50 percent of the time and 30 percent of answers dealt with problems in tanning leather.

d. For indigo cloth dying enterprises material supply was cited in 65 percent of cases. Of these answers about half were general in nature

and about half dealt with specific enterprise problems: supply of wood and water to use in the dying process and the quality of available dyes. The storage of prepared dyes was also cited as a major problem.

e. Problems in grain milling were primarily related to the machinery used in these operations. About 60 percent of problems involved breakdowns and repairs of the diesel motors and wear on mill grinding plates. Another 20 percent involved difficulties in obtaining diesel fuel on a regular basis at reasonable prices.

f. Bakers mentioned problems in the areas of supply and quality of wheat flour (45 percent), the supply of firewood to fuel their ovens (20 percent) and problems related to the construction of satisfactory mud baking ovens (15 percent).

g. Motorbike and radio repair enterprises indicated that their problems were almost exclusively (92 percent) in the areas of supply of tools and spareparts.

h. For gas stations and sellers the supply and transportation of fuels were the problems most frequently cited (76 percent).

i. The distribution of problems facing the owners of general stores and bars is instructive. The 65 problems mentioned can be classified as follows:

- Transportation of merchandise or beer	22%
- Price and availability of merchandise and beer	18
- Problems with government regulation: price control, licenses or taxes	15
- Lack of adequate building, construction	12
- Lack of operating capital	10
- Sales on credit, recovery of debts	8
- Lack of clients	6
- All other problems	9
	Total 100%.

j. Finally, the problems of small restaurants and coffee stands are largely those of supply and price of both food stuffs and the water and wood used in its preparation (72 percent of total problems mentioned).

V. IMPLICATIONS AND RECOMMENDATIONS

A. Considerations in the Promotion of Small Scale Sector Development

Implications can be drawn from the results of this survey for current efforts to promote the development of the small scale non-farm sector and for future technical, market and economic investigations of particularly promising types of enterprises. The types of implications to be drawn depend on the definition of objectives to be met in the promotion of small scale enterprise development.

Four major objectives should be taken into consideration: income and employment generation, stimulation of general regional economic development, and satisfaction of certain "social utility" or "basic needs" requirements. More specifically.:

1. Income Generation: Increasing the level of aggregate income derived from the region's small scale enterprises can be taken as a first objective for sector development programs. This can be accomplished by increasing the rate of net profit from existing enterprises and/or increasing the aggregate number of small enterprises.

2. Employment Generation: Employment and income are, of course, strongly interrelated. Generating employment, however, can be presented as a separate objective because we are interested in not only increasing aggregate income but also in its distribution. One way of formulating this objective could be: distribute increased benefits, through wider employment, to as large a proportion of the region's population as possible

consistent with available technological alternatives and consistent with the long-term economic benefits of having some concentration of profits available for reinvestment.

3. Stimulation of Regional Economic Development: Meeting this objective implies that attention should be given to the promotion of enterprises which most fully utilize the region's material and human resources and/or to the promotion of enterprises whose increases in production facilitate the secondary development of related economic opportunities. This latter phenomenon is often referred to by economists as involving "backward and forward linkage effects." For example, development of the peanut oil extraction industry can increase local demand for the region's peanut production (a backward linkage effect); an increased supply of resulting peanut cake could promote the greater development of an animal fattening industry (forward linkage effect).

4. Satisfaction of Basic Needs, Social Utility Concerns: The development of certain types of enterprises may be sought primarily because they can contribute to meeting certain basic human needs or to improving "social utility." For example, assistance to pharmacies and local well-diggers may be justified in terms of meeting basic village health and water needs. Conversely certain types of enterprises, although profitable, may not be promoted because their development may be seen to have negative "social utility" (bars for example). The first three objectives of course would have a positive social utility.

From the point of view of a regional program to promote small scale industry development, meeting these four objectives should be placed in a profitability or "cost and returns" framework, both at the level of the firm and the development program. We must evaluate the potential of different enterprise types to meet overall objectives using present and

alternative production technologies and under differing input supply and output marketing conditions. For the promotion program we must evaluate its capability to meet the objectives through a modification of production or marketing conditions by way of assistance in training, management, supply of credit, infrastructural improvement, etc.

To begin we must examine the costs and returns to a particular enterprise type under present production technologies and marketing conditions.¹ For certain enterprise types there may be one basic technology employed in a fairly standard production environment where the input supply and output marketing conditions faced by firms in different locations are fairly similar. This would be the case in an agricultural processing enterprise such as traditional beer (dolo) making. There is one basic technology used; locally produced inputs are used in the production process (although their availability may vary considerably), and output is marketed locally. With a fairly divisible technology production can be adjusted upwards or downwards in response to changes in local demand. In contrast, for some types of enterprise we may observe a number of different technologies employed under widely differing input supply and output marketing conditions. For example, such a contrast could be found in carpentry. In smaller towns we may have small carpentry enterprises only using minimum hand tools in the production process, facing difficult supply problems for sawn lumber and a limited local market for the firm's output. In contrast, a carpentry firm in a larger town on a main road may be able to use electric-powered

¹As has been stated this survey was not designed to collect the more detailed information necessary to make this type of evaluation. This is the role of a "Phase III" survey which would follow a sample of enterprises in a number of enterprise types judged to be promising in the assessment of our initial survey results.

tools, have more ready access to lumber and other supplies and face a stronger local demand for a wider range of products. There is a major jump between these two technologies in terms of capital (both initial and operating), training and management requirements as well as in terms of the supply and product market conditions facing the two types of firms. The potential response of this type of enterprise to changing market conditions will be slower and involve discontinuous jumps between distinct production technologies.¹

The documentation of current cost and returns for target industries will permit the identification of specific aspects of the production and marketing processes which may be modified to increase the capacity of that industry to meet small scale sector development objectives. Within a given production technology some changes may reduce the costs of production, others may increase returns through an expansion of the market for that industry's output. Changes in technology may modify both costs and returns to production for the same type of product or for new types of products.

Within the general framework of meeting the four objectives for small scale industry development, three groups of factors must be concurrently assessed in considering program or project interventions. These are:

1. Assessment of Alternative Production Technologies: For existing or new products or services, are there alternative production technologies which can be appropriately employed? Changes in technology will generally involve modification of the technical, economic and social nature of the

¹ Thus the carpentry shops of Fada N'Gourma would not easily be able to respond to a major local government demand for new office furniture. In contrast, local dolo makers could increase production for a local holiday involving traditional beer.

production process. Technically, we must consider new combinations of human and natural resources. Does the alternative technology change raw material input requirements? Are all inputs to the production process produced locally or must some be imported? Does the alternative technology require a new source of energy (such as use of electricity or internal combustion engines) for the production process?

Economically, different technologies will alter patterns of costs and returns. Of particular importance on the cost side are initial investment costs and operating costs, including labor and raw materials. An optimal level of output and an optimal firm size are usually associated with specific production technologies. Can these levels be achieved in the specific environment?

Socially, different technologies embody different production relationships between owner and employees. New technologies may require a higher level of employment, greater work place efficiency and increased regularity in employment.

2. Assessment of Market Potential: Here we are concerned with an assessment of the market for current and future products. This must begin with current markets and marketing patterns and then examine the potential depth of markets and price and income elasticities of product demand.¹ Many of the enterprise types providing substantial employment in the Eastern region are those producing products which are competitive with imported products (For example, locally versus factory produced beer and cloth.) Assessment of market potential may be in terms of the village, the region or export from the region.

¹This analysis requires a study of consumption patterns of rural households.

3. Assessment of Facilitating Government Actions: There are numerous actions the central government can take which will effect the profitability of specific enterprises. These can be translated into long and short-term policy implications. At the most general level classical government functions in the provision of infrastructure can substantially alter the production environment. These areas include road and transportation infrastructure, electricity, and systems for information dissemination. Indirect stimulation can be provided through tax and price policies. Further the government can directly intervene in small scale industry development through direct subsidies, technical training, and by direct promotion or marketing of small scale industry products.

For any particular type of enterprise these assessments must be made concurrently since they are all interdependent and all effect the level of potential benefits to be derived from that activity. For example, an assessment of village level peanut processing must examine the potential market for peanut oil of a given quality in competition with other oils, the types of processing technologies available, and government policies which would affect the competitiveness of locally produced oil with that produced by the CITEC factory or imported.

It is beyond the scope of this report to provide this type of detailed assessment for the different enterprises surveyed in Eastern Upper Volta. The survey was intended to provide basic information on these types of firms as a starting point in this assessment process. However, the following implications for specific enterprise types may help in the selection of those which could be investigated more thoroughly.

B. Specific Implications for Selected Enterprise Types

One method for the selection of enterprise types for further investigation is to examine their current levels of employment in the Eastern Region and the average amount of initial capital they require. Table 18 on the following page arrays the 25 enterprise types studied into five categories according to the number of persons currently employed and the level of initial capital required. We see that seven enterprise types are in the high employment category (over 1,000 persons in the Eastern Region), eight in the medium employment (200 to 1,000) category and ten in the low employment category (under 200 persons per enterprise type).

All those enterprises in the high employment category are of the more traditional small manufacturing and agricultural processing types and all have low initial capital requirements (under 20,000 CFA)¹ using current technologies. The other two employment groups are evenly split between low and high capital requirements. Concern with meeting an objective of employment generation would favor a more detailed examination of enterprises in the high and medium employment categories. The level of initial capital would indicate those enterprise types which, under current technologies used, would require less investment capital if this were to be provided by a credit scheme. Other enterprises, such as grain milling, welding and pharmacies, could be included because of their general social and economic usefulness. If credit were not to be given this distinction might be less critical.

There are many opportunities for more detailed investigation of small scale enterprises in the Eastern Region. The following are summary comments and specific avenues of possible investigation by enterprise group and type.

¹20,000 CFA is approximately equal to \$100 at current exchange rates.

Table 18 EMPLOYMENT AND LEVELS OF INITIAL CAPITAL
FOR 25 ENTERPRISE TYPES IN
EASTERN UPPER VOLTA

		Level of Initial Capital	
Level of Employment		Low: Below 20,000 CFA	High: Above 38,000 CFA
<u>High</u> (over 1,000 persons)		Beer (Dolo) Making Shea Butter Making Weaving Blacksmithing Sombala Making Cloth Dyeing	
<u>Medium</u> (200 to 999 persons)		Peanut Oil Extraction Restaurants Motorbike Repair Leatherwork	Tailoring General Stores Bars Grain Milling
<u>Low</u> (under 200 persons)		Baking Gas Selling Coffee Stands Barbers Radio Repair	Carpentry Pharmacies Photography Welding Gas Stations

Source: Tables 6 and 15.

1. Agricultural Processing

This group of enterprises is the most important in terms of overall current small scale employment. These are all home processing activities which use local crops or gathered nuts and seeds. They currently require little capital and largely use simple hand technologies. This group of enterprises could benefit particularly from assessments of alternative production technologies and market potential.

a. Dolo (Beer) Making

This is the non-farm enterprise which employed the greatest number of persons in the Eastern Region. It is present in almost every village, is almost exclusively pursued by women, and can generate substantial profit.¹ The technology employed is fairly standard and does not seem to easily lend itself to major modifications. There are, however, minor changes which might be made such as an improved cooking system to reduce wood consumption which is one of the major operating expenses. The major competitor to dolo is factory bottled beer which is making great inroads in rural areas. Relative price will be a determining factor in the speed and extent of the spread of this substitution.

b. Shea Butter Extraction

Since shea butter is the major cooking oil employed in the region the extraction process is widespread and engages a large number of women. Hand technology is generally used although nuts are sometimes ground in mechanical grain mills. Since the nuts are quite hard and abrasive the grinding is usually done with worn grinding plates. Even so there is

¹For an interesting discussion of the economics of beer production see Saul, 1980.

considerable wear on machinery and consequently the grinding charge is higher than for grain or peanuts. Shea butter production should have a technology and market assessment. As in peanut oil production, improved technologies might require an increase in volume of production which could make them appropriate activities for women's cooperatives at the village level.

c. Peanut Oil Extraction

It is ironic in a region which produces major quantities of peanuts that peanut oil is not locally available for large parts of the year. The hand pounding/cooking method of extraction currently used often utilizes peanuts ground in grain mills. The major change in technology that would increase the rate of production would be mechanical pressing of the crushed nuts. There have been some experiments in the use of locally made, hand powered mechanical presses in Upper Volta. These efforts could be continued and the purchase of small manufactured presses for cooperative production should also be investigated. Since peanut oil is widely used the marketing potential looks promising particularly with peanut oil selling for around 500 CFA a liter in urban markets.

d. Soubala Production

This enterprise is also widespread as soubala is a major condiment added to sauces throughout this part of West Africa. Soybeans are increasingly replacing or supplementing locust beans in the production of soubala. The profit margin in the production process can be considerable particularly if the product can be marketed in substantial quantities in major urban markets such as Ouagadougou and Niamey. This enterprise could benefit from a more detailed technological assessment and urban export markets

could be explored. In addition, small scale processing technologies for alternative soybean products have not received much attention.

e. Rice Hulling

Rice hulling was not studied in this survey since the small number of enterprises using mechanical technologies located and interviewed did not permit useful analysis. However, given the problems of marketing rice produced in the region, available technologies (hand pounding and small belt driven hullers) should be investigated. Most grain milling operations in the region do not have rice hullers which could easily be added in most cases if local market demand would warrant or if the exporting of rice surplus would be facilitated by local processing.

2. Food Processing

The two enterprises in this group, grain milling and bread baking, are becoming increasingly important in the Eastern Region as elsewhere in Upper Volta. While minor technological improvements could be made in milling, the basic technology is a standard motor/mill combination which is well adapted to local conditions. In a few larger centers electrification could permit mills to be driven by electric motors which would probably be substantially cheaper in terms of energy costs and would reduce the incidence of repairs. The major barrier to the spread of this useful service enterprise is the increasingly high price of imported machinery.

Bread baking uses a mud over technology which can be improved in basic design and in terms of fuel and baking efficiency. The Fada N'Gourma bread market may be large enough to support a somewhat more modern, larger scale bakery. While questions can be raised about the wisdom of an increased

dependence on imported wheat flour (or wheat/millet mixtures) this is an enterprise type which is strongly associated with urbanization and whose product is widely appreciated.¹

3. Small Scale Manufacturing

Eight enterprise types in the areas of metalwork, crafts and clothing can be grouped together under the heading of small scale manufacturing. For the group as a whole assessments of technological alternatives, market potential and economic costs and returns are needed. These enterprise types are discussed in order of their estimated employment in the Eastern Region.

a. Weaving

Traditional small loom weaving is primarily a dry season activity engaged in by men. In recent years manufactured cloth and imported used clothing have competed strongly with woven bands. There is still a strong market for rolls of hand woven cloth and progress could be made in this industry through the introduction of larger hand looms (this has been done primarily by Catholic groups in Upper Volta) and through organization of weaver's cooperatives to decrease input costs and increase collective marketing power (this has been initiated by PFP in Fada).

b. Pottery

This industry is widespread, employs a substantial number of people and produces products which are largely functional in nature (household storage, cooking and water containers and large containers used in

¹See Chuta, 1981, for a thorough discussion of economic trade-offs among breadmaking technologies used in West Africa.

traditional beer production and retailing). As the previous section of this paper indicated most problems reported by pottery enterprises involved the technical steps involved in production and transportation of clay pots. This is an enterprise where feasible technical alternatives may exist and where the product line could be expanded considerably.¹

c. Blacksmithing

Most traditional blacksmith work is in the area of manufacturing hoe heads and other hand tools for agriculture. There is considerable potential for the expansion of manufacturing--particularly in the production and repair of animal traction spareparts and equipment. The example of the "Forge Moderne" in Piela is testimony to this potential for development and expansion. Numerous blacksmiths from the Eastern Region have been trained by CNPAR in Ouagadougou to provide the local third tier to the ARCOMAS-COREMAS animal traction manufacturing equipment manufacturing and repair system. These blacksmiths can receive loans for new equipment from CNPAR and are supposed to receive assistance from SACS² in terms of input supply. The opportunities for program development here are largely in the area of strengthening the existing system. In addition access to credit and raw materials remains a major problem particularly for those blacksmiths who are not part of the CNPAR network.

d. Cloth Dyeing

Indigo cloth dyeing appears to be a declining industry but still employs a substantial number of persons particularly in the most rural

¹The pottery industry in Katiola, Ivory Coast offers an example of a rural small scale industry which now exports most of its production to urban centers in the Ivory Coast.

²SACS: "Service d'Assistance, de Conseil et de Soutien," a branch of CNPAR.

areas. There is still a fairly strong market for traditional dyed cloth for ceremonial occasions such as weddings. One area of potential expansion is the production of batik and "tie-dyed" cloth. This was demonstrated by a group of Fada women who, with the assistance of MSU audio-visual technician David Van Dyk, began production of these popular types of cloth and won the first prize in the 1980 Fada Regional Fair. Most batik and tie dyed cloth is imported to Upper Volta particularly from coastal countries such as Sierra Leone which have long histories of dyeing.¹ The technology could easily be employed in Upper Volta particularly if low cost bulk ordering of imported dye stuffs could be arranged.

e. Tailoring

The major technical change for this industry, introduction and use of the sewing machine, has taken place on a widespread basis. Improvements in firm organization, diversification of product line, mass production of standard clothing (such as occurs on a very large scale in the Ouagadougou Market Place) could all be accomplished in the Eastern Region. In addition, access to electricity could permit some tailors to fully utilize the more complicated embroidery machines which are in common usage in larger urban centers.

f. Welding

Two basic technologies are in use, acetylene gas welding and electric arc welding. Most gas welding is used for repairing tools, bicycles and automobiles but can be used in manufacturing small articles. (Niamey has a thriving industry in welded metal chair frames which are completed with

¹See Chuta (1978) for a detailed technical description of this industry in Sierra Leone.

seats made of sisal or plastic rope.) The few electric welding enterprises in the region can also engage in repair work but have a very successful and expanding market for metal doors and windows for housing construction. Publicly generated electricity could have a major impact on the welding industry as it does in Ouagadougou. Technological alternatives could be explored for this industry because of its great utility.

g. Carpentry

Currently carpentry employs a relatively small number of persons in the region. While this trend is likely to continue due to limited market opportunities, there is room for increasing the capitalization and productivity of carpentry firms. This is another type of enterprise where public electricity could make a critical impact.

h. Leatherwork

This, like cloth dyeing, is a declining industry. The importation of factory made shoes and the operation of the BATA shoe factory in Upper Volta (which makes plastic shoes from imported oil) has almost completed destroyed the traditional shoemaking industry and much associated leatherwork. With the exception of enterprises making articles for horse riding (particularly in the Kantchari and Bogande areas) much of the leatherwork industry has been reduced to minor shoe and other leather repairs in the market place. There is almost no leatherwork in the Eastern Region oriented towards the tourist trade. There seems to be a great potential for improving leatherworking in the Eastern Region given its large animal populations.¹ The

¹Examples of high quality leatherwork are produced in Kaya and in a center for handicapped children in Tenkodogo. The government sponsored leatherwork operation in Ouagadougou primarily produces expensive articles in sueded leather almost exclusively for the tourist trade.

production of quality tanned leather is an obvious bottleneck to revitalizing the leatherwork industry. It is of interest to note that almost all of the leather produced by the tannery in Ouagadougou is exported to Europe for transformation into shoes and bags, some of which may then be reimported into Upper Volta for purchase by a small number of affluent consumers.

4. Repairs, Retail Distribution and Other Services

There are fewer implications to be drawn concerning this group of enterprise types. This is partially due to their nature as distribution and service activities of interest to only a portion of the population, partially to the limited potential for expansion of some enterprises, and finally to the high start-up costs and low employment potential of others. However some general comments can be made.

For radio and motorbike repair the main avenues for industry improvement are through training programs and the availability of credit funds to enable repairmen to purchase adequate tools and equipment.

For the four "distribution" enterprises examined in this study, gas stations, gas selling, pharmacies and general stores, the latter two are of most interest particularly in terms of investment possibilities with ORD sponsored village groups. Here the major problems to be faced are provision of adequate buildings, sufficient capital for operating purposes and, most importantly, management training for enterprise owners or managers. These are areas which should most likely be left to the private sector but capital and management assistance could be of great utility particularly if these actions are to be undertaken by village cooperative groups.

The five enterprises examined in the "service" group, bars, restaurants, coffee stands, photographers and barbers, are of lower priority in

terms of meeting the four general objectives for small scale enterprise promotion. All except barbers face problems in obtaining supplies and could use management assistance but their growth is primarily a function of the overall levels of regional development and disposable consumer income.

C. Suggestions for Further Research and Development
Work in the Small Scale Sector

This report can only provide preliminary indications of the productive potential of the small scale enterprises to generate increased income and employment for the rural population of the Eastern Region of Upper Volta. The following are specific steps which can be taken to investigate this potential more thoroughly, particularly for those industries which have a greater a priori capacity for expansion of production of present or alternative products:

1. Objectives for the promotion of small scale enterprise development should be defined to provide yardsticks against which to measure current and potential economic performance. The precise specifications of objectives will depend on the "client groups" involved. For the ORDs regional planning effort the objectives can be more global in nature, along the lines suggested in the beginning of this section. Here the concern is to increase employment, levels of income, regional development through greater use of local resources and to meet certain pressing human needs. It is of less concern whether these are accomplished through the private sector, through village cooperative structures or through other means.

For the ORDs cooperative extension and credit programs objectives can be modified to focus on those economically viable activities whose

optimal size, credit requirements and management complexities suit them to cooperative action at the village level and which maximize the local utilization of the region's field and tree crop production.

For a rural enterprise promotion project, such as the USAID project conducted by PFP in the Eastern Region, objectives can also be modified to focus primarily on the development of enterprise opportunities in the private sector in response to expressed demands for assistance by local entrepreneurs.

2. Once objectives have been agreed to there are three types of practical investigations which can be conducted in the Eastern Region and elsewhere in Upper Volta. These are:

- a. an economic evaluation of the costs and returns to production and the market potential of existing small manufacturing and food processing enterprises;
- b. a similar evaluation of existing small scale, village level agricultural processing enterprises; and
- c. an assessment of viable alternative production technologies for the present products of some enterprises or for new types of products for enterprises which are in decline.

In conducting these investigations particular attention should be given to identification of investment opportunities whose technical and managerial demands make them appropriate for individual or cooperative credit.¹ In addition opportunities for facilitating government actions to reduce input supply costs or expand output markets should be identified. These assessments should be conducted in cooperation with Eastern ORD and PFP personnel in the region.

¹It should be stressed here that credit is not an automatic solution to small scale enterprise development. Making credit too easily available can lead to over capitalization, a tendency to replace labor by machinery, and to productive overcapacity.

3. Based on the analysis contained in this report, the following enterprise types are likely candidates for inclusion in the three investigations:

a. Cost and Returns and Market Potential for Rural Manufacturing and Food Processing

Metalwork: Blacksmithing and Welding,

Crafts: Pottery,

Clothing: Tailoring, Weaving and Cloth Dyeing, and

Food Processing: Grain Milling and Bread Baking.

This study could be expanded to cover a total of ten enterprise types by including general stores and pharmacies in the retail distribution category. This would be of particular use in developing economic, management and credit guidelines for these two enterprises which, along with grain mills, have been most frequently requested by ORD sponsored village groups. To be useful such an assessment would require four to six months of field investigation using the services of 3 or 4 trained interviewers.

b. Costs and Returns and Market Potential for Rural Agricultural Processing Industries

In the Eastern Region such a study should examine:

Beer Making,

Shea Butter Production,

Peanut Oil Production, and

Soumbala Production.

This study could be completed with two or three months of fieldwork using local, trained interviewers.

c. Assessment of Alternative Production Technologies and Potential Markets for Rural Enterprises

The most useful way of conducting this assessment would be to employ persons with particular expertise in these industry areas. Such persons can be available from international organizations (such as ILO, WARDA for rice, etc.), from technical development groups (such as VITA in the US), or in industry groups in Upper Volta or elsewhere. Three types of technology assessment can be made: those that focus on alternative production technologies for existing products, those that focus on adoption of new technologies to produce new products, and those which investigate both.

In the first category the following enterprise types can be investigated:

--Bread Baking: here the focus should be in technological improvements possible in existing mud oven construction and operation and the possibility of using alternative baking technologies in one or two larger centers of the region;

--Shea Nut or Peanut Oil Processing: here the focus should be on the adoption or importation of oil presses which can be feasibly operated at the village level;

--Rice Hulling: this assessment should examine the economic potential for adding manufactured rice hullers to existing grain mill power plants in rice surplus areas.

In the second category (technologies for new product development and market opportunities) two enterprises, currently in decline in the region, should be examined.

--Cloth Dyeing: the potential for production and marketing of locally produced batik and "tie-dyed" cloth should be examined following the recent

experiment in Fada N'Gourma. Production expertise is available in the Sierra Leone industry.

--Leatherwork: the potential for expanding leather tanning should be examined along with the potential for production of quality leather products for both the local and export markets.

For two enterprise types there seems to be opportunities to improve both technical and organizational performance and to explore creation of new product lines:

--Pottery: new products and markets can be explored as well as adjustments to the traditional process of shaping and firing clay ware.

--Weaving: opportunities are available to improve organization of weaving through cooperative action in terms of input supply costs and product marketing. In addition new weaving technologies (e.g., larger hand looms) and new product lines can be investigated.

VI. BIBLIOGRAPHY

- Barrett, V.; Lassiter, G.; Wilcock, D.; Baker, D.; and Crawford, E. 1981. "Animal Traction in Eastern Upper Volta: A Technical, Economic and Institutional Analysis." East Lansing: Department of Agricultural Economics, Michigan State University.
- Chuta, Enyinna. 1978. "The Economics of the Gara (Tie-Dye) Cloth Industry in Sierra Leone." African Rural Economy Working Paper No. 25. East Lansing: Department of Agricultural Economics, Michigan State University.
- _____. 1980. "Techniques of Production, Efficiency and Profitability in the Sierra Leone Clothing Industry." African Rural Economy Working Paper No. 30. East Lansing: Department of Agricultural Economics, Michigan State University.
- _____. 1981. "Choice of Appropriate Technique in the African Bread Industry with Special Reference to Sierra Leone." World Employment Programme, Technology and Employment Programme Working Paper. Geneva: International Labour Organization.
- Chuta, Enyinna and Liedholm, Carl. 1979. "Rural Non-Farm Employment: A Review of the State of the Art." MSU Rural Development Paper No. 4. East Lansing: Department of Agricultural Economics, Michigan State University.
- Davies, Omar; Fisseha, Yacob; and Kirton, Claremont. 1979. "Small Scale, Non-Farm Enterprises in Jamaica: Initial Survey Results." MSU Rural Development Working Paper No. 8. East Lansing: Department of Agricultural Economics, Michigan State University.
- Eicher, Carl; Sargent, Merritt; Tapsoba, Edouard; and Wilcock, David. 1976. "An Analysis of the Eastern ORD Rural Development Project in Upper Volta: Report of the MSU Mission." African Rural Economy Working Paper No. 9. East Lansing: Department of Agricultural Economics, Michigan State University.
- Haggblade, Steve; Defay, Jacques; and Pitman, Bob. 1979. "Small Manufacturing and Repair Enterprises in Haiti: Survey Results." MSU Rural Development Working Paper No. 4. East Lansing: Department of Agricultural Economics, Michigan State University.
- Liedholm, Carl. 1973. "Research on Employment in the Rural Non-Farm Sector in Africa." African Rural Economy Paper No. 5. East Lansing: Department of Agricultural Economics, Michigan State University.

- Liedholm, Carl and Chuta, Enyinna. 1976. "The Economics of Rural and Urban Small Scale Industries in Sierra Leone." African Rural Economy Paper No. 14. East Lansing: Department of Agricultural Economics, Michigan State University.
- Mabawanku, Adewale. 1979. "An Economic Evaluation of Apprenticeship Training in Western Nigerian Small Scale Industry." African Rural Economy Paper No. 17. East Lansing: Department of Agricultural Economics, Michigan State University.
- Mehretu, Assefa. 1981. "Spatial and Structural Characteristics of Settlements in the Eastern Region of Upper Volta: Results of the Village Inventory Survey." East Lansing: Department of Agricultural Economics, Michigan State University.
- Mehretu, Assefa and Wilcock, David. 1979. "Regional Planning Working Paper No. 1: The Eastern Region of Upper Volta." East Lansing: Department of Agricultural Economics, Michigan State University.
- Republic of Upper Volta. 1979. "Principaux Resultats du Recensement de 1975." Ouagadougou: Government of Upper Volta.
- Saul, Mahir. 1980. "Beer, Sorghum and Women: Production for the Market in Rural Upper Volta." Paper presented at Workshop on Sahelian Agriculture. West Lafayette: Department of Agricultural Economics, Purdue University.
- Wilcock, David. 1981. "Inventaire Socio-Economique des Villages de l'Est: Fichiers Secteur." East Lansing: Department of Agricultural Economics, Michigan State University.