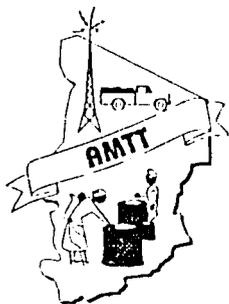


PROJ FV001 642  
677-0062

OFFICIAL FILE COPY  
DO NOT REMOVE



---

**USAID**

---

---

## Study of Women in Agricultural Marketing Chad

---

Ellen Patterson  
Gregory B. Kruse  
John Waren Smith

February 1994

Publication AMTT N°53

**AMTT Project (Agricultural Marketing and Technology Transfer)**  
**Funded By United States Agency for International Development**  
Contract No. 677-0062-C-00-2003-00, Project No. 677-0062,  
USAID Ndjamená, Chad.

---

**Projet AMTT/DAI, Development Alternatives, Inc.**  
*(Projet Commercialisation des Produits Agricoles et Transfert de Technologie)*  
B.P. 1128, Tel: 512056 ou 512057, Fax Publique: 515884, N'djaména, Tchad.  
Bâtiment Coton Tchad

## TABLE OF CONTENTS

	<u>Page</u>
<b>CHAPTER ONE</b>	
INTRODUCTION	1
MARKET WOMEN SURVEY	2
FOOD TECHNOLOGY SURVEY	2
SOCIOLOGY OF MARKET WOMEN SURVEY	2
APPROPRIATE TECHNOLOGY REVIEW	2
CREDIT INSTITUTION SURVEY	3
<b>CHAPTER TWO</b>	
WOMEN'S CHANGING ROLE IN CHADIAN SOCIETY	5
THE GROWING IMPORTANCE OF WOMEN AS PRODUCERS OF MONETARY INCOME	5
REACTIONS TO CHANGES IN WOMEN'S ECONOMIC AND SOCIAL STATUS	8
HOW WOMEN AND MEN HAVE DEALT WITH CHANGING NEEDS	12
FUTURE PROSPECTS	15
<b>CHAPTER THREE</b>	
THE ROLE OF WOMEN IN AGRICULTURAL MARKETING	17
DETERMINING FACTORS IN MARKETING ROLES	17
Capital	17
Knowledge of the Marketing System	18
Freedom of Action	18
Ethnic Group Traditions	18
Gender-Specific Processing Roles	18
WOMEN'S ROLES IN FRUIT AND VEGETABLE MARKETING	19
Major Fruit and Vegetables Marketed in N'Djamena	19
Fruit and Vegetable Marketing System	20
PROCESSING	25
CONSTRAINTS ON WOMEN'S PARTICIPATION IN FRUIT AND VEGETABLE MARKETING	26
<b>CHAPTER FOUR</b>	
INTERVENTIONS IN FAVOR OF WOMEN: MAIN FINDINGS	31
OVERVIEW OF WOMEN'S DEMANDS FOR ASSISTANCE	31
TRAINING	35
Literacy	36
Business Training	39

CREDIT	40	
Working Capital Credit	41	
Investment Capital	43	
AVAILABILITY OF CREDIT	44	
Urban Informal Credit Systems	44	
Urban Informal Credit System Issues	46	
Spontaneous Rural Credit Systems	47	
Spontaneous Rural Credit System Issues	47	
Formal Credit Systems	48	
Formal Credit System Issues	52	
Positive Trends and Accomplishments	53	
APPROPRIATE TECHNOLOGY	53	
The Need for Appropriate Technology for Women	54	
Appropriate Technology Solutions	55	
Constraints on Availability of Appropriate Technology to Women	59	
Positive Trends and Accomplishments	61	
<b>CHAPTER FIVE</b>		
<b>CONCLUSIONS AND RECOMMENDATIONS</b>		
	65	
TRAINING	65	
Literacy Training	65	
Business Skills Training	66	
Agricultural Extension Programs	67	
Training Implementation Considerations	67	
CREDIT AND FINANCE	69	
Overview	69	
Urban Areas	69	
Rural Areas	72	
APPROPRIATE TECHNOLOGY	73	
ADDITIONAL CONCLUSIONS AND RECOMMENDATIONS	75	
General Issues for the GoC	75	
Project and Program Design Issues	76	
BIBLIOGRAPHY	77	
ANNEX A	MARKET WOMEN SURVEY	A-1
ANNEX B	REPORT ON THE PROCESSING OF AGRICULTURAL PRODUCTS BY THE WOMEN OF N'DJAMENA	B-1
ANNEX C	APPROPRIATE TECHNOLOGIES INVENTORY	C-1
ANNEX D	GRAIN MILL FINANCIAL ANALYSIS	D-1
ANNEX E	PERSONS CONTACTED	E-1

## LIST OF TABLES AND FIGURES

<u>Table</u>	<u>Page</u>
1 Daily Revenue in the Moyen-Chari (Urban and Rural)	8
2 Original Source of Capital	9
3 Creation of Men's and Women's Groups in the Waddai	10
4 Creation of Women's Groups in the Lere Region	10
5 Number of Spontaneous Activities in 15 Sampled Villages	13
6 Participation in Literacy Classes in Lere, 1993	13
7 Number of Intermediaries (January-February 1992)	21
8 Number of Nonperishable/Semi-Perishable Produce Wholesalers	23
9 Number of Demi-grossistes	23
10 Retail Sellers' Gender by Product Sold	25
11 Formation of Women's Groups in the Mayo-Kebbi, 1978-93	34
12 School Attendance in the Moyen-Chari	38
13 Adults in the Moyen-Chari Who Possess Some Literacy Skills	38
<u>Figure</u>	
1 Weekly Market Expenditures for Food (Usual Expenses)	7
2 Income from Women's Activities March/April 1992	7
3 Source of Women's Income for Household Expenses	7
4 Spontaneous Requests for Help from Women's Groups in Chad	32
5 Women's Requests for Assistance by Region	33

This trend toward increased status, although occurring to a greater or lesser extent within various ethnic groups, seems clear in all the regions examined in this study. On the whole, both men and women are aware of women's increasing economic power and status. If a woman can contribute more to household finances due to literacy or management training, or access to credit or improved technology, both men and women consider this an advantage for the entire family.

Overall, the energy and drive exhibited by the women contacted in the course of this study are impressive. While the sample of respondents was not statistically random, the internal consistency of the statistical information in the surveys and its consistency with team members' in-depth interviews with individuals and focus groups lead us to believe that the data paint an accurate picture of women in agricultural marketing. More than 700 women were interviewed using structured questionnaires and focus group techniques.

## WOMEN'S PARTICIPATION IN AGRICULTURAL MARKETING SYSTEMS

Women occupy a variety of roles in Chad's agricultural marketing system. In most subsectors, they predominate at either end of the marketing chain, as producers delivering small quantities to local markets, and as retail sellers in major markets. In cereals, women are active as village-level traders (*commerçantes navettes*), semi-wholesalers (*demi-grossistes*), and retailers. Due to a lack of time and means, the team was only able to conduct an intensive review of women's role in one particular subsector, that of fruit and vegetables in N'Djamena. This review was made possible by the (long) experience of one team member in this subsector in Chad. The conclusions regarding women's roles and the constraints they face in agricultural marketing which we draw from observations in this subsector are illustrative of the types of problems women face in general. However, each subsector has its variations on the roles of women, capital requirements, regional attitudes, ethnic and business relations, etc. Interventions in support of women in any particular subsector should be preceded by relevant subsector studies to determine the most effective approach to meeting their needs.

In fruit and vegetable marketing, the common pattern of women's predominance at the ends of the marketing chain — that is, at the production and retail levels — is readily apparent. However, in the perishable produce market, women play important roles as intermediaries known as *dalalys*, who negotiate prices with arriving traders for retailers. In this capacity, women *dalalys* compete openly with male colleagues without any particular tension or discrimination other than that based on the quality of the services offered. Similarly, in the nonperishable produce sector, the majority of *demi-grossistes* are women. No women, however, are active as wholesalers in the nonperishable market or as village/urban market traders in the perishable produce market. The lack of opportunities for women at these levels can be traced to several different causes. The lack of village-level women traders seems to stem mainly from the difficulty women have in freeing up enough time away from their household obligations to travel on a regular basis. The absence of women from the ranks of urban fruit and vegetable wholesalers is related to three main factors: (1) the presence of an ethnic monopoly in which the group in question has strong social prohibitions against women coming into contact with large numbers of "outsiders," (2) the difficulty that women (and men) have in amassing the capital required to operate a wholesaling operation, and (3) women's lack of business and literacy skills.

In all Chadian agricultural subsectors, women dominate in processing (except for motorized grain, peanut, and spice milling, which is done by men) and selling processed items. Food processing is a very significant income generating activity for urban women. Although food processing is usually conducted

on a micro-enterprise scale, the food technology survey conducted as part of this study estimated that gross annual earnings from food processing by women in N'Djamena exceeds CFA 550 million per year.

Chad has a large pool of highly skilled and experienced market women with a very businesslike attitude toward their trade. Ninety-four percent of urban market women interviewed said that marketing is their principal activity year-round. Seventy-one percent had more than five years of experience in marketing, and 40 percent had been in business for 10 years or more. These professional women are an ideal target population for technical assistance, training, and credit programs, since they are skilled in business and are highly motivated to enlarge the scope of their activities. They are also relatively accessible, since they are present in large numbers in the marketplace in all urban centers and rural towns.

### IMPROVING WOMEN'S ABILITIES TO PARTICIPATE IN MARKETING ACTIVITIES: TRAINING, CREDIT, AND APPROPRIATE TECHNOLOGY

The study team attempted to evaluate the needs of Chadian women engaged in agricultural marketing in three areas: training, credit, and appropriate technology. The team's main findings in each of these areas are presented below.

#### Training

Both rural women's groups and urban market women recognize that illiteracy and limited education are serious handicaps. The demand for "alphabetization," or basic literacy training, is widespread, and reflects an awareness that the inability to read and write creates many practical problems in business and group affairs management. Keeping all accounts in one's head is bad enough for one's own business, but can become a serious problem for a group business or savings and credit association management.

Many alphabetization programs are under way in various parts of the country. The many issues raised by problems of adult instruction, local versus national language training, and the suitability of training materials to the needs of participants go beyond the scope of this study. Some recommendations are offered, however, that should make literacy training more accessible and more useful to women engaged in agricultural marketing.

A few programs run by NGOs also exist for business management training for women. These range in scope from a very short session offered by VITA to provide illiterate women with a means of keeping basic accounting records to a six-month management training course offered by PADS to educated entrepreneurs.

*This can be alleviated in the country by doing a justified manager of women who proposed in smaller units (see large etc...)*

#### Credit

In the area of credit, it is interesting to note the surprising extent to which the informal sector depends on informal credit systems such as credit-in-kind (trade credit) and the tontine. None of the women surveyed in rural markets and only 7 percent of urban market women surveyed had received cash credit from a financial institution (almost exclusively nongovernmental organization [NGO] micro-enterprise loans), 77 percent of urban market women regularly receive goods on credit from their

suppliers, and more than 80 percent extend credit to their customers. The informal African tontine system of capital accumulation is also widely used as a substitute for a formal saving system, with 65 percent of women in weekly markets and 52 percent of women in major urban markets claiming to participate in one or more tontines.

Despite the widespread availability of informal credit, fully 58 percent of market women interviewed said they would like to have access to cash credit. Most interviewees indicated that they prefer to do business on a cash basis, since this permits greater flexibility in purchasing goods. While there are many advantages to cash credit, such as the ability to purchase wholesale quantities at a cash discount price, there is a widespread problem of insecurity, and also what might be termed a "social risk factor," which discourages market women from holding cash. Particularly in urban areas, women are subject to frequent demands for cash, either from a family member or for their own or their children's needs. This is one reason for the popularity of the business tontine, which puts one's working capital safely out of reach until the moment when it is needed to repay a supplier or restock the inventory. It also helps to explain why 42 percent of women interviewed said they did not want cash credit, calling it "too risky."

The demand for credit is clearly substantial among urban market women, most of whom already use trade credit, and the majority of whom would also like access to cash credit. This observation is confirmed by the very rapid growth rate of VITA's micro-loan program, which has been doubling its loan approval rate every six months for more than a year. Eighty percent of these loans go to women, and the repayment rate is excellent, being superior to that of formal sector loans.

Demand for credit by rural women is also substantial and growing. The principal market-related activities of rural women are agricultural production, food crop marketing, and crop and food processing. In rural markets, increasing productivity and income depends on access to improved technology. However, rural equipment is expensive by local standards (from CFA 30,000 to more than CFA 150,000), and is primarily delivered to rural areas on credit directly through the Office National du Developpement Rural (ONDR), or indirectly through various benevolent organizations, especially SECADEV. Rural credit is only available through group organizations, such as the Associations Villageoises in the cotton zone. Most such organizations are controlled by men, and women and women's groups rarely have access to credit through them, although this situation appears to be improving slowly, as men in rural areas increasingly recognize the importance of women's contribution to the local economy.

An alternative to government-sponsored (ONDR) credit in rural areas is found in various spontaneous and NGO-sponsored savings and loan associations. While the rural savings and credit association movement has shown some very positive results in a few localized areas, these institutions generally limit borrowing to CFA 10,000 or less, and are thus unable to meet women's demand for credit for improved rural technology. The movement as a whole is constrained by the general insecurity that prevails throughout the country.

### Appropriate Technology

Attempts by appropriate technology centers to lighten rural women's workload by introducing "improved" processing equipment (hand-powered grain mills and oil presses) have failed. This was predictable because the processes involved are energy intensive, and therefore require either animal power or other sources of energy. Nonetheless, it is critical to reduce time spent in drudgery if rural women are to engage in money-making activities to increase their income.

*in tontine... (to...)*  
*to have... (to...)*

In urban markets, a lack of business skills and technical knowledge limit women's opportunities for investment in improved technology. Were it not for this constraint, food processing would offer many opportunities for women-owned businesses in urban areas. Food processing technology currently in use is basically kitchen equipment, such as manual pasta machines and small manual grinding mills for peanut butter. Even so, investment in these small machines can result in significant increases in income for urban families.

Examples of potentially profitable small-scale food processing enterprises that require relatively little investment are:

- Grain dehulling and milling,
- Weaning cereal manufacture,
- Spice and condiment manufacture,
- Fruit, vegetable, and meat solar drying,
- Small-scale dairy production, and
- Oilseed processing.

It is important to recognize that "appropriate technology" suitable for all of these enterprises is readily available from the private sector in other African or Asian countries. Information exchange and free trade are the most efficient means of assuring the availability of improved means of production for Chadian women.

## RECOMMENDATIONS

A complete discussion of the study's recommendations is found in Chapter Five. Only the most important recommendations are listed below.

### Training

Initiatives for women's alphabetization should be supported through the Government of Chad's (GoC's) Comité d'Alphabetisation. Alphabetization is a key requirement for improving women's management skills and in enhancing their ability to profit from a variety of credit and appropriate technology programs. The "multiplier effect" of these types of interventions is very high.

Differentiated business skills training programs should be developed depending on the degree of women's past experience and education level. Existing business skills development efforts are often hampered by their not being as closely tailored to participant capacities as they should be. Therefore, it is necessary to develop a three-tiered level of training programs, with specific programs for women who are completely illiterate, those who had to leave school and now are "rusty," and those who already possess functional literacy skills.

A key innovation that would enhance all types of training programs would be the establishment of market women centers where training courses could be offered in close proximity to urban market areas at times that are convenient for women. In rural areas, existing training programs of organizations such as INADES, which have proven their ability to reach women effectively, should receive further support.

*not all  
technologies  
appropriate*

*Use of loans to market to women for their  
inclusions - Training also among many  
not possible to be viable*

### Credit and Finance

A severe lack of savings opportunities exists in all parts of Chad. There is, however, untapped potential for mobilizing savings generated within the informal sector. The existence of women's tontines, in which a group women make regular contributions to form a pool of money that is awarded to one group member on a rotating basis, shows that many women do manage their budgets in ways that are capable of sustaining savings. The chief constraint preventing the mobilization of these funds appears to be the lack of any sort of secure deposit facility. More detailed studies need to be done looking into the savings behavior, organizational structures, deposit guarantees and remuneration that would be necessary to attract savings from individuals or groups in the informal sector — which can be expected to include a high proportion of women.

In urban areas, VITA's loan program has shown itself to be a viable model that is effective in reaching women, and could be expanded with further support. However, the long-term sustainability of this program will be seriously compromised if the GoC does not accede to a significant increase in the allowable interest rate the VITA can charge. At its current 13 percent rate, it is unrealistic to think that this program can be continued without an indefinite donor subsidy. Plans to extend VITA's loan program to other urban areas of Chad besides N'Djamena and Moundou should not be implemented if no progress is made on this important issue.

In rural areas, Chadian women have often been denied access to credit because of their lack of representation and influence with Associations Villageoises, which control the use of credit granted by the ONDR. More effort must be made to publicize the positive examples that are provided by the few AVs that have made loans to women's groups. By letting it be known that women have proved to be excellent credit risks, such dissemination efforts can help break down the resistance of male-dominated AVs.

Although the experience of most NGOs with rural credit has been disastrous, the example of Africare's horticulture credit program in the Waddai is a notable exception. With very conservative lending criteria based on inventory requirements, Africare's loans have shown excellent repayment rates. This experience could likely be transferred to other areas of Chad.

### Appropriate Technology

NGOs and projects active in appropriate technology provision should cooperate with private sector providers, mainly SIMAT, rather than try to displace them. Few projects or NGOs really price their tools at levels that reflect unsubsidized costs. This makes it hard for private sector traders and producers to compete with them. Although they do provide useful cheap inputs to farmers, these subsidized technology provision efforts are displacing sustainable private sector channels with project channels that depend on donor funding. The considerable human capital investment made by many NGOs and projects in training people in appropriate technology production and maintenance techniques could be better leveraged by linking them to private groups like SIMAT to provide dealer networks and after-sales repair services.

Chad lags behind other Sahelian African countries in appropriate technology and small enterprise development. Therefore, much gain could be made by facilitating information exchange and study trips for both GoC and private sector people. One possibility would be to sponsor a trade fair to bring other African entrepreneurs and small enterprise and appropriate technology project people to Chad. Women would benefit particularly from an emphasis on food processing technology.

*Handwritten notes:*  
 about 7 VITA checks  
 in opening meeting  
 about 13% interest rate

*Handwritten notes:*  
 loan repayment up to sustained economic growth  
 in Chad  
 in Waddai

*Handwritten notes:*  
 This seems mixed up  
 sometimes it talks about appropriate tech  
 and other times it talks about appropriate skills

*Handwritten mark:* ok

## CHAPTER ONE

### INTRODUCTION

In Chad, women play a very significant role in agriculture, agricultural marketing, and food processing. Prior to the Women in Agricultural Marketing Study (WAMS), there were virtually no statistical data available on which to base any estimate of the significance of women's contribution to the national economy in these sectors. While a comprehensive assessment of the scope and significance of women's economic activities in relation to agriculture was not possible in eight weeks in the field, the study team was able to highlight and quantify certain aspects of women's needs for training, credit, and appropriate technology in light of their very significant economic role in Chad's agricultural marketing system.

The Agricultural Marketing and Technology Transfer Project (AMTT) is a comprehensive effort to strengthen the Chadian private sector engaged in agricultural marketing and improve the policy environment in which it operates. WAMS was initiated in the context of this project in order to do the following:

- Survey existing information on the role of women in agricultural marketing;
- Gather information regarding the level of women's economic activity and the problems and constraints they face in their agricultural marketing activities;
- Find ways to strengthen women's capacity to perform their functions in the agricultural marketing system;
- Identify appropriate technologies that may help solve problems in marketing and food processing;
- Evaluate training needs of market women, and identify institutions capable of responding to those needs;
- Assess the supply and demand for formal and informal credit among women active in agricultural marketing and food processing; and
- Assess the socio-economic importance of women's roles in the agricultural marketing system.

Most projects currently engaged in training, credit, and appropriate technology in Chad were contacted to assess their experiences with project activities oriented specifically toward women. Surprisingly, although many of the institutions contacted have a long history in Chad, most of them indicated that their efforts to address the needs of women systematically are relatively new. This coincides with the team's finding that the role of women in the Chadian economy is undergoing a period of rapid change, with women becoming the breadwinners for their families as men are absent, lost to war or out-migration, or unemployed.

was

and was paid (costs up to 13 months in some cases)

The WAMS team undertook several interdependent studies in order to quantify various aspects of women's roles in the agricultural marketing system. The team executed the following studies, the results of which are recorded in the body of the report:

### **MARKET WOMEN SURVEY**

It was not possible in the short time available in the field to survey the spectrum of activities in the agricultural marketing system, which is highly seasonal and widely dispersed geographically. We chose, therefore, to focus on an important population of women who depend primarily on agricultural marketing for their livelihood: market women, who are found in the marketplace in urban centers and rural towns and are engaged in trade in agricultural commodities and processed foods. The survey team systematically interviewed more than 350 women. The results of this survey have influenced all parts of the main body of the report, and are presented in detail in Annex A.

### **FOOD TECHNOLOGY SURVEY**

Two local expert consultants were engaged to focus specifically on those urban women who make their living processing agricultural products into common foodstuffs, condiments, and traditional dishes. This study was limited to N'Djamena, where 250 women were interviewed. Five products were studied in depth to gain a better understanding of the economics of micro-scale food processing and the technical problems and potential for innovation in this sector. This report is presented in Annex B.

### **SOCIOLOGY OF MARKET WOMEN SURVEY**

The sociologist on the team met with 275 women in focus group discussions in nine different parts of the country. These interviews, and discussions with representatives of government, nongovernmental organizations (NGOs), and private enterprise revealed dramatic changes under way in the role women play in the family and the economy. Women were very outspoken in their desire for education, which has largely been denied them in recent years. The importance of women's income to the household has increased greatly as men have been killed in war, left the country looking for work, lost their jobs or not been paid by government, not received payment for their cotton crop, and so forth.

### **APPROPRIATE TECHNOLOGY REVIEW**

Five projects and two private firms involved in research, training, and production related to improved technology for agriculture and agro-processing were contacted to determine the extent to which their efforts respond to women's concerns as identified by other elements of WAMS. The team leader also participated in a two-day seminar conducted by NGOs involved in appropriate technology and credit. The seminar was very revealing in terms of the problems these agencies encounter in their efforts to promote technical innovation in Chad.

## CREDIT INSTITUTION SURVEY

Thirteen different governmental or nongovernmental agencies involved in delivering credit or promoting credit and savings programs were contacted to assess their accessibility to women, and their responsiveness to women's needs for credit.

The team was fortunate to have the collaboration of three government agents from the ministries of agriculture and women's affairs, whose experience and contacts greatly facilitated the conduct of the study.

A local consulting firm, the Bureau de Développement Rural, provided skilled survey takers and executed most of the analytical work related to the Market Women and Food Technology surveys.

The scope of the subject of this study is truly vast, since almost all women in Chad are engaged in agricultural production, processing, and marketing to some extent. Although the actual pattern of activities varies with the seasons, and differs from one region of the country to another, the need for training, credit, and improved technology is universal and constant. While WAMS was only able to scratch the surface of the complexity of women's roles in Chad's agricultural marketing system, we hope this report will contribute to a better understanding of women's basic needs and problems, and to appropriate solutions that government and the donor community might apply in the future.

We may have a problem here. BDR  
is not necessarily suited to do an in depth  
analytical work and these findings  
were based on BDR's work then  
this document may be + + + @ least  
his opinion.

## CHAPTER TWO

### WOMEN'S CHANGING ROLE IN CHADIAN SOCIETY

Women's roles in Chadian society have been changing dramatically during the last few years. The rate of change differs regionally but change is occurring in all areas examined in this study. From Abéché to Bongor, from Bokoro to Bebaïem, east to west, north to south, worsening economic conditions and the disruptive events of the recent past have given greater weight to women's economic contributions and improved their status, though not necessarily their standard of living. These changes wrought by economic necessity have been matched by tremendous shifts in men's and women's attitudes and expectations. The Market Women Survey (Annex A) confirms with solid numerical support a swift evolution in women's position in Chad. Widely accepted notions about the heavy weight of tradition, the prevalence of conservative male attitudes, and women's limited economic power must now be adjusted to keep up with what is happening in the cities and countryside.

A conjunction of political and climatological factors in operation during the past 15 years are at the origin of this rapid evolution in women's status. The nearly continuous political insecurity, massive military mobilizations, and occasional bouts of true anarchy that have plagued Chad from the late 1970s until the present have done much to disrupt pre-existing social and economic customs, which, if they did not prohibit women from exercising some economic independence, at least set more narrowly defined boundaries for their activities. The effects of these political disruptions have been augmented by periodic droughts (particularly the 1983-85 drought which dislocated family members and groups), the non-payment of civil servants, the declining cotton market, and the rapid contraction of the formal economy. As a result of all these developments, the contributions women make to support themselves and their households have increased in economic importance.

#### THE GROWING IMPORTANCE OF WOMEN AS PRODUCERS OF MONETARY INCOME

From 1979-82, being a male in a public place in the north of Chad was dangerous. As a result, many families came to depend on women's market activities and work in the fields. In the East, men fled to Sudan. In the West, women crossed the river daily from Cameroon refugee camps to earn money for the household in the market. In the center, men fled or joined a military faction to earn money and save their families from pillage. Women became the caretakers. With the 1983-85 drought, life continued in the same vein. The scarcity of men in several regions persists today. The 1993 census showed the male/female ratio in the Waddai and Biltine, two eastern prefectures, as 79/100 and 78/100. Clearly, in such circumstances, women are often in charge.

In the South, disruption came with drought and disorder in 1983-87, when villages were disrupted and many individuals fled to the Central African Republic. On their return, villagers attempted to regain their former standard of living by cultivating as much cotton as possible to replace their pillaged equipment. Women's contributions of cotton and beer were important to this effort. The recent cutbacks in cotton production have had a profound effect on women's feelings about credit in this zone. For a few years, cotton was king and people took on debt to restore themselves; now they are deeply in debt with no means to repay. This is a major reason why many rural women in the South are fearful of credit.

↑ difficulties

↑ one of the

↑ worried about

previous Page Blank

73%

has not made any sense

Throughout Chad, families are becoming increasingly dependent on women's earning power. While Chad remains essentially agricultural, with ~~more than 80~~ percent of the population engaging primarily in subsistence farming, once a family leaves the countryside it needs money to purchase what it once grew. Due to this increasing urbanization, more families are counting on monetary revenue.

Major cities and towns of Chad have grown prodigiously. At Independence, Koumra, located in the very heart of the South, qualified as one of the five municipalities of Chad because its population in the early 1970s was just over 5,000 people; today it exceeds 40,000. Because of rural emigration, N'Djamena, the capital, increased from 180,000 in 1976 to almost 529,555 in 1993. The surrounding prefecture of Chari-Baguirmi is 51 percent urban. The strong dependence of urban households on women's income-producing activities can be inferred from the results of a 1991 PADS study of living standards of N'Djamena households. The study showed the following:

- 27 percent of household heads were unemployed;
- 25 percent of households were headed by women; and
- 20 percent of household heads were in debt for everyday necessities, of which 49 percent were in debt for foodstuffs.

Furthermore, according to the Market Women Survey completed for this study:

- 86 percent of retailers in N'Djamena in 1993 were providing credit to their clients, and
- 43 percent of market women's households in N'Djamena were headed by women.

An extensive, statistically reliable population-based survey, known as the Child Survival Survey, whose target was mothers age 45 and under, was carried out in the Moyen-Chari in April and May 1992. Its findings indicate that men's ability to support their families has probably been considerably reduced in the last year. Since the survey, one of the major employers (STT) in Sarh, the provincial capital, has been closed down and government salaries have remained largely unpaid. Payments to farmers for last year's cotton harvest have only recently been completed.

In these circumstances, women's income has come to play an important role in maintaining urban and rural households. While no ~~statistical figures~~ <sup>data</sup> are available on daily household expenses, the sum quoted over and over again in focus group conversations was CFA 150-250 per day, or CFA 1,050-1,750 per week, to feed the household. These numbers are generally confirmed by the data shown in Figure 1. In this case, most women in the Child Survival sample were only earning just enough or slightly more than needed (up to CFA 5,000 per month) to feed their families, as shown in Figure 2.

These women's sources of income were derived mainly from food processing (mostly beer) and petty commerce (see Figure 3).

FIGURE 1

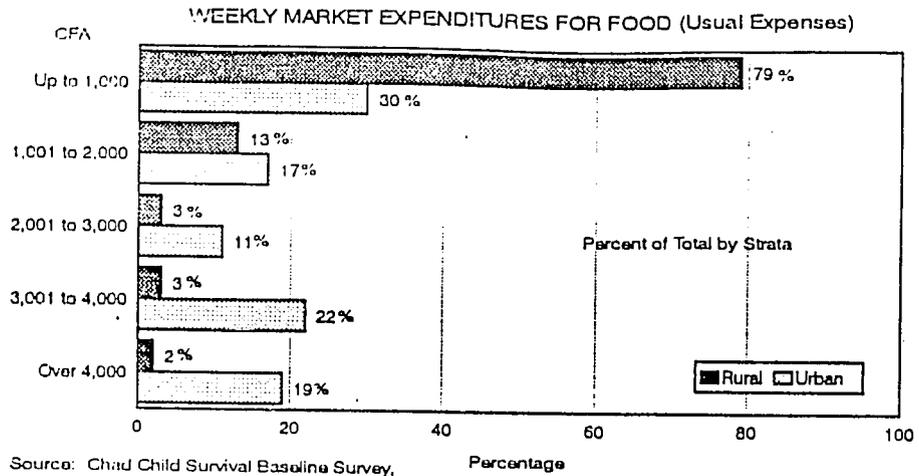


FIGURE 2

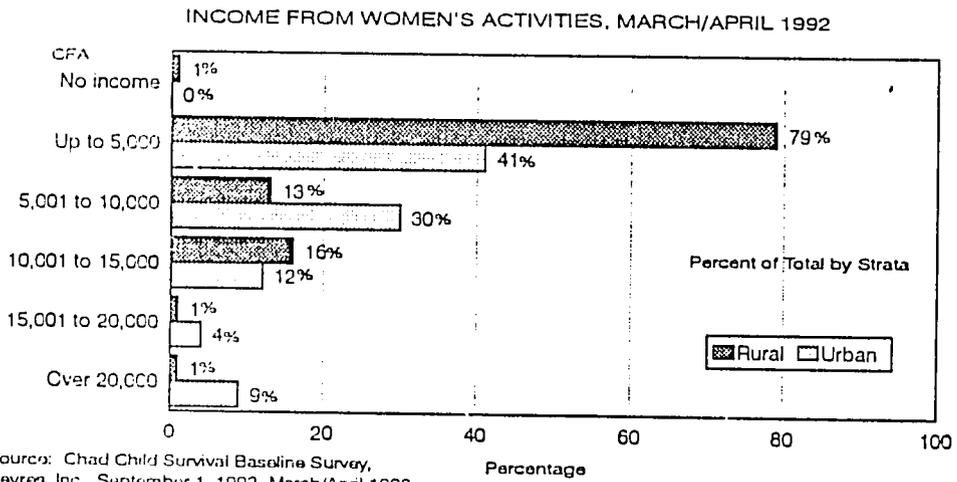
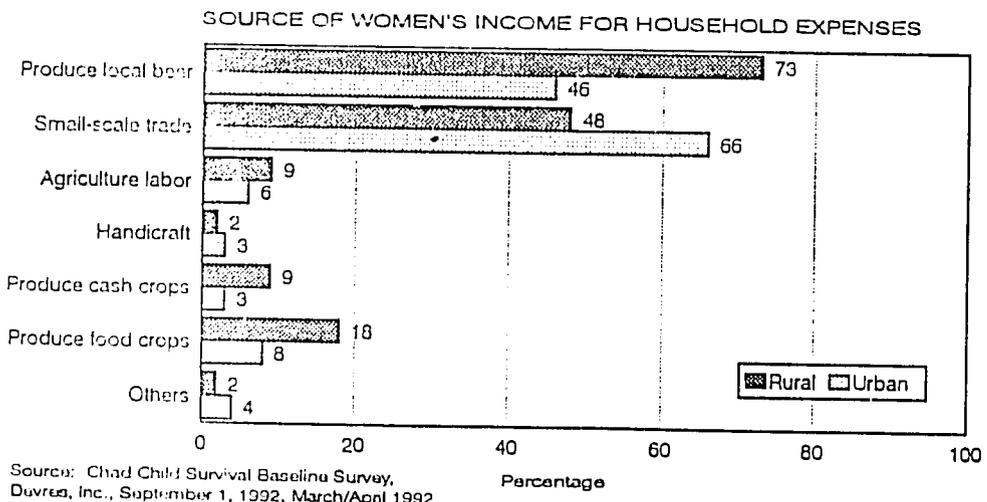


FIGURE 3



These statistics, taken in conjunction with the present study's Market Women Survey findings on market women's daily revenue in the important regional towns of Sarh and Koumra/Goundi (Table 1), and the number of women in these towns who are heads of household and sole source of revenue for their families, underscore dramatically the importance of women's revenue to urban families. As the Market Women Survey notes, 29 percent of households in Sarh and 23 percent of those in Koumra are headed by woman. Additionally, according to the survey, a woman is the sole source of revenue in 38 percent of households in Sarh and 30 percent in Koumra.

*29, 23, 38 and 30 are less than half. As such they do not support  
force argument that food items are generated by G's*

TABLE 1  
DAILY REVENUE IN THE MOYEN-CHARI (Urban and Rural)

Amount	Sarh	Koumra
	%	%
< CFA 2,000	52	58
2,000-4,999	31	13
5,000-9,999	15	23
10,000-14,999	0	3
15,000-19,999	2	3
> 20,000	0	0
Total	100	100

In urban and rural areas, women's income-generating activities, such as food production, processing, and marketing are also important, as Figure 3 indicates. A random sample from tax roles in rural villages in the Moyen-Chari taken in April and May 1992 for a CARE Community Development Project baseline study revealed that 43 percent of women had their own grain fields and 10 percent had their own cash crop fields (cotton, peanuts, vodanzeia, and sesame). The 1992 Child Survival Survey showed that 27 percent of women (urban and rural mixed) had received revenue from their fields in the previous month.

The extent of women's economic contribution in other parts of the country cannot be as clearly illustrated because similar statistics are unavailable. However, all the information gathered in the course of this study indicates that women's income has become equally important for household support in both urban and rural areas throughout Chad.

## REACTIONS TO CHANGES IN WOMEN'S ECONOMIC AND SOCIAL STATUS

Such a rapid and drastic escalation in the importance of women's de facto economic power is bound to have had social repercussions in Chad. Indeed, a number of consequences have followed, many of which seem to be more positive than negative. On the whole, people of both sexes are generally well disposed to women taking on a greater economic role. Men readily recognize the advantages of increased

family incomes resulting from women's activities, and more often support women's advancement than complain about their "uppitiness." The Market Women Survey showed, for example, that many women got their start in commerce with capital provided by a male family member, often the husband (see Table 2).

TABLE 2  
ORIGINAL SOURCE OF CAPITAL

Source	Urban	Rural
Family member	48%	46%
Husband	20%	12%
Male	16%	11%
Female	12%	23%

Women have recently become far more willing to ask for aid and for equal treatment as well. Men have frequently recognized women's growing equality. In instances where men have tried to quash women's growing independence, women have resisted. In Gouna-Gaya, for instance, when the traditionally dominant males tried to control use of the local Association Villageoise (AV) funds, the women cultivators withdrew and formed their own AV. In Bongor, women's groups are trying to organize a federation to keep the women's group's money even further out of the reach of men who feel they have a right to their wives' income.

Indicators of women's increasing ability to act independently range from a spurt in the formation of spontaneous women's groups to rising demands for family planning information and literacy training, to a tacit consensus among N'Djamena businesswomen to refuse the price a wholesaler sets for a sack of grain until he has measured it out to prove it contains a minimum of 40 coros.

All over Chad spontaneous women's groups have been growing at a faster rate than men's — albeit from a much lower base. A few years ago groups instituted by the ONDR or Centres de Formation Professionnelle Agricole (CFPAs) to facilitate the cultivation of cotton, peanuts, or rice were usually entirely male. Groups created by NGOs in the emergency situation of the 1983-85 drought to deal with all sorts of distressed and disadvantaged people thrown together by circumstances were typically of mixed sex.

The evolution of men's and women's groups in the Waddai is illustrative (see Table 3). While creation of men's groups has been falling off from the levels reached in 1989, women's groups are still being created at a much higher rate (despite a dip in 1992-93 compared with 1990-91). Admittedly, men's groups are still much more prevalent, but the basic legitimacy of women's organizations has been recognized.

TABLE 3  
CREATION OF MEN'S AND WOMEN'S GROUPS IN THE WADDAI

Year	Men		Women	
	No. of Groups	No. of Members	No. of Groups	No. of Members
1989	162	4,621	2	120
1990	148	4,800	13	470
1991	125	3,125	13	470
1992	131	3,910	6	123
1993	78	2,224	8	208

(Source: SECADEV)

In urban areas, the Market Women Survey shows that very few market women belong to women's groups. However, most efforts at organizing women's groups have been aimed at the rural village level. Yet, in rural zones, despite the more concerted emphasis on organizing women, most groups are still predominantly male. The percentage of women in these SECADEV groups is only about 10 percent, which means there is tremendous potential for the growth of women's groups. Why this potential was not being realized in 1993, when the number of women's groups created was falling off in Abéché, was not possible to determine given the time constraints facing the study team. The same rapid increase, with a marked drop in 1993, has occurred in the Lere region (see Table 4).

TABLE 4  
CREATION OF WOMEN'S GROUPS IN THE LERE REGION

Year	1989	1990	1991	1992	1993
Number of groups	0	12	15	15	4

(Source: BELACD)

Within the last few years, 13 women's benevolent groups have been formed, such as the Association des Femmes Juristes du Tchad, which intends to inform women of their rights; the Association Nationale des Femmes Veuves et Orphelins du Tchad, which is engaged in communal work to earn money for children's schooling; and the Association pour l'Education et la Valorisation de la Femme Tchadienne, which works for women's literacy. Now groups such as these are seeking official recognition as individual groups and as members of the Associations Feminines du Tchad.

As individuals and as groups, Chadian women have increasingly been requesting information and financial aid from NGOs. On their own initiative, 40 women in the Bediondo region of the Moyen-Chari, 11 in Moissala, and 60+ in Danamadji asked BELACD to provide them with training in

leadership, money management, food stock management, use of food products, and budgeting for family expenses, commerce, and agricultural equipment. They realized that their ability to carry out projects as a group, such as operating flour mills or peanut butter machines, required more organizational skills than they had.

Government services are also besieged with requests. At the Centre d'Education Feminine, teachers are solicited without respite by women in the town asking to be taught everything from literacy, household management, and how to preserve black-eyed peas long enough to market them at a high price in Nigeria, to sex education and family planning. In the latter, women are not alone; men are also requesting sex education and that their wives be educated so that they will be better household managers. Men are willing to attend the same lectures along with women. As the center's teacher said: "The distinction between men and women is disappearing."

Men's recognition of women's importance and need for more equal treatment is rising. Not long ago in the South, women would not speak out in meetings; now in town meetings held by the CARE Community Development Project, men and women speak up equally to present and defend their points of view. In the same region, men are supporting their wives' requests for family planning and literacy. A group of men in the Jardin Bahr vegetable gardens outside Sarh helped their female relatives enter into what had been an exclusively male activity, by digging them a well to start a garden. In the Region du Lac area, men supported the decision of their wives' tontine group to request, operate, and manage a flour mill despite the significant time investment it requires. At Koumra, a male merchant helped a group of women village-level traders, or "commerçantes navettes," reorganize their newly founded but foundering business association into a thriving organization providing the women with all sorts of commercial help.

In the village of Malanga, 60 kilometers from Abéché, the men and women have agreed to collaborate in activities sponsored by each of their groups. The men's group wanted a wholesale shop, the women a flour mill, so the men built a large building with two rooms while the women carried the water for the construction. The women's group used its savings to buy the mill, and the men's group used its savings to stock goods, which it sells in bulk to men and women of the village for resale. From among the men who had worked in shops in Sudan, the two groups picked a stock clerk and a male comptroller who also supervises the women's mill accounts. (Throughout this region, women outnumber men [79 men/100 women] because men often leave for months or years to work in Sudan.) The mill's income goes into the women's account, out of which they pay a male miller.

A similar arrangement was worked out, but with more difficulty, in the mixed group of Diker, also supervised by the NGO Al Taawoun, in the same region. The men wanted to use the group savings to build a granary for emergency grain and the next year's seeds. The women wanted a flour mill. They agreed to fund 50-50 a common boutique with a mill room on one side and a granary on the other. The men are in charge of the financial management, but the two accounts are kept separately. Each day the mill receipts go into the boutique's till, where they can be used to renew stocks, but at the end of the month the boutique must reimburse the mill so that it will have money for functioning and replacement.

Slowly, men and women in this area are opening up an "equalizing" dialogue. In one matrilineal village, the men complained continuously that the women had too much power over their children and did not want their children to go to school. When the problem was raised in the 1989 General Assembly, the women asked the men what they considered to be the division of labor. The men defined their job as clearing the fields and taking their animals south to pasturage in the dry season. The women accepted this but pointed out that if they were left to do all the rest of the work, they often needed help, and so

they depended on their children. If the men wanted the children to go to school, then, they reasoned, the men would have to take on some of the children's tasks.

In the 1993 General Assembly, the Chef de Canton asked if the men had carried out their agreement to reduce women's workload. The men reported that they now guarded the animals during the day so that their children could go to school, that they had built a visitor's hut so that women would not continuously have to look after passing guests.

These are but a few examples of the many reported instances of the changing relationship between men and women, and women's improving status in Chad. Of course, the speed of change varies by region.

It would be incorrect, however, to assume that everything goes smoothly and that men are universally overjoyed to see women throwing off their traditional roles. In a focus group in Sarh, for example, men complained bitterly that their wives no longer handed over the men's daily vegetable receipts after the day's marketing. Instead, they would claim they had spent it all for food. This complaint is one of many variations on an old theme, which proves that some men and women still hold traditional attitudes about the marital relationship. Mme Njock Nje noted in her FNUAP report on women's needs (December 1992) that, "Because of the socio-political difficulties in Chad, women have developed survival strategies that society would probably not have tolerated before 1980." Some people evidently still tolerate them with difficulty.

Nevertheless, when people react to oppose women's more active roles, they are increasingly likely to meet with resistance from the women themselves. During one focus group in a transhumant Arab village 80 kilometers outside N'Djamena, a squabble broke out among the women over whether an improper loan had been made out of the savings and loan box. There was much arguing, and the village chief tried to intervene. The head of the woman's group told him bluntly to "butt out" and he left. Eventually the women resolved the problem among themselves to everyone's satisfaction. Similarly, several times in projects near Adre, in the Waddai, men have tried to take over the lucrative projects started by the women of the village: those involving gum arabic, an oil press, and dried beef. In the first two cases the women were able to retain control of their activity.

The change in Chadian women's status has led to increased demand for access to credit, appropriate technology, and training. Throughout the Mayo-Kebbi, women's groups need village men to act as group secretaries and treasurers. But the desire to become literate, so they can throw out the men, whom they often suspect of *détournement*, or skimming, has often been voiced to the Catholic Mission workers who are active in the area.

## HOW WOMEN AND MEN HAVE DEALT WITH CHANGING NEEDS

The Chadian people have adapted to their increasing dependence on women's income and on women as effective heads of households in many ways. Informal adjustments made at the grass-roots level include many of the efforts already described, particularly the spontaneous and other groups, and the growth of women's associations for marketing. For example, the 1992 CARE Community Development Survey identified in 15 sampled villages a number of spontaneous self-managed activities, many of which indicate that women are adjusting to their changing circumstances (see Table 5).

TABLE 5  
NUMBER OF SPONTANEOUS ACTIVITIES IN 15 SAMPLED VILLAGES

Youth Groups	Women's Groups	Men's Groups	Tontines	Union Groups	PTAs*
17	11	10	11	3	8

\* Parent-teacher associations

(Source: CARE Community Development Survey, 1992)

Additional modifications include the development of various informal credit mechanisms, such as the tontines in the South, and locally initiated savings and loans associations, such as the caisses rurales d'épargne et crédit (CRECs) and caisses d'épargne et crédit (CECs). Benevolent teachers have also been offering adult women charitable alphabetization outside of their spontaneous schools' hours.

These changes have resulted in a slow increase in girls' enrollment, increasing requests for women's alphabetization and family planning, and increasing demand for NGO help in structuring groups and appeals for credits from women's groups. As shown in Table 6, females outnumber males in literacy classes given by BELACD in Lere (although men are far more numerous in the French literacy classes).

TABLE 6  
PARTICIPATION IN LITERACY CLASSES IN LERE, 1993

Language	Males			Females			Grand Total
	Boys	Men	Total	Girls	Women	Total	
French	12	141	153	29	70	99	252
Local	26	42	68	57	89	146	214
Total	38	183	221	86	159	245	466

(Source: BELACD)

At the official level, changes in the status of women have resulted in the growth of recognized women's associations, the creations of Delegations Prefectorales for alphabetization in national languages, and the espousal of the integration of women in national development policy in the GoC's "Cahier de Charges."

To what degree have institutions responded to the changing demands being made on them? NGOs, religious organizations, and donors have been reacting but, on the whole, they are behind the curve, in part because the cycle of project development and modification is so slow, and in part because the rate of change is so incredibly rapid. Donors and others need to take a clear look at the actual

situation and trends as they exist today, realizing that general ideas about "traditional" society, or the need to have women's groups implement all activities that involve women, may no longer be applicable when developing new programs and projects. While many past physical and legal problems persist for women today, such as the crushing burden of providing food preparation, water, and firewood, or the difficulties they face in obtaining credit and moving their produce to market over bad roads with inadequate access to means of transport, the social context is evolving.

The slowness of official organizations to recognize the evolving needs of women is amply illustrated by the ONDR's extension and credit programs in the southern cotton-producing regions. Though women hold an important and independent place in agricultural production in these areas, they have limited access to agricultural credits and extension. Cotton growing in the South is key to the provision of credit and extension for all other agricultural activities.

Fully 90 percent of ONDR input sales are to the cotton sector (Yumiseva, 1990). The ONDR will grant credit only to Associations Villageoises who provide "caution solidaire." Each group must agree to support a member's demand for an agricultural loan. It is impossible to quantify the number of women growing cotton or who are members of AVs without going to each village to consult the association's list of producers, but ONDR figures for the Moyen-Chari show only 9 percent of AVs contain women's groups. The two studies cited above, however, indicate that few women cultivate cotton, and the number is shrinking as cotton production declines.

Given the general depression in the cotton sector, each AV has access to fewer inputs, including seeds, and women have little voice in group decisions on how to distribute them, especially since less than 5 percent of AV committees include women. In some villages, associations have agreed to forward nonmembers' requests; most of their experiences have shown that women so supported have been a good risk. Outside the cotton areas, ONDR has made agricultural equipment credit available only in cases in which NGOs or religious groups have guaranteed the loans. Otherwise, all equipment is required to be paid for in cash.

On a more general level, the GoC has made a formal commitment to women in development, but few actions have been undertaken. According to the government's 1990 Plan Directeur:

"Unfortunately, the Ministry for Social Affairs and the Promotion of Women does not possess all the human and economic resources, nor a valid methodological approach, to engage in effective actions to improve women's status."

Although the government subsequently created a separate Ministère de la Condition Féminine, as of November 1993, the ministry remained without an organizational chart. According to some officials in the Direction de la Promotion Féminine, the government still has no policy on women except in the socio-sanitary sector. It has adopted a "transversal" approach to including women in development, whereby each ministry will integrate women into its development programs. Some organizations, such as Direction des Ressources Humaines de la Formation Rurale et de la Programmation (DRHFRP), have succeeded better than others. On the whole, however,

"From the analysis of the available documents and sectoral consultations, with a couple of exceptions, the approach adopted is a global one in which development programs are targeted at the whole population without taking women into explicit consideration." (Njock Nje, 1992)

## FUTURE PROSPECTS

Given Chad's declining economic situation and the fact that much of the change in women's status has been provoked by the change in their economic importance, it is sensible to wonder whether the past trend for improvement in women's rights will continue into the future. In general, as long as the current "crisis" situation persists, it is hard to imagine how women's status could do anything but improve — if only for the reason that their contributions to household (and national) income will continue to be highly prized and that there will continue to be significant numbers of women-headed households due to economic and political dislocations of Chadian men. Some specific reasons why women's status can be expected to continue to improve are listed below.

*They find  
recourse to  
NO!*

In rural areas of the South, the continuing decline in cotton, coupled with the apparent overproduction of women's crops (sesame in 1992 and peanuts in 1993, for example) will probably discourage women from heavy investment in women's cash crops. In addition, bad grain harvests in the same localized pockets for two years in a row means that food security stocks have been drawn down at a time when little cash is available to purchase food. Therefore, subsistence food production, to which women contribute substantially, will become more important. There are reports that the rural economy is being reduced to barter due to the shortage of cash in the villages. This would indicate that women's own grain production and processing of beer, the main item for barter, will become more important.

- In the North, the continuing overall economic decline and the fact that grain prices did not rise last year (demolishing groups' hopes of making a profit from cereal credits) mean that women's petty trade, small ruminants, and milk, the main sources of daily household income, will become vital. Hence, the economic importance of women will continue to increase.
- Urban families' dependence on women's contribution to household income will continue to grow as long as civil servants remain unpaid or on short salary. It is clear that the contracting economy and lack of demand for all except the basic necessities of life will squeeze the informal sector and increase reliance on women's economic contributions. Therefore, the trend toward equality will continue.

*This is old history  
Women need to move away from  
dependence to mixed agriculture  
market and consumption -  
You cannot hope that they go back  
to more subsistence -*

## CHAPTER THREE

### THE ROLE OF WOMEN IN AGRICULTURAL MARKETING

The diversity of climate, agricultural production systems, and ethnic groups in Chad makes forming generalizations about women's roles in agricultural marketing difficult. Agriculture, in a broad sense, includes products gathered from the wild, some of which are very significant in the rural economy, such as gum arabic and karité. Livestock and fisheries provide a variety of products to the marketing system. Cereals, fruit and vegetables, oilseeds, and cash crops like cotton are all very different in the ways in which their raw material is produced, processed, and marketed. Women have specific roles, which vary from one region to another and from one ethnic group to another, in all of these commodity markets.

Women are found in virtually every subsector, and in almost every level of the agricultural marketing system in Chad. The roles they play vary from one subsector to another, and between rural and urban areas. In some subsectors, they dominate the marketing system from producer to consumer, controlling every link in the production, processing, and marketing chain. In other subsectors, women may play only a limited role at certain levels, while men dominate other aspects of the system.

Across this broad spectrum, however, a number of common factors condition the role women play in any single marketing system. The first part of this chapter describes these specific factors. The second part presents a profile of the role women play in the fruit and vegetables marketing system centered around the N'Djamena market. It also offers some hypotheses about the constraining factors that seem to be most pertinent for determining women's roles in fruit and vegetables marketing.

#### DETERMINING FACTORS IN MARKETING ROLES

Five major factors influence any market player's role in a Chadian marketing system: capital, knowledge of the marketing system, freedom of action, ethnic group traditions, and gender-specific processing roles. These factors affect both men and women and are discussed below.

##### Capital

Some marketing activities require more capital than others. Obviously, wholesalers need more capital than retailers. Players in larger, more competitive markets need more capital than those in smaller, less competitive markets, partly because margins are thinner, and partly because the risks of doing business are higher. To the extent that it is generally true that Chadian women have less capital and less access to credit than men, they tend to occupy those levels of the marketing system that require less capital. This principle is illustrated by the grain trade, in which virtually all large urban wholesalers are men, although other factors also apply. Similarly, women are rarely involved in the capital-intensive activity of storing and wholesaling dried vegetables, onions, and garlic because they lack the capital required to buy and store in bulk. They are increasingly found at the semi-wholesale (*demi-grossiste*) level, however, where capital requirements are lower. One would expect that with continued change in women's roles in the Chadian economy in general, women will gradually move into those areas that require more capital, as they gain experience in business and acquire greater wealth.

**Previous Page Blank**

### Knowledge of the Marketing System

This factor involves access to information, and therefore implies a network of personal business contacts, which are often gender specific. In order to operate effectively at the wholesale level, a marketing person must have an understanding of the entire marketing system. This implies a network of contacts with producers, traders, and transporters that provides the buyer with supply and demand information, the basis on which prices are negotiated. This network also includes contacts with demi-grossistes and retail traders, who have knowledge of consumer demand factors.

Smaller operators generally need less extensive knowledge of the marketing system in order to manage their affairs. An example of the importance of a marketing network is found in the onion and garlic trade between Abéché and N'Djamena. This trade is dominated in N'Djamena by men who have family connections in Abéché. Within trading networks such as these, ethnic and family ties can play an important role not only in facilitating the efficient transfer of market information, but also in creating relationships of confidence and trust that are essential to minimizing commercial risk.

### Freedom of Action

Those players in the marketing system who are able to travel from one region to another, from the village to the town, or from the rural market town to the urban center are able to occupy key places in the marketing chain. This freedom is only useful to the extent that it is associated with capital and knowledge, since these may quickly become limiting factors, given high costs and levels of risk in interregional trade. However, it is a pertinent observation, to the extent that most women in Chad have less freedom of action than most men, and are therefore limited to certain types of marketing activities. An example of this principle is found in the fruit and vegetables subsector, where most local, village-level marketing is done by women, while surpluses large enough to warrant shipment to urban centers are handled primarily by men.

### Ethnic Group Traditions

Some Chadian subsectors are dominated by certain ethnic groups, usually because of their traditional production activities or familial relations that give them access to producers. Within ethnic groups, there are often gender-specific production and marketing roles that are strongly influenced by custom and tradition. Examples of this are found in the dairy and fish subsectors, in which certain ethnic groups dominate production and marketing, and women have well-defined responsibilities for production, processing, and marketing.

### Gender-Specific Processing Roles

In almost all subsectors, women dominate in traditional food processing activities, such as fish drying and smoking, milk processing, and oil production. This has doubtless occurred because women are responsible for food preparation in all Chadian cultures. Whenever the item is processed on a small scale and sold at retail by the processor, the activity is invariably reserved for women. As the Food Technology Survey (Annex B) shows, virtually all food processing in Chad is still carried on in this manner, and almost exclusively by women. Men do become involved in food processing when machinery is required, as in flour milling, and when the product is produced in bulk for wholesale trade, as with dried tomatoes in Abéché.

*the two basic things  
for the women*

## WOMEN'S ROLES IN FRUIT AND VEGETABLE MARKETING

The analysis presented here focuses specifically on the role of women in the market for fruit and vegetables in and around N'Djamena. Its results may or may not be applicable to Chad's other urbanized areas. In general, the fruit and vegetables marketing structure in N'Djamena has more and better defined marketing levels and functions than in other urban areas, it provides an understanding of the marketing system for the subsector throughout the country. As the demand for fruit and vegetables increases in other urban areas, market structures in these areas may be expected to become more like that of N'Djamena.

### Major Fruit and Vegetables Marketed in N'Djamena

Because of the size and diversity of the N'Djamena population, a large variety of fruit and vegetables is sold in the city. These fruit and vegetables fall into two very distinct types — highly perishable produce and moderately perishable or storable produce — each of which has its own marketing system. Perishable fruit and vegetables include the following:

- Fresh tomatoes,
- Fresh okra,
- Fresh red peppers,
- Melons (cantaloupe and honeydew),
- Watermelons,
- Sweet potatoes, and
- Mangoes.

Non- and moderately perishable goods include:

- Onions,
- Garlic,
- Dry tomatoes,
- Dry okra, and
- Dry red peppers.

In addition to these major fruit and vegetables, there is a wide variety of other fruit and vegetables sold in the N'Djamena markets, mainly by women. They are popular in Chadian dishes and are sold in small quantities in the various retail markets. Some of these include specialty vegetables such as celery, cauliflower, and radishes, which are sold mainly to members of the international community. There are also vegetable products such as wild-okra, and leaves of sorrel and spices that are not cultivated. Women who harvest them and bring them to market incur no out-of-pocket costs.

The number of women selling these products and the income derived from them are significant, but the products usually have short seasons and are marketed by the women collecting them. These specialty vegetables are, however, marketed on an ad-hoc basis and are not part of the broader, more well-developed marketing systems described below.

*are women harvesting?*  
 WAW ?  
 How ?  
 DATA ?

## **Fruit and Vegetable Marketing System**

Because of the low level of fruit and vegetable production in Chad during the months of October and November 1993 (the period of the current survey), much of the information in this review is based on observations and data collected by the Agricultural Cooperative Development International (ACDI) Pilot Project for Fruit and Vegetable Marketing during the 1992 fruit and vegetable harvest period.

### **Village Linkages to Urban Markets for Perishable Goods**

Most of the perishable fruit and vegetables sold in N'Djamena are produced and processed in areas at least an hour's drive from N'Djamena and are transported to the N'Djamena markets by pickup truck. Only a small portion of the major types of perishables sold in N'Djamena are grown in areas close enough to be transported by foot, pushcart, draft powered cart, or taxi. Because of the long travel time between most of the producing areas and the N'Djamena market, village women are rarely key players involved in village/N'Djamena marketing activities. When they do accompany a vehicle, it is usually to shop for household necessities. The market negotiations are usually done by male producers or traders who accompany the vehicle. When produce is to be sold in N'Djamena, growers contract with a trader (always a male, and often a fellow producer) to collect their produce from the field. Most of the produce is given on consignment to the trader. Contracting is usually done by male family members, but women may do it if male family members are not available or the women own the field.

With most of the fruit and vegetables trade to N'Djamena being in the hands of male traders, village women who live more than an hour's walking distance from N'Djamena are usually limited to selling at nearby weekly markets. A village woman may be involved in production and will take produce to a village market where she sells it at retail. Although many village women may be limited to selling in weekly markets, they are not necessarily limited to selling produce from family fields. They also sell fruit and vegetables that they purchase from other local growers and from produce grown in other areas of the country. The extent of village women's buying and selling is an indication of a relatively sophisticated level of marketing knowledge and ability.

Although the amounts of produce sold at village markets by individuals are small relative to the N'Djamena market, the money derived from this activity is an important source of seasonal income for women who do not have access to the urban markets. For many rural women, working in the fields is their primary nonhousehold activity. However, as this is considered "family labor," they do not receive a cash income from it. For them, selling in the village markets is an acceptable way to earn cash.

Despite the small quantities of marketed production, selling in the village markets can be profitable. If women are selling from their own fields, they incur no out-of-pocket cost for the inventory and, usually, no transportation cost. Although retail prices are low in the villages, profit margins may be as high as in N'Djamena because of the lower cost of doing business.

### **N'Djamena Market Structure for Perishables**

In the N'Djamena markets, highly perishable products such as tomatoes, okra, and melons are sold by traders directly to retailers. Traders use the services of intermediaries known as "dalalys" to negotiate a price with the retailers. The intermediary negotiates a price per unit (tea-case or sack) for the truckload of produce that is mutually acceptable to the trader and the retailer. Ownership of the

product changes directly from trader to retailer. At no point in the process does the dalaly have ownership of the produce.

In 1992, market surveyors in the wholesale sections of the Central, Millet, and Cholera markets collected information on intermediaries. At the peak of the vegetable season, in January and February, the surveyors recorded the number of intermediaries found in these markets (see Table 7).

TABLE 7  
NUMBER OF INTERMEDIARIES  
(January-February 1992)

Product	Women	Men	Total
<b>Fresh Tomatoes</b>			
Central market	5	12	17
Cholera market	-	3	3
Millet market	-	3	3
<b>Fresh Okra</b>			
Central market	3	-	3
Cholera market	5	2	7
Millet market	3	-	3
<b>Fresh Red Peppers</b>			
Central market	3	-	3
Cholera market	-	1	1
Millet market	1	-	1
<b>Melons and Watermelons</b>			
Central market	2	4	6
Cholera market	-	3	3
Millet market	-	2	2
<b>Sweet Potatoes</b>			
Central market	-	-	-
Cholera market	-	-	-
Millet market	-	5	5
<b>Total</b>	<b>22</b>	<b>35</b>	<b>57</b>

(Source: ACDI Pilot Project for Fruit and Vegetable Marketing)

The number of intermediaries indicates that relatively few people are active in the three wholesale markets at this level even at the busiest time of the season.

The number of intermediaries increases and decreases according to the cropping season. In November 1993, for example, when there were relatively few fresh vegetable supplies, six women and five male intermediaries were active in the three markets. Most of the intermediaries serve producers

from areas where they have family linkages. As the seasonal production in a particular area ends, the intermediary may also end his or her services as an intermediary.

Women intermediaries dominate in selling okra, red peppers, and some of the specialty produce not listed here, such as lettuce and carrots.

One of the advantages of the dalaly system of selling perishable produce is that pricing is highly competitive. Prices are "announced" and everyone has equal access to the product at that price. The per unit price is for an entire shipment. This may include one or two pickup loads of produce of similar quality from the same growing location. In this system of direct trader-retailer exchange, no wholesaler resells the product and no special price exists for favored retailers. Retailers are free to browse through the wholesale market to purchase the quality of produce they want at the price that is most competitive.

This system provides very little opportunity for retailers to obtain fresh produce on credit. Occasionally the intermediary will purchase several cases or sacks of produce for distribution to favored retail clients on credit, but this is rare. As a result of the "no credit system," retailers must have cash to purchase a wholesale unit (tea-case or sack) each morning when the new supplies arrive.

For retailers with limited capital, this system limits their access to marketing these products. Some retailers solve this problem by sharing the cost with one or two other persons. The ACDI project introduced a half-size tea-case as a wholesale unit for tomatoes and melons. This enabled individual retailers to purchase fresh tomatoes or fresh melons at about half the cost of a full-sized unit. This was an especially important solution for retailers both early and late in the season, when prices were high.

### **N'Djamena Market Structure for Non- and Moderately Perishable Products**

Dried tomatoes, dried okra, and produce that can be stored for several months (onions and garlic) are sold by traders from the producing areas, which tend to be much farther away than is the case for perishable goods. Their main clients are wholesalers in the Central market who are often of the same ethnic group or place of origin as the traders. The wholesalers then sell 80-100 kilogram sacks to demi-grossistes (who break down the large sacks and sell small amounts to retailers and consumers) at prices determined by demand and supply. There were 11 major wholesalers for these dried and storable products in the N'Djamena markets in January-February 1992. Eight of these were in the Central market.

Men dominate at the wholesale level of marketing for dried and storable vegetables because of the considerable capital requirements of purchasing truckloads of produce and of maintaining warehouses to store the large amounts of produce arriving on the trucks, which often have a capacity of 10 tons or more. In fact, in January and February 1992, no women served as wholesalers to the Central, Cholera, or Millet markets (see Table 8). Most of the wholesalers are from the Waddai area and have a network of contacts with local traders and transporters in this area.

TABLE 8  
NUMBER OF NONPERISHABLE/SEMI-PERISHABLE PRODUCE WHOLESALERS  
(January-February 1992)

Product	Women	Men	Total
<b>Dried Tomatoes, Onions, and Garlic</b>			
Central market	-	6	6
Cholera market	-	-	-
Millet market	-	-	-
<b>Dried Okra</b>			
Central market	-	2	2
Cholera market	-	2	2
Millet market	-	1	1
Total	-	11	11

(Source: AC DI Pilot Project for Fruit and Vegetable Marketing)

Women dominate in the next lower level of marketing, which consists of demi-grossistes. In November 1993, surveyors counted 59 female and 31 male demi-grossistes in the three markets (see Table 9). The demi-grossiste needs only enough capital to buy a sack of dried or stockable produce. She then grades it for quality and sells it to retailers or retails it herself.

TABLE 9  
NUMBER OF DEMI-GROSSISTES  
(November 1993)

Product	Women	Men	Total
<b>Dried Tomatoes, Onions, and Garlic</b>			
Central market	19	14	33
Cholera market	12	15	27
Millet market	28	2	30
Total	59	31	90

(Source: AMTT Women in Agricultural Marketing Survey)

The wholesaler price to demi-grossistes varies from person to person because a price must be negotiated each time a wholesale unit is purchased. These negotiations between the individual buyer and the wholesaler are confidential. The price negotiated depends not only on current supply and demand conditions, but also on the relationship that the buyer has with the wholesaler and her skill in negotiating. The difficulty in obtaining this information makes it difficult to determine the amount of capital demi-grossistes need to have access to this level of marketing.

The incidence and level of credit interest or credit fees wholesalers charge for dried and storable products in N'Djamena is difficult to determine because of the general reluctance of wholesalers and retailers to discuss negotiated prices. Most of the onion, garlic, and dried tomato and okra wholesalers in the N'Djamena markets acknowledge that they sell on credit-in-kind and receive repayment in cash.

Neither the wholesalers nor their buyers acknowledged that "interest" was a part of the credit system. However, there is usually a discount price for cash sales. Discounts vary from CFA 500 to CFA 1,000 depending on the strength of the market, the specific product being sold, and the wholesaler-buyer relationship. All of the informants said that the length of delay in repayment of the credit-in-kind did not affect the amount of discount on the price of the wholesale unit.

Wholesalers did acknowledge that they "knew" the buyers to whom they extended credit and that they had an established business relationship with them. On the other hand, none of the wholesalers indicated that he was the sole supplier of specific buyers.

#### **Retail Sellers in N'Djamena Markets for Both Perishable and Nonperishable Produce**

The male-female ratio and ethnic composition of retail sellers varies from market to market in N'Djamena. In general, most products are retailed by both men and women, although for some products, one gender clearly predominates (see Table 10). The differences in market structure between perishables and nonperishables mentioned above do not seem to engender any specific gender specialization at the retail level.

TABLE 10  
RETAIL SELLERS' GENDER BY PRODUCT SOLD

Product	Women	Men
<b>Perishables</b>		
Fresh tomatoes	p	x
Fresh okra	p	
Fresh peppers	x	x
Sweet potatoes	x	p
Melons		p
<b>Nonperishables</b>		
Onions	x	x
Garlic	x	x
All dried produce	p	
All processed produce	p	

Note: A "p" indicates the predominant gender of retailers selling the product; an "x" indicates that retail sellers of the product are represented by the gender marked.

(Source: Market Women Survey interviews)

*INACCURABLE !!*

The best available survey of produce retailers, completed in January 1992 for ACIDI, estimated that there were 500 tomato retailers selling in the five major retail markets in N'Djamena. These estimates did not include retailers who were occupying space on the sidewalks and roads surrounding the markets. Nor did the estimate attempt to include retailers in the residential quarters of N'Djamena.

The results of this survey showed that in the Central and Dembe markets, about half of the tomato retailers were women. In the Millet and Diguel markets, more than two-thirds were women. Only in the Cholera market were women a minority of tomato retailers. Ethnically, the women retailers were Kanembou and Arab. Most of the women had permanent stalls in the covered portion of the retail areas. Male retailers usually had temporary stalls on the periphery of the retail areas.

## PROCESSING

Besides their activities as producers, intermediaries, and retailers, Chadian women are also significant players in food processing activities. The most common form of vegetable processing is drying tomatoes and okra and milling them into powder. Drying is widely practiced in all of the areas that grow these two crops. In production areas where most of the crop is marketed as fresh produce, drying is primarily a way to use cull produce that is not sold on the fresh market. In these areas, drying is practiced on a small scale. In the Abéché area, the majority of tomatoes and okra are dried and sold in the N'Djamena markets for local consumption or transport to southern Chad.

Tomato and okra drying is generally, although not exclusively, a woman's activity. Women are involved in all stages: harvesting, cutting, and selling the dried products. In Abéché, the Africare project is undertaking several initiatives to improve tomato drying. The ACDI project began an initiative to encourage women in the tomato producing zones of the southern Lake Chad area to produce commercial quantities of dried tomatoes as a way of marketing the second-quality tomatoes that were not selling at a profit in the N'Djamena fresh markets.

Some have suggested that the local manufacture of tomato paste would provide employment for women and reduce the excess supply of fresh tomatoes in the N'Djamena market. Although the idea has merit, a feasibility study would be needed to analyze the technical, economic, and sociological factors involved.

### CONSTRAINTS ON WOMEN'S PARTICIPATION IN FRUIT AND VEGETABLE MARKETING

As the above evidence demonstrates, in the fruit and vegetable subsector, women are more heavily represented at the ends of the marketing chain (i.e., at the producer and retailer levels) than in the middle because of several key constraints that become operative when produce travels more than 30 to 50 kilometers or when economies of scale require consolidation of large volumes. It should be noted that these results concern only the fruit and vegetable subsector in N'Djamena. The pattern of women's participation at various levels of the marketing chain may look quite different in other areas of Chad and in other subsectors. Based on the Study Team's field visits, for instance, it appears that the roles women play in such subsectors as cereals, peanuts and fish look substantially different from the roles they play in fruit and vegetable marketing in and around N'Djamena.

In the N'Djamena fruit and vegetables subsectors, various specific constraints come into play to conditions women's participation in marketing at different levels. In the nearby rural and peri-urban zones that supply most of the perishable produce, an important constraint on women seems to be the lack of available time to devote to marketing activities. Women in these areas, much more so than men, have multiple obligations that make it quite difficult for them to devote themselves to any full-time activity. They must remain close to the home to carry-out their domestic chores (gathering wood, carrying water, preparing meals...) which make immutable regular daily demands on their time. Thus although women furnish much of the productive labor in the fields, they cannot easily engage in fruit and vegetables trade since they are expected to maintain enough of a presence at home to fulfill their family obligations. This explains the predominance of women in small local markets from where they can easily return home, but their relative scarcity as traders when produce is transported for more than an hour to larger central markets.

It should be noted that specific social restrictions on women's freedom to travel alone do not seem to be a factor. Many women from rural areas occasionally travel to N'Djamena to purchase goods without any resistance from their families. Yet few of these women can afford to absent themselves on a regular basis in order to launch a career as traders, which would require them to remain in continual contact with different groups of producers as well as urban wholesalers, retailers and *dalalys*.

In N'Djamena, many women do engage in fruit and vegetable marketing activities on a full-time basis. Consequently, the lack of free time and the burden of family obligations seem to be somewhat less

onerous constraints than in the surrounding rural zones.<sup>1</sup> Full-time activities exercised by women include serving as *dalalys* in the perishable fruit and vegetables market, acting as *demi-grossistes* in the non-perishables market, and retailing in both markets.

Thus, in N'Djamena itself, rather than the lack of free time, at least three other constraints on women's marketing activities seem to be operative to varying degrees. The most important of these is the lack of investment capital. As noted above, women tend to specialize in retail and production activities at the two ends of the marketing chain. Neither of these activities require significant up-front capital investments. Wholesaling, on the other hand, does require significant amounts of capital. Few women are able to mobilize the sums required to constitute the working capital required to operate a fruit and vegetable wholesaling business. This goes a long way to explaining the total absence of women operating at this level of the marketing chain. In the N'Djamena fruit and vegetables subsector, this barrier contributes to the maintenance of the dominant position of the currently practicing non-perishable wholesalers. Although, as reported in the Market Women Survey (Annex A), many women receive contributions from family to constitute a capital base, rarely do such contributions attain the amounts needed to purchase dried vegetables by the truck-load. The high demand for credit among women noted in the Survey, confirms their need for increased access to financing.

It is instructive to note that women constitute a significant number of both the *demi-grossistes* operating in the non- and semi-perishable part of the fruit and vegetables market and the *dalalys* operating in the perishables part of the market. At both these market levels, capital requirements are notably less burdensome than in the nonperishable wholesaling business.

Another clear constraint on women's participation in fruit and vegetables marketing is their lack of relevant education and business skills. Although many women have intimate knowledge of consumer preferences (since most customers in the fruit and vegetable market are also women) and are well placed to capitalize on that knowledge to play a retail role, few women have the requisite literacy and business skills to act as wholesalers. The inability of most retail market women to keep written accounts is a clear obstacle to their expansion into higher volume levels of activity. There is little doubt that offering women targeted training in business skills would do much to facilitate their movement into the middle part of the fruits and vegetable marketing chain.

A final constraint that is specific to the N'Djamena fruit and vegetables subsector concerns the working of the system of ethnic monopoly that is operative at certain levels of the marketing chain. Because of the nature of regional comparative advantage in different crops, much of the non- and semi-perishable produce (mainly onions and garlic) on sale in N'Djamena comes from the Waddai region around Abéché. Consequently, wholesalers in the N'Djamena market for these goods tend to have ethnic and even family ties to the principal traders and transporters from the Waddai. Competitors without these links are at a disadvantage in finding sellers, negotiating terms and collecting credit. When this "ethnic

---

<sup>1</sup> Various explanations may be offered to explain the observed phenomenon that many urban women seem freer than their rural sisters to engage in full-time income earning activities. One may be that the more diversified urban economy offers women alternative strategies to fulfill their family obligations with less of their own labor input-- either because a greater concentration of family members or a more developed market for domestic services gives them access to additional labor and services unavailable in rural areas, or because of urban infrastructural conveniences (water taps, electricity...) that reduce the time required to complete certain tasks. Another possible reason is that the greater degree of monetization and volume of transactions in the urban market increase the income earning potential of various marketing activities to the degree that women and their families exhibit greater willingness to engage in full-time outside of the household activities. Investigating the relative weight of these factors is a topic that deserves further investigation.

if S Bari  
 will  
 be selected  
 and then?

preference" is conjugated with the social restrictions common to people from the Waddai on the participation of women in commercial activities that would require them coming into contact with large numbers of "outsiders," the absence of women at this level in the marketing chain becomes more understandable.

All in all, ~~little evidence was collected~~ <sup>there was little evidence</sup> during the Study Team's investigations of any widespread social resistance to women occupying any role in the marketing chain for fruits and vegetables. Women function quite well in the important, profitable and prestigious roles of *dalalys* in the perishable produce market — often in direct competition with men. Traders and retailers exhibit no obvious preferences and competition seems to be based purely on criteria of price and service. The large number of women retailers, with whom women *dalalys* may find it easier to build mutual relationships of trust than their male counterparts, may be one reason for the success of numerous women in this role. Furthermore, for similar reasons, the widespread presence of women at the *demi-grossiste* level in the non-perishable produce market, again demonstrates that there are few inherent social restrictions on women's roles and that they are effective competitors to men occupying similar positions.

The degree to which the constraints identified here for the fruit and vegetables subsector in N'Djamena are operative in the rest of the country is not totally clear. To some extent the same constraints of capital, lack of business skills and time are operative everywhere in varying combinations. Yet observed patterns of women's participation in agricultural marketing activities are quite different depending on the subsector and geographic region. In the South, for instance, women constitute at least one-third of the travelling "*comerçants navettes*" who buy cereals in weekly rural markets and sell them in urban consumption and trading hubs. This is in stark contrast to the near total absence of women performing a similar role in the N'Djamena fruit and vegetables trade. In some areas women have exhibited a startling ability to organize and engage in complex commercial relationships. Women peanut traders in the South, for instance, commonly organize truckload shipments of peanuts to destinations as far away as Brazzaville. Yet the long-distance trade in non-perishables from the Waddai to N'Djamena is dominated by men.

These widely observed differences may, in part, be explained by how the universal material constraints of capital, lack of training and free time interact with the social web of relationships that can both constrain and facilitate women's commercial activities. As pointed out above, social mores among people from the Waddai tend to discourage women's participation in activities which bring them into contact with many outsiders. In this case, social practices circumscribe women's activities. In other instances, however, just the opposite is true. Among women engaged in dairy and fish marketing operations, patterns of ethnic exclusion and social connections provide vital linkages to give women from certain ethnic groups favored positions in the market.

The material-level constraints identified above can all be usefully addressed through GoC and donor initiatives. Improved provision of basic infrastructure, including water and electricity, as well as better use of appropriate technology for food and crop processing can do much to lighten the burden of household tasks on Chadian women. Similarly, appropriate programs of business and literacy training can give women the skills they need to expand into new areas of economic activity. Improved macroeconomic management, security and expanded micro-enterprise programs can also do much to relieve the financial constraints facing women.

The social dimension to women's participation is not easily addressed through specific programs or interventions. This is not, however, an acceptable reason to ignore women's material and human capital development needs. In many cases social constraints that may appear to limit women's participation may only reflect the absence of adequate programs to provide more basic needs. In any event, it is clear that illiterate, non-numerate, women without access to capital or labor-savings technologies are many times less likely to engage in the more remunerative types of agricultural marketing activities, irregardless of their regional or ethnic origins.

## CHAPTER FOUR

### INTERVENTIONS IN FAVOR OF WOMEN: MAIN FINDINGS

#### OVERVIEW OF WOMEN'S DEMANDS FOR ASSISTANCE

Spontaneous demands from women's groups, addressed to NGOs, religious groups, and various government services, indicate that Chadian women desire help strongly enough to orchestrate a request and address a strange outside group that, they realize, will set all sorts of conditions for intervention. While the requests are influenced by the particular activities the local village groups and NGOs are commonly undertaking (such as numerous requests for lessons in local soap manufacture in the Moyen-Chari, or "village development" in the Mayo-Kebbi), on the whole the requests tend to be unrelated to any ongoing project activities, and most probably reflect women's true "felt needs" (see Figure 4).

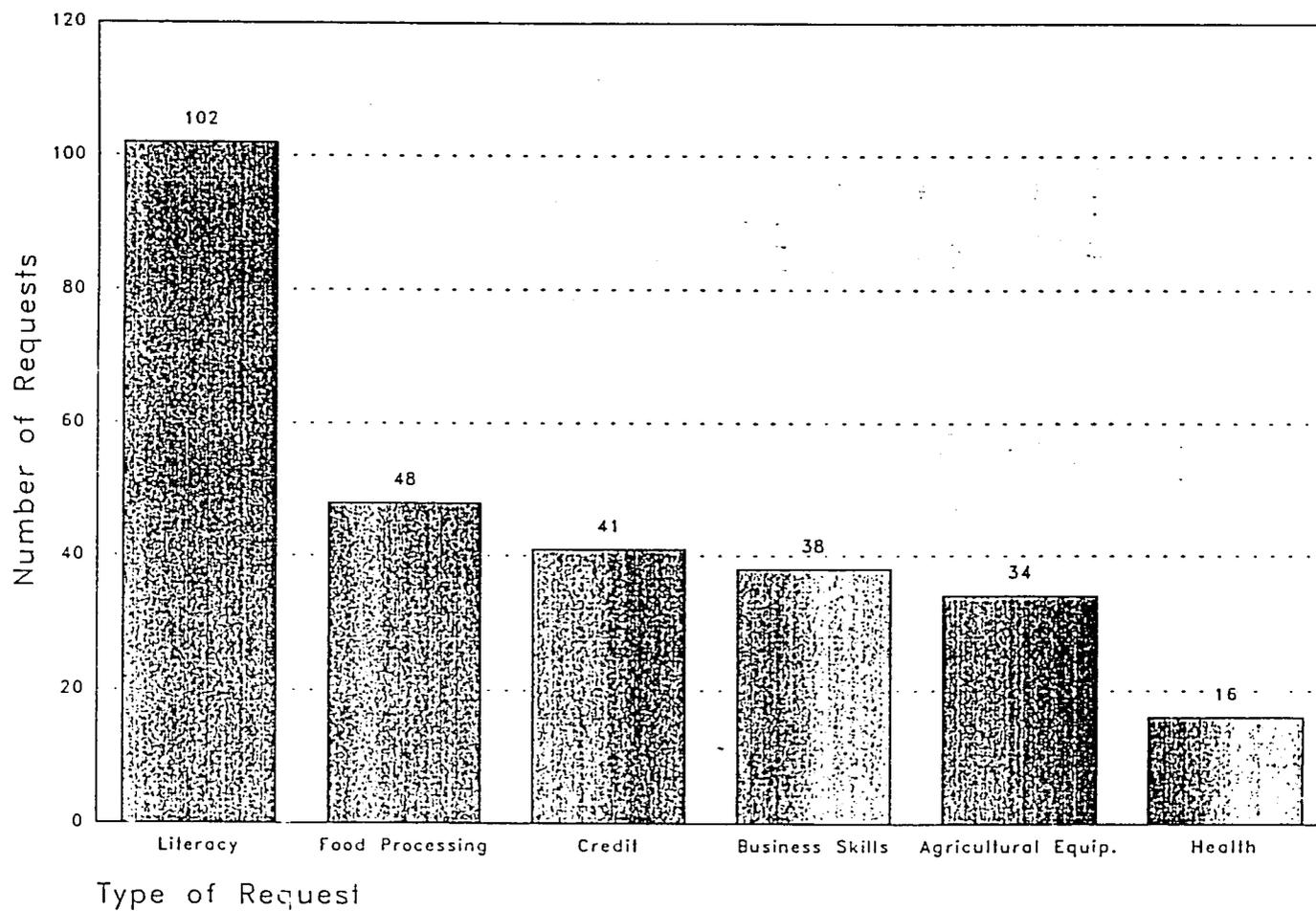
Chapter Two mentioned various regional differences in the speed with which men's and women's relationships are changing in Chad. There are also noticeable differences in the needs women's groups express in different parts of the country. These differences are related, albeit to a slight extent, to the kinds of activities organizations are promoting in their particular zone of intervention. Most requests, however, appear to be spontaneous, since they are unrelated to ongoing project activities.

Different regions appear to exhibit markedly different demands for various types of interventions (see Figure 5). In the southern regions of the Moyen-Chari, Tandjile, and the two Logonnes, the demand for literacy and business skills training eclipses all other types of intervention. In the Mayo-Kebbi, women express a strong demand for commercial credit and agricultural equipment, as well as, to a lesser degree, food processing technology. Interventions of the latter type are at the top of women's priorities, however, in the Sahelian zone of Guera, Batha, and the Waddai. With the small number of demands registered from women's groups in the region around Lake Chad, it is hard to say much about women's demand for assistance in that region. Of particular note is the relatively low priority placed on health interventions in all regions except the Mayo-Kebbi.

A complete list of activities undertaken with women's groups by a religious organization in the Mayo-Kebbi is presented in Table 11. It also shows the growing speed with which women's groups have been organizing and the shift in the needs they have experienced over the years (as well as the kinds of activities that were "à la mode" with donors at different times).

**Previous Page Blank**

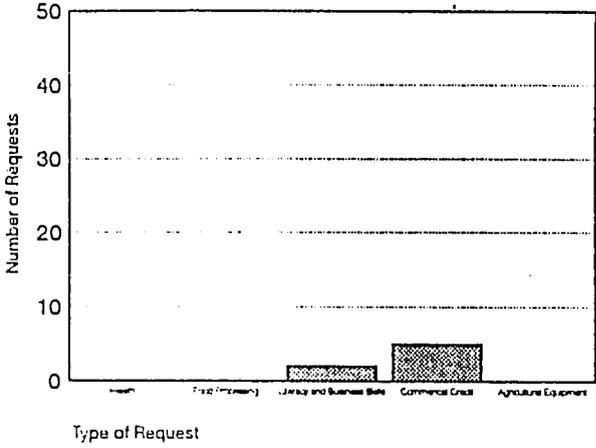
FIGURE 4  
SPONTANEOUS REQUESTS FOR HELP FROM WOMEN'S GROUPS IN CHAD



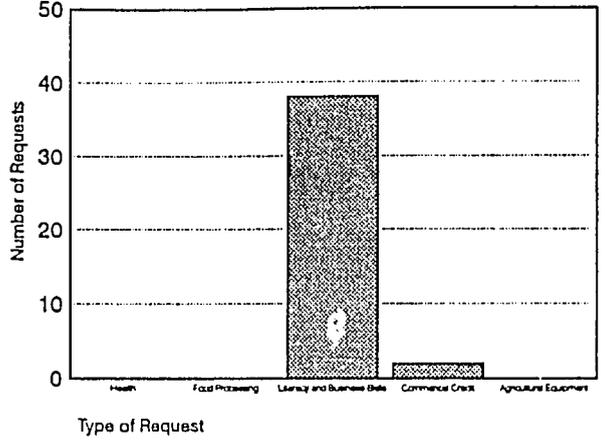
Source: The Sociology of Market Women Survey

FIGURE 5  
WOMEN'S REQUESTS FOR ASSISTANCE BY REGION

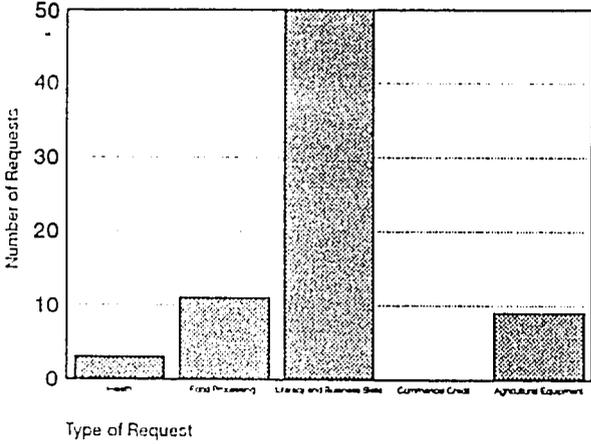
Lake Chad



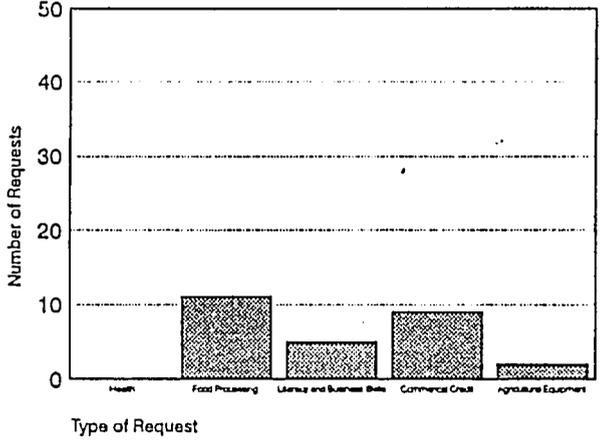
Loguones/Tandjile



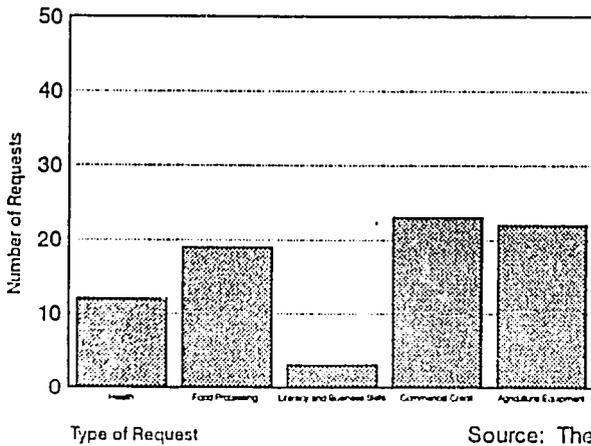
The Moyen-Chari



Guera, Batha, and the Waddai



The Mayo-Kebbi



Source: The Sociology of Market Women Survey

TABLE 11  
FORMATION OF WOMEN'S GROUPS IN THE MAYO-KEBBI, 1978-93

Year	Number of Groups	Purpose	Number of Requests
1978	1	Clothing and children	1
1980s	19	Flour mill	6
		Agricultural equipment	5
		Village development	4
		Tailoring	2
1990s	94	Commercial credit	23
		Agricultural equipment	22
		Flour mill	16
		Health	12
		Common granary	8
		Village development	7
		Alphabetization	3
Transformation	3		
Total	114		112

These figures are also an indirect measure, but one which will be appreciated by anyone who has worked with groups in Chad, of women's high demand for monetary credit, interest in food processing, and need for appropriate technology, including agricultural, transport, and post-harvest equipment. Communal group activities other than mutual help are not a traditional way of organizing economic activities in most Chadian societies. Many religious groups and NGOs have invested considerable effort, especially during the last 10 years, in overcoming individuals' unwillingness to join together on a permanent, rather than ad-hoc, problem-resolving basis. Chadians have been reluctant to entrust others with control over goods or money, and to invest time and energy in an effort in which it is not guaranteed that others will make an equal contribution. Two of the lessons donors have learned from their experiences in creating groups are these:

- If women want to do something, they will find the money. If they say they are "too poor," it's only because they are not motivated.
- People organize themselves, contribute, and work together on a project because these are all conditions for receiving assistance from the exterior.

If, then, under the above circumstances, women have increasingly joined together in spontaneous groups and contributed to group savings in order to approach donors for outside help, their requests must be taken as a sound indicator of the demand for services and the relative importance of the various services demanded. The regional differences expressed should also be taken to indicate the degree of interest in different parts of the country. Consequently, different areas should be targeted for different activities.

TRAINING

*I would not say it like this  
was before  
it has been going on since  
creation!*

Women's needs for training in literacy and business are directly related to their experiences in the changing Chadian economy, which has thrust them increasingly into a role for which they are ill prepared. Their lack of literacy and math skills, which was confirmed in the interviews conducted for the Market Women Survey, has become a serious problem as the importance of their business activities to household income has grown.

The team's sociologist was able to explore women's feelings about their need for training in depth in focus group discussions. Women said they wanted to be able to take charge of long-term investments. They are motivated to become literate and numerate so they no longer will need to depend on men to keep their accounts. They want to be able to write a letter to someone in a position of authority instead of fearing to approach him. They want to be able to read their children's school grades and notes. In Bokoro, the women wanted to learn Arabic for the Coran and for commerce; in Abéché "to be right with God," as one woman said, and for commerce. The most frequent request of male and female groups engaged in cereals bank activity is for "management training," which entails literacy and math skills.

Without a further study (which should be carried out if any investment in literacy or business training is undertaken), it is difficult to determine the levels of competence women in Chad already have. Most women do their business calculations in their heads. The only women the sociologist encountered who kept written records were those who had at least started secondary school. Most with primary school education had grown unused to writing by the time they became market women. Some with primary school education would ask their children to mark down costs and benefits when they got home from the market. One tontine head with four years of education confessed she kept her own accounts in her head but wrote down all tontine transactions because they became so complicated.

It appears that women retain figures in their heads until their stock has turned over. Many of the women interviewed by the team's sociologist reported that they calculated on the basis of weekly markets, unless business was slow. Most fresh fish women, who hope to sell off everything by the end of the day, talked only of calculating their daily benefits, to see whether they had made CFA 250-500 profit or perhaps had lost money. Among the fish sellers sampled, one who had five years of primary education calculated her weekly profits in her head. Another, who had been through 6ème, calculated in her head that she made CFA 24,000 per month.

The local women trained by the UNIFEM project as animators have taught their women's groups to do all their accounts in public reunions, for transparency and so people will remember the status of the treasury. When the sum gets above 10,000, the women have trouble retaining all the transactions in their heads and ask teachers or their children to write them down.

How well do women remember their accounts? In interviews they always insisted they never forgot them. Yet one woman, only minutes after making this assertion, had a lively discussion with another merchant over how much she really owed her and whether what the woman claimed was true.

Both the sociologist and INADES found that women rarely included all their real costs in calculating their profits. Items not purchased specifically for sale, because they are already available at home or gathered in the bush, are rarely factored in. INADES found getting women to attach a monetary value to the time involved practically impossible.

*This piece is hard to read if you don't go to school  
How do they do that? They pay the less than to that end!  
teachers!*



*This positive does not make sense*

Few men's groups are willing to think about investment, either, INADES has found. Even the educated men-in-one Association Villageoise the study team sampled have not bothered to calculate whether growing cotton is profitable. The exception to this general pattern is Moissala, where long-standing groups, under the guidance of BELACD, spontaneously formed into a federation. In 1992, based on their profitability projections, the 40 groups in the federation decided not to cultivate cotton, only food and food cash crops.

Women's limited ability to calculate profits and retain figures has several consequences:

- Women may be losing money simply because they cannot keep track of all their outstanding credits.
- Women are unable to develop a sound financial understanding of their business. This is a far more serious consequence than merely losing track of outstanding credits. Large numbers of women in focus groups said they did not wish to change their product line; this fits with the finding that 67 percent of urban market women and 61 percent of town market women had not changed their product line since becoming merchants. They do not want to change because they "understand" their business. In part this means that they know how and where to obtain their produce and have a network of suppliers and clients, but also that from experience they can manage their sales without losing money even though they may not be able to calculate profits and losses precisely.
- A large percentage of women say they do not want or need credit, although the overall positive results of micro-loan programs to market women indicate that they can make good use of formal loans and repay them without much difficulty. This fear of credit is certainly related to women's ignorance of basic financial operations in their business. Many women are risk-averse through lack of literacy and business training.

Thus, while women may benefit from moving into new niches or taking formal credit, they are unlikely to do so — in part because they lack adequate training to understand the costs, benefits, and risks associated with new activities.

Throughout Chad training in literacy and business skills is already being offered. Women clearly feel the need for literacy and math skills, and without these, access to business training will be difficult and limited.

## Literacy

Some literacy training is in spontaneous response to the need women (and men) have expressed. In various southern villages, benevolent teachers have volunteered to teach evening classes to parents, although they have no training in teaching adult literacy. Their students provide the chalk, notebooks, and kerosene. There is no way of estimating how many people are being educated in this way. Unfortunately, this effort has ground to a halt as benevolent teachers have supported state teachers in their strike over nonpayment of salaries.

Mosques and churches are also active in providing training in literacy. In many quarters of Abéché, women have been attending daily classes to learn to read and write Arabic. "Strong" women go from 5-7 A.M., others attend in the late afternoon when they have finished selling in the market. Some of the women have been going for four or five years. Chalk and boards are provided by the Imam

of the mosque. This phenomenon may be occurring elsewhere as well. Church-goers, especially Protestants, have provided literacy training in local languages for many years. Math training receives far less attention, however. At Bongor, BELACD has begun a literacy program with the option of learning French or a local language. In the last two years, BELACD has trained 500 adults in local languages (100 in 1992; 400 in 1993) and 180 in French (30 in 1992; 150 in 1993). Overall figures on how many people are being taught to read and write by NGO and missionary institutions are unavailable.

In 1990 the Government of Chad (GoC) created a National Committee for the Elimination of Illiteracy in Chad to coordinate all government services involved in adult literacy. Many departments now carry out adult literacy training, including the following:

- The Direction de l'Alphabetisation et de la Promotion des Langues Nationales;
- The Direction des Ressources Humaines (DRH) de la Formation Rurale et des Programmes;
- The Ministère de la Condition Feminine et des Affaires Sociales; and
- The ONDR, through its Coordination Committee.

The Ministry of Education has tried a two-year literacy course in Abéché and the Moyen-Chari for the last six years. It hopes through adult literacy training to help women make up the gap created by so few girls attending school. According to the Plan Directeur, only 29 percent of primary school students, and 15 percent of secondary students are girls. Between the beginning and end of primary school, the number of boys decreases by a factor of three, and of girls by a factor of nine. At present, the Ministry is working with the Germans in a N'Djamena *centre social* to develop a series of training modules for adult literacy; the DRH has also developed and is testing a set of modules in Sara.

A few hypotheses concerning literacy can be developed from the experiences of various teaching organizations in Chad. It must be noted that, however honorable their intentions, most of the people working on literacy have rather limited experience in adult teaching and literacy training. There may, therefore, be a number of improvements in teaching techniques that would make easier and faster the process of teaching reading, writing, and arithmetic to adults.

The amount of time it takes to become literate and numerate depends in part on whether the adult student went to primary school. Although people who attended school for only a few years may have forgotten what they have learned, they quickly regain the skills acquired so long ago. Conversely, people who have never been to school require much more time to educate. Thus, it would be very useful to know how many Chadian women already know how to read and write, how many have been to school, and how many years of schooling they have received. The Market Women Survey found that, even in the major market towns, the vast majority of the businesswomen interviewed could not read or write letters and numbers.

The Child Survival Project Survey found that 50 percent of urban women in the Moyen-Chari, but only 15 percent of rural women, knew how to read and write. Nineteen percent of urban women had finished primary school, compared with 4 percent of rural women. Only 1 percent of rural women went on to secondary school, whereas 16 percent of urban women did. In either case, few finished the entire cycle of schooling.

The 1992 CARE Community Development Survey of a random sample of rural villages in the Moyen-Chari tried to differentiate among the different skills that men and women had in French. First

Min. Edu  
not under  
local  
language  
but should  
include  
the  
further  
part of the  
country  
in local  
languages  
in Bahr

Good luck  
writing  
the rest

the survey inquired about the number of people in the rural villages who had attended school (see Table 12).

TABLE 12

## SCHOOL ATTENDANCE IN THE MOYEN-CHARI

	Total		Men		Women	
	#	%	#	%	#	%
Never attended	76	48	29	36	47	60
Attended	83	52	51	64	32	40

(Source: CARE Community Development Survey, 1992)

The survey next asked all respondents in the sample whether they understand French when it is spoken, speak French themselves, write French, read French, and had been to school but had forgotten what they had learned (see Table 13).

TABLE 13

## ADULTS IN THE MOYEN-CHARI WHO POSSESS SOME LITERACY SKILLS

	Total		Men		Women	
	#	%	#	%	#	%
Understand	46	55	30	36	16	19
Speak	31	37	29	34	2	3
Read	29	34	23	27	6	7
Write	24	28	18	21	6	7
Forgot	19	22	9	10	16	19

(Source: CARE Community Development Survey, 1992)

The tables above give a general idea of the magnitude of the illiteracy problem among women in commerce, but also of the possibility that some of them may not be starting from ground zero either.

The number of months or years necessary to learn a new language depends not only on whether the student is a beginner or has had some schooling, but on the language she is learning. In Bokoro, the NGO ACORD tried teaching illiterate people French for two years, then switched to local Arabic. The amount of time required was halved and women, who had not come before, began to attend classes. Similarly, in Bongor, BELACD spends six months teaching adults to become literate in French at a level that takes only three months when teaching local languages. The Direction de l'Alphabetisation is trying

two six-month training sessions for two hours a day, five days a week in French. By the end, it predicts that students will have reached the level of CE2, or four years of primary school, the point at which people should be able to read and write with ease. In 1993, because of the school strike, the experiment halted before the first-year exams, but from class grades it appears that half the students will have learned enough to go on to the second year.

The amount of time it takes to teach people to read, write, and calculate obviously also depends on how much time they can devote to classes. Most market women in focus groups said they would prefer to receive literacy training, or any sort of training, in the mid-afternoon, from 2 to 4 P.M., after they have finished their market business but before the dinner hour.

### Business Training

Benevolent institutions are especially involved in management training. The lending institutions of VITA, CARE, and OXFAM all attempt to train people who receive loans to do some sort of accounting. Because of budget and personnel constraints, the training offered is very limited and, for illiterates, does not go beyond teaching borrowers to record income and expenditures using signs. Until now, borrowers have not been taught to calculate profits and losses. Women literate in French are taught how to record and calculate their daily receipts, expenses, and profits. Receiving this training is optional, and CARE figures indicate that only 5 out of 200 women VITA loan recipients have received such training. Clearly more may have been trained under this program, as it has been operating for a long time.

The Italian NGO ACRA has attempted to train people to fill out their own loan application, but with little success. ACRA was the only NGO the team found that has even tried to do this. VITA provides help to prospective borrowers in developing their application, CARE does it for its borrowers, and OXFAM does not require an application. An important training opportunity is being missed. NGOs should use the loan application process to teach borrowers how to request future loans without support.

Business training needs in Chad extend to other areas as well. For example, Africare has trained 1,132 members of pre-co-ops this year in organizational skills, financial management, construction of storage facilities, and the operation of peanut butter hand mills. Once NGOs introduce a communal granary in a village, they find they are obliged to train people in managing it. ONDR also sets up communal granaries. It and various NGOs offer many different kinds of training. ONDR simply trains a storekeeper to record the entry date and cost of a sack and the selling date and cost, without making any calculations. In the Moyen-Chari, the Centres de Formation Professionnelle Agricole (CFPA), now under ONDR's direction, trained 20 out of 93 eligible Association Villageoise (AV) bureaus in accounting and managing cereal stocks. With the reduction in personnel ONDR suffered (from more than 1,000 to 400), the present institution can do little other than supervise, not train. In any case, only 9 percent of AVs contain women's groups, and women make up less than 5 percent of the AV bureaus, so very few women are receiving training through the ONDR.

Many NGOs have a tendency to get stuck in the preliminary phase of helping a group, working on developing an organizational structure ("reglement intérieur"), and keeping a group treasury. SECADEV maintains that developing its own organizational structure and accumulating group savings, having a secretary, and so forth are all tools that help develop a cohesive group.

For women, developing a "reglement intérieur" is very liberating. They learn to speak up, defend themselves, and make others behave. Credit is just one tool that helps groups develop these skills.

*To make it simpler than our 2-075  
in business related activities*

*this will  
be a  
effort that  
may not  
necessarily  
justify  
the cost.*

*if you have not paid anything by... this and all the...  
 provided you note... groups*

SECADEV's track record in the Sahel of creating women's groups that act for and on behalf of themselves supports this claim. Often, though, benefactors need to put more emphasis on extensive practical or technical training so that a group can effectively manage its business.

*imp data to support this claim*

In its work with BELACD, INADES carries out the most complete storehouse training of any training organization, training people to store, rotate, and manage stocks; calculate reserves needed for emergencies; and determine how much to sell. Until now the trainers have made the decision when to sell, not the farmers themselves. (In 1993, the farmers lost money because grain prices had not risen.) Farmers, however, show great interest in learning how the grain market operates.

## CREDIT

Some surprising conclusions about Chadian credit emerged from the team's fieldwork. One, which is clearly established by the Market Women Survey, is that trade credit is widely available in urban markets to women engaged in retail trade in agricultural commodities. This observation has interesting implications for any program offering credit to urban market women, since lack of credit for basic working capital requirements is not a constraint.

Another observation, which has come more indirectly from discussions with NGO and project personnel, and with rural women themselves in focus groups, is that rural women are capable of mobilizing a significant amount of cash savings. This is in contrast to the situation of urban market women, who seem to be perpetually cash poor (one reason for widespread trade credit). This observation would seem to bode well for rural savings and loan associations, which have shown considerable promise already in some areas of the country.

Credit can be distinguished into two basic categories: (1) working capital credit for short-term investment in inventory or other assets that will be sold within a year; and (2) investment capital, which may be either medium-term (more than one but less than two years) or long-term (more than two years), for investment in assets with a longer life that require a longer period of time for investment recovery. Women engaged in agricultural production and marketing need both types for various purposes.

It is important to recognize at the outset that any individual's or group's ability to make good use of credit depends on several factors. One is the borrower's integrity, which ensures that the money is used for the intended purpose, which gives a reasonable assurance that, excepting some misfortune, it will be repaid to the benefit of both the borrower and the lender. Another is the economic viability of the activity for which the money will be used, which is always subject to some doubt (risk) because of imperfect knowledge, unexpected change, and so on. These two factors are of great concern to the lending institution, which spends most of its time trying to make sure that its funds are being used wisely by honest people.

A third factor, which is particularly relevant for our case, is the financial management ability and practices of the borrower. Ensuring that sufficient cash is on hand to pay back the loan when it comes due requires some foresight and planning. These skills can be taught, and are a suitable avenue for project intervention any time a credit program is put in place. As noted above, interviews conducted during the Market Women Survey revealed a very high level of illiteracy among the market women. Learning to read, write, and calculate is clearly the first step on the road to mastering basic management skills.

## Working Capital Credit

The need for working capital credit varies from one type of business to another, depending on the level of investment required and the length of time inventory must be held. Because rural and urban areas regard differ in this regard, urban and rural credit are discussed separately below.

### Rural Credit

In the agricultural marketing system, the most common type of credit available in rural areas is for cereal banks. The grain trade (bulking and transport) is a separate activity that could probably benefit from some credit facility. At the present time, however, no such facility exists. The needs for credit by women engaged in both types of activities is examined below.

**Cereal Banks.** The cereal bank is a local storage operation that provides farmers with cash income for their crop at harvest time so that they are not obliged to sell to traders who will then ship the grain out of the area. Local storage should in theory permit farmers to have the cash they need at harvest time, and keep the price down for the grain they need later in the year when their own family stocks are exhausted. Although the potential demand for cereal bank credit is very high, results of these operations have been very discouraging.<sup>1</sup> The overall contraction in the Chadian economy has been reflected in the grain market this year, as prices for the '92 harvest remained almost flat for all of 1993. This has resulted in losses for most grain storage operations, which cannot cover their operating costs unless prices rise as expected.

Women are generally marginalized in cereal bank operations, since it is a village-level activity and, consequently, usually is managed by an AV or other men's group. Whether women heads of household (HOHs) benefit from the cereal bank operation to the same extent as male HOHs depends on the policies established by the management committee.

### Grain Trade

Women are engaged in the grain trade as *commerçantes navettes* (also referred to as "mosos") who buy in the weekly markets and then transfer to larger, urban markets for resale. Women represent about 35 percent of all *commerçantes navettes* identified in the Millet and Sorghum Marketing Study. These traders are generally required to pay cash for all purchases, because of the nature of their relationship with their suppliers. They are not in regular contact, hence future repayment is uncertain.

No credit, either formal or informal, seems to be available for this activity. This may be because of the level of risk associated with these operations. The name "moso" indicates this, since in Sara it refers to the risk of "falling" ("moso" means "I fall") or failing in one's business (as in "tomber en faillite"). To the extent that the problem of marketing is a major preoccupation in rural areas, the lack of credit for these types of operations may be a constraint, together with all the issues associated with poor roads, insecurity, and high transportation costs. This is only speculation at this point, however, since the team was unable to study this aspect of rural marketing in any detail.

---

<sup>1</sup> See, for example, Elliot Berg and Lawrence Kent, "The Economics of Cereals Banks in the Sahel," DAI, March 1991.

## Urban Credit<sup>2</sup>

Women engaged in urban agricultural marketing operations need working capital to finance inventory for resale. Storage and transport, key issues in the rural areas, are less significant for urban women (although not for male wholesale traders) since distances are small, as are the quantities they handle at any given time. Purchase of raw materials for processing is also an issue, since many women make a living in food processing. However, the scale of their operations is such that the demand for credit for raw materials is minimal.

The main source of credit for urban market women is trade credit. Seventy-seven percent of women surveyed in urban markets indicated that they receive trade credit. The supplier of the goods for resale will deliver to the woman trader, with the understanding that payment will be made at a later date, usually within a few days. In some cases a cash discount price is offered, which is essentially the equivalent of a fee charged for this service. This is never referred to as "interest," and it is difficult to impute an interest rate to this practice, since the time period for repayment varies. Other studies (Crouzet, 1993) have indicated that it is equivalent to an interest rate between 50 and 3,000 percent! Wholesalers indicate that they prefer to sell for cash, but must offer credit to retailers in order to move their stocks. The high fees charged for this service, and widespread use of trade credit, indicate that there should be a substantial demand for inventory credit among urban market women.

The general shortage of cash in the urban marketing system seems to be due at least in part to the difficulty women have in holding on to cash. Living in a cash economy, with many needs and few financial resources, they are obliged to develop strategies for managing money that do not put their capital at risk. The tontine seems to serve this purpose to some extent, as does the system of trade credit. In fact, they fit together, as market women usually use the tontine payout to reimburse their suppliers. This is also consistent with the results of the Market Women Survey, which indicated that more than 40 percent of respondents do not want or need cash credit, mainly because they consider it too risky.

The very high cost of trade credit is an indication of a high level of demand for credit, but one must be aware that many Chadians perceive cash as more of a problem than a solution. Still, the very rapid expansion of VITA's micro-loan program, in which the number of loans disbursed is doubling every six months, is convincing evidence that many market women are willing to bear this risk in order to expand their business. The Market Women Survey substantiates this conclusion by showing that a very high percentage of market women are very professional traders with many years of experience in the business, which is their main source of income. This conclusion indicates a significant level of demand for cash credit among urban market women, despite the fact that a great minority fears using such credit. (Or, probably more accurately, the minority fears that it would be unable to manage the credit effectively.)

The notion of expanding one's business is key here, because with the ready availability of trade credit, maintaining a marketing business does not require cash credit. Expansion, however, usually does, since suppliers of trade credit are reluctant to grant larger amounts for longer periods of time. In fact, this would only serve to encourage competition at their own level of the marketing chain, and is therefore contrary to their interests. Our survey results show that the amount of credit extended by the informal system is generally around CFA 5,000 to CFA 15,000, and that repayment is required within a week.

---

<sup>2</sup> The main sources of information for this discussion are the two surveys in Annexes A and B.

Women engaged in food processing appear to have less capital on average than market women traders, and also have less access to trade credit for their businesses. The quantities they process on a batch basis are so small (usually only a few coros) that women in food processing are able to pay cash to suppliers. Also, most do not work in the marketplace, and therefore lack the daily contact with potential suppliers, which may be an important aspect of the system.

Only a small percentage of women food processors reported receiving trade credit from their suppliers, but most were obliged to give credit to their customers, a far from ideal situation from a cash-flow management standpoint. In fact, about one-third of women engaged in food processing indicated that they regularly experience cash-flow difficulties.

Since expanding a food processing enterprise would imply either hiring workers or investing in improved technology, neither of which is at all common among women food processors in N'Djamena, it appears that the demand for credit among this category of market women is relatively low, and will remain so.

### Investment Capital

The investment opportunities available to women for agricultural production and processing are relatively few, but most require some access to credit. A list of possible investments is presented in Annex C. The two main categories of investments most commonly made by women in both rural and urban areas are examined below.

#### Rural Investments: Agricultural Production, Crop Processing, and Rural Transport

These are the "big ticket" items for which women seek credit. The plow, seeder, peanut huller, and animal-drawn cart have proven their worth to the rural population, and both men and women actively seek credit to purchase them. Given the small size of landholdings and the low productivity of agriculture in Chad, it is to be expected that in order to profit from these investments, the investors must rent out this equipment. This seems to be the rule in rural areas, based on informants and other studies.

Whether such investments can pay the cost of credit and still provide a good return on capital to their owners depends on the price charged for rental of the item, and the frequency with which it is rented out. Data are not available to make any quantitative generalizations on these questions. Clearly, however, a cash crisis in the rural economy would be unfavorable to investment in rural equipment, and in fact demand for credit from the ONDR for these items has fallen by 50 percent over the last two years.

#### Urban Investments: Transport and Food Processing

The pushcart is the principal item desired in urban areas to serve the need for transport of goods in and around the marketplace. The rapid proliferation of these devices, and the extent to which they are now available from private shops, provides convincing evidence that this technology is indeed appropriate, and has met a felt need. Like an item of rural equipment for agricultural production, few owners have adequate resources to enable them to employ the pushcart full time. Therefore, its profitability depends on its being put at the service of many users.

Only about 15 percent of market women interviewed in major markets either owned or rented a pushcart for their business, probably because the limited capital the women control does not permit them an inventory that would require them to use a pushcart regularly for transport. This is also the most likely explanation for the lack of investment in storage capacity. Only 20 percent of women interviewed rented storage facilities, and none were owners.

As pointed out in the Food Technology Survey, the equipment in use at this time for food processing in N'Djamena is rudimentary, and generally costs less than CFA 15,000. Until women advance to more sophisticated production systems, using employees or more modern, semi-industrial equipment, there does not seem to be any great need for credit in this subsector. Any program to improve knowledge of investment opportunity and transfer technical know-how in food processing should be linked to some sort of credit facility, however. VITA currently provides credit to bakeries and other small industrial food processing operations, such as flour mills, but most of these are owned and operated by men.

## AVAILABILITY OF CREDIT

Although banks in Chad do not lend to market women, a surprising number of different sources and types of credit are available to women. These range from completely informal systems, such as credit-in-kind and the tontine, to formal institutions such as VITA and the ONDR. There are also many initiatives under way by local and international NGOs either to provide credit directly or to support local initiatives for developing credit and savings systems.

### Urban Informal Credit Systems

Informal credit systems are characterized by easy access, the importance of personal relations, and the high cost of money.

Sources of finance include moneylenders (often the *ancien combattant* collecting his pension), village associations, traders who provide goods on credit to other traders, and tontines.

#### Moneylenders

This study did not investigate moneylender practices, and no other work on this subject in Chad has come to the team's attention. Moneylending is a notoriously difficult subject to study. The practice is apparently common in both urban and rural settings. High rates of interest are charged over short lending cycles.

#### Credit-in-Kind

Credit-in-kind is widespread in Chad, with 77 percent of all market women interviewed in major urban markets receiving credit of this type. In the smaller market towns, credit is not as readily available, as only 41 percent of respondents there claimed to benefit from it. This source of credit represents a significant source of capital for market women, since more than half of those receiving credit

indicated that they could expect more than CFA 5,000 in merchandise value from their suppliers. The median value of merchandise on hand among those interviewed is only about CFA 10,000.

In contrast, only 19 percent of women engaged in food processing in N'Djamena claimed to receive supplier credit, although 42 percent are obliged to give credit to their customers. Perhaps this reflects the difficult economic situation in this subsector, since fully 64 percent claimed to have problems with their level of sales at present, and 59 percent said market conditions are worse today than in the past.

While many women are involved in food processing, it is difficult to find clients with money, hence the high level of credit sales to customers relative to supplier credits. This situation helps to explain why 36 percent of women food processors interviewed claim to have regular cash-flow problems. Although this might seem to indicate a need for working capital credit, it is not obvious that these women would be a good credit risk, since of those who sell on credit to their customers, the majority could not say how much money they were owed.

### Tontines

The results of the tontine survey indicated that tontines are used by market women as a substitute for an institutional savings system. Although they are a means for women to accumulate cash, tontines do not have an institutional investment function in which the savings are loaned out as part of a credit system. Nor do the tontines provide an interest rate return to the women who contribute to them. However, in the absence of an accessible banking system with credit and savings components that is oriented toward micro-enterprises, the tontines are a workable substitute.

The proliferation of tontines even in this period of economic crisis demonstrates that money is available for savings and that there is a need for cash. The very high incidence of business tontine money being used to pay for supplies also indicates that market women have some strategies for saving and managing money for business purposes.

The ability of women to organize into these viable "savings clubs" and administer them on a long-term basis proves that socio-cultural traditions and management abilities already exist for group money management. This provides a basis for taking the tontine concept one step further and developing a true savings club that would provide credit to its members and pay interest on deposits.

Generally speaking, tontines are more savings associations than credit associations, since in principle one does not get out of the tontine any more money than one puts in. However, in practice, there are always those who withdraw first, and those who withdraw later, with the former in effect receiving a loan from the other members on the basis of their promise to contribute to later rounds of the tontine.

The main purpose of tontines seems to be to provide a safe place to put one's money. In the absence of any functional banking system, since most people are denied access to formal banks, the tontine system enables individuals to save their money, at least over a fairly short time horizon, so that it will be available to them to meet large expenses they anticipate in the future, such as reimbursement of their suppliers.

Although we speak of the tontine as a kind of "savings" association, it is important to keep in mind that tontines function not by holding their members funds, but by rapidly redistributing them

according to a pre-arranged schedule. The "mother" of the tontine is responsible for ensuring that each member contributes the required amount according to schedule, and for then immediately distributing the funds to the member whose turn it is to receive them. In some market women's tontines, this is done on a daily basis, and the funds collected are more correctly called "working capital" rather than savings, because each member will need to use the cash they receive when it is their turn to collect to pay off their suppliers and keep their business running. Other tontines do operate more as a savings association, when members pay in larger sums less frequently, such as CFA 10,000 twice a month. In this type of system, a group of ten can accumulate sufficient capital for investment. However, the officers of the tontine do not keep members' cash on hand. They redistribute it as soon as it is received. This is the way the tontine system responds to the risk its members face when holding cash, which too often results in funds being spent in response to a crisis, or stolen, or otherwise misappropriated.

### Urban Informal Credit System Issues

The informal systems described above meet a real need for banking services. Since no formal banking services are available to most Chadian citizens, these various informal money management systems have sprung up to fill the gap. Apparently there were virtually no tontines in Chad as recently as 10 years ago, but today, 52 percent of market women interviewed in the larger urban centers indicated that they belong to at least one tontine.

The generally high rates of interest applied in these systems should in theory indicate that there is a very high opportunity cost of capital, that the lending operation is perceived as being very risky, and that the demand for credit is strong. These are all plausible claims in the Chadian context, but difficult to substantiate by observation.

The high opportunity cost of capital is tied to the fact that it involves virtually no long-term investment, and most players in the economy seem to make every effort to turn over their capital as frequently as possible. Even at modest margins of 10 or 15 percent, if one can rotate one's capital twice a month on average, this implies an annual return on the order of 240 to 360 percent. This is fully consistent with the fact that wholesalers prefer cash payment for goods, even though they are apparently earning very high rates of interest on the trade credit they provide. Actual rates of return on investment are likely to be lower than this if, in fact, the business environment is as risky as these rates of return would indicate. Most businesspeople complain of high rates of "informal taxation," and more than once in the last few years, the country's general insecurity has resulted in near total loss for many people.

Risk is also high in Chad's informal lending operations because they are informal. Enforcement of contracts is difficult in the informal sector, hence the importance of personal relations for access to credit.

The fact that most market women in urban centers do operate on trade credit is proof that demand for this type of credit is high. That more than 40 percent of respondents said that they do not want or need cash credit may indicate more about perceptions of risk than about the need for credit. The usual reason given for not wanting cash credit is that it is too dangerous. The risk of default is high because it is difficult to manage cash well due to the many cash crises urban households undergo. Also, our surveys show that most market women and food processors are afraid they would be unable to sell more product even if they could afford to produce or stock it, because consumer purchasing power has diminished with the weakening of the Chadian economy.

## Spontaneous Rural Credit Systems

A number of very interesting experiments are under way to develop rural savings and credit associations in Chad. Unfortunately, there seems to be no similar spontaneous movement in urban areas. The team was unable to conduct systematic surveys of rural areas in the time available for the study, hence all information on these credit systems is anecdotal.

### Caisses Mutuelles (Village Association Lending Schemes)

The team identified some spontaneous village savings and credit schemes, called caisses mutuelles, during fieldwork. These seem to operate in many different ways, depending on the villagers themselves. In some cases, loans are made to women as well as men. Interest rates reported varied from zero to 50 percent per year and more. In the absence of any comprehensive data on this spontaneous village credit movement, it is difficult to generalize about it.

Some local NGOs (DARNA, ASSAILD) have responded to requests for technical assistance from these initiatives. This evidence, although only anecdotal, indicates a serious level of interest among rural people in gaining access to credit, and a willingness to participate in these types of associations.

### Caisses Rurales d'Epargne et Cr dit (CREC)

The CREC movement apparently began in the late 1970s with assistance from one individual who had returned to his home village, Gore, after the outbreak of hostilities. At the peak of this movement, there were more than 90 CRECs, of which about 30 were fully operational. Some of these had assets in excess of CFA 1 million. About 10 of the CRECs were based on women's associations.

Over the years, the movement has benefited from donor assistance and external financing, but it has essentially been self-sustaining because of the commitment of the membership. CRECs have fallen on hard times today, despite steady growth and real success in many instances, because of the deteriorating rural economy and the situation of general insecurity in Chad. The CRECs in Gore itself, for example, have been looted by rebels and the military, and many peasants living along the border with the Central African Republic have fled for their lives.

The experience gained in this movement, however, is a valuable resource for similar efforts in the future, and demonstrates the viability of this approach to rural credit.

## Spontaneous Rural Credit System Issues

The efforts to start up village-level savings and credit associations face many difficulties. The limited ability of individual villages to mobilize savings constrains the amount of cash available for purchasing expensive rural equipment. Herein lies the value of establishing larger-scale systems, which can mobilize savings over a much larger area and redistribute them to individual or group borrowers who are best able to make use of the funds. Spreading lending risk over a larger area is also an advantage of integrated systems, particularly when agricultural risk is associated with localized rainfall and pest problems.

Lack of financial management skills and record-keeping ability puts village-level savings and credit schemes in jeopardy. Bookkeeping is essential to avoid disputes and enable management to evaluate progress. In order for a bookkeeping system to function, a group needs a number of people who can play the various roles of treasurer, manager, bookkeeper, cashier, and auditor. In most village schemes, all these positions are filled by volunteers because the funds under management are inadequate to permit payment of salaries, and also because the management systems established by the villagers do not provide funds for this purpose. Ideally, all participants should be able to read periodic financial statements so that they can understand what is happening with the institution responsible for their money.

The great variability in rates of interest poses a problem for efforts to bring many small lending operations under one umbrella. The advantages of unifying many small village schemes into larger regional associations are many, including access to donor funds or to higher-level financial institutions for refinancing, access to technical assistance for training, and the possibility of bringing skilled, salaried managers into the system.

But the single greatest difficulty, which was mentioned repeatedly in discussions with people who have experience working with these schemes, is Chad's security situation: There is no safe place to put cash in the rural areas of Chad. Once a village accumulates a certain amount of liquidity, the risk of robbery is reportedly quite high, although we have no statistics on the incidence of theft by rebels, military members, bandits, or others. Apparently a very simple system of a lockbox with two padlocks has worked quite well to prevent internal theft. The lockbox is held by one person, usually a respected older person, and two others have the keys to the two padlocks. Therefore, three people must be present any time the box is opened.

Women's access to these informal rural systems should improve in line with the general trend for increased participation by women in the cash economy. Men in rural areas are increasingly aware of the importance of women's contributions to household income, and therefore value their economic activities more than before. This trend varies from one region to another, and is not as significant among all ethnic groups, but the general tendency is such that women should be able to access funds from these systems in most areas. To the extent that donor programs provide training to rationalize management of these systems, women's access will improve, since women have proven their creditworthiness whenever they have been given the chance.

### Formal Credit Systems

The Chadian banking system is not accessible to either the urban poor nor the peasantry. Since we found not one instance of a woman active in the agricultural marketing systems under study with access to credit from the formal banking system, this subject was not investigated further.

### Rural Credit via the ONDR

The only rural credit system with any extensive coverage in Chad is operated by the ONDR. Several types of credit, on different terms, are offered, almost exclusively through the AVs in the cotton zone, although some loans are made in the Sahelian zone as well.

In addition to production credit in the form of inputs for the cotton crop, the ONDR offers agricultural production and processing equipment and animal-drawn carts on credit. Equipment is delivered occasionally on a cash payment basis, but primarily through a system that requires an initial

downpayment of 25 percent. Subsequent payments are made at the time of payment for the cotton harvest over a period of two years, with annualized interest charges of approximately 6 percent. The ONDR actually supplies the equipment directly to the buyer, and recovers its loans through the system of the *marché autogéré* (in which loan repayments are deducted from farmers' cotton lint sales revenue), which results in repayments rates of almost 100 percent.

With cotton production falling because of declining prices, and excessively late payment for the cotton crop the last two years, ONDR sales of equipment such as plows and carts, which are generally in strong demand, have dropped significantly, from almost 4,000 units in 1991 to less than 2,000 in 1992. Furthermore, the credit mechanism used, which depends on the cotton marketing system, is not adapted to the Sahelian zone, where there is also fairly strong demand for rural equipment for peanut production (plows and seeders, peanut dehullers, and animal-drawn carts).

The ONDR is working toward developing cereal crop production systems, at this time primarily through distribution of "mini-doses," which are small quantities of improved seed. This seed is supposed to serve as foundation seed for farmers who will multiply it and sell the crop for seed the following season. If this does lead to a new commercial farming activity, it will create yet another demand for production credit that will not be satisfied through the current system.

Recently, the ONDR has begun a credit system for cereal crop marketing. The stated objective of this credit system is to enable village groups to accumulate sufficient capital over the life of the project to ensure continuity of grain storage and marketing activities. The team has not seen an analysis of this system that lends credence to it. The results of this cereal bank program, like most others, have not been positive. Grain storage and marketing is an inherently risky business, and price behavior over the most recent season (November 1992 to October 1993) has been extraordinarily unfavorable for these operations.

The Fonds d'Intervention Rural (FIR) is another element of the ONDR's efforts to meet the credit needs of Chad's rural population. A comprehensive plan has been developed to build a rural savings and credit system based on local *caisses mutuelles*. Unfortunately, the funds which were to have served this purpose have never been made available. The professional staff of the FIR have tried to provide technical assistance to spontaneous rural savings and loan associations but labor under the handicap of very limited resources.

Rural credit is clearly an area where much remains to be done. It seems clear that the demand for credit in rural areas is substantial, but farmers are losing confidence that they will be able to repay their loans. Both improved production equipment and cereal banks respond to real needs of the rural population, but the depressed rural economy and contraction of the national economy are working against the possibility of increasing investment in rural areas at this time.

### NGOs and Projects

A bewildering variety of small-scale credit programs are run by NGOs and projects in both rural and urban areas of Chad. These range from essentially benevolent activities, such as OXFAM's urban market women credit program, which charges no interest on loans and tries to promote savings, to "introductory" credit systems like SECADEV's village credit program. Others include serious efforts to lay the foundations of a banking system, such as ASSAILD's program based in Moundou, and modern commercial banking at subsidized rates, as practiced by VITA. Those programs that insist on repayment have generally been quite successful in both rural and urban settings. Despite Chad's difficult economic

situation, there are many responsible borrowers throughout the country who are willing to do business with a commercial-style credit system.

Most of the project and NGO credit programs have targeted women to some extent in their lending practices. They all claim that women are more reliable than men in repaying their loans. They all state that women have a need of basic training in literacy and management skills, and that the women who participate in their program voice a desire for these types of training. Those working in rural areas agree that it should be possible to mobilize a substantial amount of savings if a suitable system that had the confidence of the people could be set up.

The following section will focus on a few of the institutions providing credit to women in Chad, to illustrate the demand for credit and provide illustrations of programs that have enjoyed some success in a difficult operating environment. Any further effort to promote credit facilities for women would do well to build upon existing experience by supporting existing institutions that have a good track record.

## VITA

The VITA program, which has offices in N'Djamena and Moundou, provides a substantial amount of capital to the informal sector through its micro-enterprise lending program. About 80 percent of its clientele are women. Lending is on terms that are quite favorable in comparison with informal credit rates, but a number of criteria limit access to these funds:

- Borrowers must show that they have successfully operated their business for six months to a year (no start-up funding is provided).
- A deposit equal to 10 percent of the loan amount must be made to VITA. This deposit is held without interest until the loan is repaid.
- A fee of 4 percent of the loan amount is charged up front, and the nominal interest rate of 13 percent is calculated and reimbursed in such a way that the real annualized rate of interest exceeds 20 percent.
- Micro loans cannot exceed CFA 300,000, at which point the more stringent requirements for formal sector small- and micro-enterprise (SME) borrowers become applicable.
- First-time borrowers are ineligible for equipment credit, and first-time loans are usually kept to a relatively small amount, around CFA 50,000 or less.

The following factors strongly favor borrowing by women working in the informal sector, such as food processing, sidewalk restaurants, or agricultural commodity trade (which makes up the bulk of the micro-loans):

- Clients are not required to register their business (informal sector clients are acceptable);
- Clients are not required to have a bookkeeping system, although VITA provides training and follow-up to ensure records are kept; and
- Even illiterate clients are assisted with the loan application and provided with training for symbolic record keeping, which is reinforced by regular visits from loan officers.

The very rapid growth of approvals for micro-loans, which has been doubling every six months for more than a year, is proof that this service responds to a real demand for cash credit in the informal sector. The fact that 80 percent of the clients in this category are women shows that this service responds to their needs. The fact that the repayment rate for loans in this category is higher than for formal sector (SME) loans indicates that the informal sector and micro-enterprises are at least as financially viable as larger, more formal businesses under the current state of the economy.

The VITA staff are of the opinion that they have barely scratched the surface of the demand for loans in this category. The Market Women Survey conducted confirms this, to the extent that only 7 of 250 women interviewed in N'Djamena had received VITA loans (less than 3 percent), but 57 percent of women interviewed indicated that they would like to have access to cash credit. VITA does not currently advertise this program for fear that it will be swamped by demands for credit that it is not staffed or equipped to meet. VITA also fears that the quality of its service will suffer as a result.

The most pressing concern of the VITA project is how to establish the lending program on a financially self-sustaining basis. Several studies have been done addressing this issue, with the most recent indicating that an interest rate of 48 percent would be required for the micro-credit program to be financially viable. While 48 percent may appear high relative to interest rates in the formal banking system, several points are worth considering:

- The formal banking system does not make loans to the informal sector (where risk is higher), and in fact hardly makes any loans to private enterprise at all;
- High interest rates are the rule in the informal sector, generally exceeding 48 percent by far; and
- Allowing a financial institution to charge a rate of interest that results in a profit for the institution is the best way to ensure that credit is available to those who can use it.

When banks are forced to offer funds at a rate of interest they find unattractive, they do not make many loans. In fact, they make every effort to structure their business so that they can operate at an acceptable level of risk relative to the constraints imposed upon them. This often means that they offer little in the way of services to SMEs, because the level of risk exceeds the margin of safety provided by allowed rates of interest.

## ASSAILD

A Chadian NGO, the Association d'Appui aux Initiatives Locales de Développement (ASSAILD) is dedicated to developing a rural credit system. Its approach is to support local savings and loan associations by providing training and additional funds for on-lending to members. In so doing, ASSAILD is trying to move away from lending directly to individuals (with group guarantees) toward lending only to associations, which will then be responsible for managing the funds for local lending to individuals.

ASSAILD is involved in rural credit for construction, trade, and agricultural equipment. Interest rates and loan repayment schedules vary according to the type of loan given. For agricultural production equipment alone, ASSAILD has lent more than CFA 30 million since 1989. Recovery rates have varied, due in part to poor production seasons, late payment for cotton, and nonpayment of government salaries.

ASSAILD would like to run its operation following standard banking practices, but the donors are unwilling to accept interest rates that enable ASSAILD to accumulate loan loss reserves.

### Africare

Africare runs a credit program in Ouaddai that enables farmers to store onions, garlic, and dried tomatoes until prices rise later in the season. The principle is the same as that applied to cereal banks, except Africare has introduced some fairly conservative elements that should put its program on a much more solid financial footing than most cereal bank programs.

Africare supplies credit only on the basis of inventory. The product must be stored in an approved type of structure, and the group receiving the credit must agree to follow the advice of Africare's post-harvest technology expert. (The results of Africare's research and extension in this field are impressive.) The limit of credit available is determined by 50 percent of the current market value of inventory. This provides both Africare and the borrower with a comfortable margin of safety for storage losses and market risk. The loan must be guaranteed both by the group that signs the contract, and by the village notables. So far, recovery rates are almost 100 percent.

Africare provides market information services, in addition to post-harvest technology support, management training, and credit, but the villagers themselves make all marketing decisions. Marketing was very difficult last year, as prices did not rise as expected. Loan recovery rates have not been affected as yet, due at least in part to the program's very conservative lending practices. Only borrowers who have completely repaid previous loans are eligible for credit next season, which provides a strong incentive to repay. Because the semi-perishable products the borrowers produce vary greatly in price, the Africare credit program is generally attractive, despite low prices last year.

Africare's experience with women's groups has been very positive; however, women's lack of management skills is a problem, and training has been difficult due to their high rate of illiteracy.

### Formal Credit System Issues

All efforts to provide credit services in both rural and urban areas outside of the commercial banking system seem to face similar problems. The root problem, which no one has yet been able to address effectively, is sustainability of service. Even VITA, with its competent professional banking management, cannot cover more than 30 percent of its operating costs at current rates of interest. Although figures are lacking, other financial institutions are probably even more heavily subsidized than is VITA.

Lack of education and training among the target population of these institutions does not constrain them severely, but it certainly limits the institutions' effectiveness. They are obliged to expend their resources on training and management support to their clients, which further aggravates service sustainability.

Without exception, these institutions are open to doing business with women, and are unanimous in the opinion that women are generally their most reliable and trustworthy clients. However, women's lack of education and the consequent difficulty of providing relevant management training pose serious problems.

The quality of management personnel in these institutions is impressive. People of this caliber would certainly benefit greatly from opportunities for travel and training, to take advantage of the experiences of other countries in their efforts to develop financial institutions that fit the environment. Local NGO personnel and Chadian staff of international NGOs should be given preference for exchange programs of this type, since their expertise will remain in Chad.

### Positive Trends and Accomplishments

Despite the many difficulties faced by the various credit projects and financial institutions reviewed above, there are many encouraging signs that the credit situation in Chad should improve rapidly once certain basic conditions are met. Those conditions, of course, are an improved outlook for the economy as a whole and an improvement in general security in the country.

Particularly encouraging trends that merit highlighting again are the following:

- The success of the CREC movement and other spontaneous rural savings and loan association movements, which demonstrate the very real potential for savings mobilization and credit management among the rural population;
- The existence of local NGOs such as ASSAILD and DARNA, which can provide grassroots support for a rural savings and loan association movement;
- The remarkable success of VITA, which serves the needs of the informal sector so well that its micro-lending program is growing at a rate of more than 400 percent per year while still maintaining an acceptable rate of loan repayment;
- Africare's experience with technical innovations, management information, and training in an integrated package to support a credit operation that enjoys almost 100 percent recovery rates in a very difficult economy;
- The positive trends in access to ONDR credit for women members of AVs in some areas, and the general success of the ONDR's program to promote the use of improved agricultural production equipment through a credit program; and
- The growing demand for access to credit and literacy and management training voiced by all women's groups encountered in the course of the study, and confirmed by all institutions working with women.

### APPROPRIATE TECHNOLOGY

"Appropriate technology" usually refers to technical solutions to problems faced by people with limited capital and low levels of education and technical skills. Consequently, the solutions involve generally low-cost, low-capacity, easily managed, easy to operate devices that respond to the common problems people face in their economic activities. Products of this type encounter problems of acceptability when they are laborious to use, too expensive for local people, and unprofitable to operate.

*Not found  
during 1975*

Truly appropriate technology should do the following:

- Be suitable for local manufacture, or at least local repair;
- Be inexpensive by local standards relative to alternatives;
- Increase productivity;
- Reduce the workload; and
- Generate sufficient income or savings to justify its purchase.

When any technological innovation fails to meet these criteria, its chances for acceptance and sustainability are poor.

A number of appropriate technology innovations are currently in use in Chad. A few examples follow:

- Plows, seeders, and animal-drawn carts;
- Small manual peanut butter mills;
- Small manual pasta makers;
- Motorized disc mills for spice grinding;
- Motorized hammer mills for cereal processing; and
- Motorized stone mills for cereal processing.

These appropriate technology tools are sustainable because they are in demand. Additionally, the primary role of the private sector in providing such equipment (with some government assistance for credit and distribution in rural areas) bears witness to its basic sustainability.

### **The Need for Appropriate Technology for Women**

In 1989, a comprehensive study was commissioned by the UNDP and executed by the Bureau Interministeriel d'Etudes et de Projets on the subject of rural women's workload and the technologies these women currently use. The study was limited to the Chari-Baguirmi and Moyen-Chari prefectures. It concluded that rural women's work is extremely time consuming, resulting in high social and economic costs, and that, therefore, reduction of the time spent on agricultural and food processing tasks should be the priority for appropriate technology research in Chad. As pointed out in Chapter Three, household duties, particularly in rural areas, severely constrain women's ability to undertake new initiatives in agricultural marketing.

While many studies have quantified the large amount of time rural women spend on tasks such as hauling water and collecting firewood, few have tried to determine rural people's willingness and ability to pay for improved technical solutions to these problems. Crop processing also is tedious, time consuming, uncomfortable work usually relegated to women. However, crop prices and the cost of labor

must be considered when evaluating the potential for technological innovations. The team was unable to find any serious economic studies of technological innovations in Chad at any of the six appropriate technology research and workshop centers visited, although several of the centers had plans to do them.

While reducing the time spent in drudgery and increasing women's productivity and income are clearly worthwhile goals, they pose two hidden dilemmas. One is that many women gain a small amount of cash income from these types of activities, such as pounding millet or processing peanuts into oil, and that is very important to their household economy. Introducing improvements in productivity will enable fewer women to make more money from the same activity. The second dilemma is that Chadian women lack the capital, education, and business and technical skills to manage small industries successfully, and hence technological innovation results in a transfer of income and economic power from women to men.

The increasing importance of women's income in the household, and of women's contribution to the Chadian economy as a whole, indicates that women are motivated to capture the economic benefits of improved technology. Innovations from which they would benefit most are those that improve crop processing, food processing, and transport technology. Projects that provide education (particularly literacy and math skills), training, and access to credit can facilitate ownership of such productivity-enhancing assets for women. It is neither practical nor desirable to push women or women's groups into economic activities for which they lack the basic qualifications. In the case of grain mills, in which most women's groups lack the management skills needed to run an efficient operation, it may be preferable to encourage dissemination of this technology among men, as well. Women will benefit from increased access to labor-saving technology regardless of the gender of the owner of the technology.

While there are many small-scale, relatively inexpensive technical improvements available for rural areas that respond directly to the needs of women, this is not the case for urban women. In the area of food processing, for example, which the team investigated in depth (see Food Technology Survey, Annex B), graduation from a household level of technology to small enterprise requires technical and managerial skills that Chadian women generally lack. The grain mill, dehuller, spice mill, and peanut mill are all examples of motorized technology that replace women's hand labor. As far as the team could determine, only men own and operate this type of equipment. The weaning cereal project currently managed by the Centre Nutritionnel et de Technologie Alimentaire could easily become a viable commercial enterprise, but the technical and managerial skills required to operate such a business are beyond the reach of uneducated women.

This observation, that urban women lack the technical and business skills necessary to take advantage of commercial opportunities in the food processing industry, is one more argument in favor of a program to provide basic literacy and management training to urban market women.

### **Appropriate Technology Solutions**

There are many technical innovations in use today in rural and urban areas of Chad that were virtually unknown not long ago. Women have benefited from many of these, and one can see in every category of economic activity opportunities for further innovations.

#### **Agricultural Production**

Although a review of agricultural production technology is beyond the scope of this report, a few comments are in order, since this is the principal economic activity of rural women.

Animal traction has been widely accepted in both the Soudanian and Sahelian zones. Once this principle is introduced, a considerable range of equipment is available for the full spectrum of land preparation, seeding, weeding, and harvest activities necessary for most crops. So far, only the plow seems to have gained widespread acceptance in both zones, while the seeder is also appreciated in peanut growing areas.

Use of the plow for land preparation increases the area under cultivation. The logical extension of the same principle should apply to seeding, weeding, and harvest activities, since if these remain manual tasks, unassisted by animal power, a bottleneck in the production process will generally result. It would appear that this is in fact the case in Chad, and that the burden of the bottleneck has fallen on rural women, since land preparation has been traditionally a male responsibility, while women have been responsible for weeding and harvesting.

It is theoretically easy to complete the set of equipment available for cultivation by animal traction. For example, the toolbar, which can be adapted to a variety of implements for different stages of the production process, could be introduced. In fact, this has not happened (although a toolbar has been developed by ACORD in Bokoro). Whether this is because of economic or cultural constraints is unknown. Production equipment is expensive by rural standards, with prices ranging from about CFA 40,000 for a plow to more than CFA 150,000 for an ox cart (SIMAT prices).

It is clear that men have access to credit from ONDR for rural equipment through their groupements and Associations Villageoises (AVs) to a much greater extent than do women. Furthermore, women are almost entirely ignored by ONDR extension workers, and therefore lack access to information and training that would enable them to voice an opinion on the next steps in the evolution of production technology.

Numerous interviews with women's groups throughout the South and the Sahelian zone reveal that women are very interested in acquiring improved agricultural production technology to lighten their workload and improve their productivity. The constraints of access to technical training and credit will be discussed more fully below, as will the problem of profitability in the present state of the economy.

### **Crop Transport, Processing, and Storage**

As agricultural productivity increases, problems of crop transport at harvest time, processing, and storage also increase.

**Animal-Drawn Carts.** The animal-drawn (ox, donkey, or horse) cart has gained wide acceptance in all areas of the country the team was able to visit. These carts can be used for many purposes, such as hauling water or firewood, as well as reducing the burden of hauling the harvest in from the field, or the crop to market.

Several factors seem to limit women's ownership and use of the cart. These include the high cost of the cart itself, which ranges upward from about CFA 140,000 from APICA in Sarh to more than CFA 180,000, including finance charges, from the ONDR. Animals also are expensive to purchase as well as to maintain. Rough estimates of this cost are shown below.

<u>Animal</u>	<u>Purchase Price</u>	<u>Daily Maintenance</u>
Donkey	CFA 8,000 - 12,000	CFA 200
Ox	CFA 25,000 - 30,000	CFA 300
Draft horse	CFA 30,000 - 40,000	CFA 400

In addition, women in some areas (mainly the Sahelian zone) seem to feel that only men are qualified to ride or handle horses or other animals, and therefore are obliged to hire a handler for their cart. Access to credit is clearly a necessity for such an expensive purchase, as is the ability to put the item to work to earn its keep. In a cash poor rural economy, the profitability of investments of this type is under pressure.

**Cereals.** Threshing cereals is one of the most onerous harvest tasks, but difficult to mechanize because of transport problems. Either the unthreshed grain, together with its great weight and bulk of straw, must be transported to the threshing machine, or the machine must be brought to the grain. The latter should be feasible on a small scale using animal-drawn carts, but threshing machines seem to be relatively unknown in Chad at present.

Dehulling and milling cereals is another time-consuming and onerous task of rural women. The average family consumes roughly two coros of grain per day, which is estimated to require about three hours of processing (BIEP, 1989). Some attempts have been made to introduce manual grain mills for cereal processing, but these have been universally rejected, as the labor required is not reduced, and the motion is more onerous than that of pounding the grain in the traditional manner. Little wonder that rural women everywhere are highly motivated to bring a motorized grain mill to their village.

Unfortunately, in the present cash-poor state of the rural economy, it is not obvious that grain mills can be profitable in rural areas, even though a small mill with a capacity of 125 kilos of grain per hour (roughly 50 coros) could easily serve the needs of 500 families. The universal charge for grain milling in Chad is CFA 50 per coro, or about CFA 100 per day for an average family. Based on interviews with rural women, daily cash expenditures average only about CFA 250-500. Clearly, an additional CFA 100 per day is a substantial increase, which most families probably cannot afford.

Dehulling is also technically feasible for the basic cereal crops (millet and sorghum), as well as for maize and rice. However, this represents yet another cash cost to the household, and therefore is not likely to gain wide acceptance until the overall situation of the economy improves. Nonetheless, some dehullers are operating in N'Djamena, and the team found an inventor in Sarh who has a machine that appears to have great potential.

Many in the development community in Chad argue that ownership and operation of grain mills should be by women. This point of view does not seem to be shared by the rural women themselves, who are apprehensive (with good reason) when they seriously discuss the possibility. In general, people have a fair chance of success in business when they are strongly motivated to engage in the activity, and have either the basic business skills required, or the technical knowledge to assure mastery of the process and the product. Lacking all three of these factors, rural women's groups are unlikely to succeed in grain mill management without very intensive and long-term support. Since this is not possible on a large scale, and the need for grain mills is clearly widespread, the practical solution to the problem seems to be to encourage entrepreneurs of all types to invest in this area whenever feasible.

**Fruit and Vegetables.** Post-harvest handling, storage, and processing of fruit and vegetables is an area of considerable opportunity for innovation. Africare has demonstrated significant improvements in storage practices for onions and garlic in Abéché, as well as in the quality of dried tomatoes. Whether these practices are economical depends in large measure on market prices for these products. Once again, the current state of Chad's economy makes innovation difficult, as prices were disappointingly low last year, and much of 1992's garlic crop remains unsold.

In principle, solar drying of fruit, vegetables, and meat could be greatly improved relative to traditional practices, which are rudimentary. Investment in drying capacity is difficult, however, when consumers are unable to afford quality, and the competition is from traditional processors, who have very low investment requirements. Current market conditions constrain all technical innovation in food processing. Therefore, export markets should be investigated (for example, for products such as dried mangoes).

**Oilseeds.** Peanut processing lends itself readily to small-scale manual or animal-powered equipment. Peanut dehullers have gained wide acceptance, as they greatly reduce the time spent in shelling peanuts. A peanut dehuller costing as little as CFA 35,000 (wooden model from APICA) can be rented out for as much as CFA 1,500 per day. At this rate, the machine can easily pay for itself in a single season, which is probably the basic investment consideration for most rural equipment at this time. A peanut thresher, which separates the nut from the vine, has apparently been tested by ACORD in Bokoro with very positive results, but this machine, imported from Senegal, is newly introduced, and has not yet been manufactured locally or disseminated.

The team did not have time to examine the traditional peanut oil press (animal-powered mortar and pestle). These are apparently fairly common in the area around Mongo and Abéché. Oil from these presses was selling for CFA 6,000 per 20 liter jerrycan at the market in Abéché, indicating that they are a very practical and economical solution to the oilseed processing problem. Manual oil extraction is rarely an acceptable solution, except in areas where vegetable oil is very expensive and in short supply, which does not seem to be the case in Chad.

Karite processing for cosmetic products, particularly skin creams, is being done by a number of private parties on a very small scale. The team was unable to investigate these enterprises in any depth, but similar products are produced on a semi-industrial scale in West Africa, and should be feasible in Chad also.

### **Urban Marketing Transport**

One sees pushcarts everywhere in Chad's urban centers, particularly around major markets, proof that this technology is well adapted to the economy. Pushcart prices vary considerably, depending on the supplier, ranging from about CFA 45,000 to more than CFA 90,000 (including tax, from SIMAT). In N'Djamena, a patente of CFA 10,000 per year is levied on pushcarts, and they are apparently also frequently subjected to "informal" taxation as they circulate. This tends to discourage buyers who are unable to use the cart fully for commercial purposes but who might benefit from reduced transport costs for some aspect of their business.

The ACORD workshop in Bokoro plans to experiment with three-wheeled bicycle carts powered by moped engines. In flat country, this might be a very successful innovation. One already sees pushcarts adapted to hauling behind a bicycle.

## **Food Processing**

Currently, improved technology for food processing seems to be limited primarily to kitchen appliances. The small manual pasta machine and manual grinding mills for making peanut butter are widespread. Costing less than CFA 15,000, this equipment is accessible to women. With a small amount of working capital, women in urban areas can produce a few coros of spaghetti or peanut butter in a day, and earn enough to contribute substantially to the family economy.

There are many opportunities for small enterprise growth in the food processing sector in N'Djamena, and probably in other urban centers like Moundou, Sarh, and Abéché as well. Women generally do well in this type of industry, because food preparation is a traditional activity for them, and they understand the market for these products. The African woman consumer in urban areas is very aware of quality in food products, and a business that can deliver a good-quality product for a reasonable price can usually succeed. Time is a problem for the African city dweller, and women appreciate and will pay for products that reduce food preparation time while maintaining food quality. Products can also be marketed successfully based on their nutritional value, particularly where children are concerned. Women will pay for weaning cereal, for example, when they understand the nutritional value and importance of this product for their children.

The importance of food processing as an income-generating activity for urban women is presented in detail in Annex B, our Food Technology Survey of N'Djamena. Many factors constrain this sector's growth, particularly all those that discourage the transition from the informal to the formal sector. Women are not well placed to take advantage of these opportunities even if the policy environment and the general economy improve, because they lack the technical and management skills needed for small industry.

## **Constraints on Availability of Appropriate Technology to Women**

Given both the arduous nature of women's work in general, and the growing importance of women's contributions to the cash economy, one would expect that technological innovation appropriate to women should be readily accepted in Chad. Yet, many factors make it difficult for women to invest in equipment to lighten their workload or improve their earning power.

### **Lack of Time for Business Management**

In rural areas, women have many responsibilities, and can rarely devote full time to any one economic activity. This is one reason commonly given for hiring a man to look after the grain mill, even if it is the property of a women's group. This situation has come up in specific projects sponsored by NGOs and others in which women's groups gained access to grain mills (none of which has been economically successful to our knowledge), and also in discussions with women's groups that would like to own a mill. Any substantial investment, particularly one requiring purchase on credit, must generate a certain cash flow to compensate the owner. This generally requires that the equipment be used to a large part of its capacity. As a rule in small industry, 60 to 80 percent of capacity use is required to break even.

Purchase of agricultural production and crop processing equipment, for example, is rendered profitable by renting out this equipment to other users to the greatest extent possible. An animal-drawn cart, with a total investment approaching CFA 200,000, might be profitable if the owner can earn CFA

500 per day net of the expenses of feeding and caring for the animals, but only if the cart works almost every day of the year for several years. Animal carts reportedly rent for between CFA 1,000 and CFA 1,500 per day in different parts of the country.

Lack of time to manage these types of activities makes it very difficult for rural women to invest in improved technology. Women's groups, therefore, not only facilitate finance of improved technology, but also provide a kind of management infrastructure, in which the responsibility for oversight of economic activities can be shared among many women.

Lack of time does not apply to the same extent to urban women, who live in a cash economy and generally spend a large part of their day engaged in one income-earning activity. However, child-care responsibilities and household tasks do take up a substantial part of the urban woman's time. In fact, innovations that permit time savings in food preparation are generally well received in urban areas, and can form the basis of many profitable small enterprises.

### **Access to Credit**

The only system of rural credit with substantial national coverage is managed by the ONDR. This is the only system that has financial resources adequate to support the demand in rural areas for agricultural production and crop processing equipment. It is primarily active in the cotton zone. A variety of NGOs and donor funded projects provide credit, on highly variable terms, for diverse purposes, but only in localized areas. Private sector savings and credit systems in rural areas are small scale, usually with limited financial resources, which makes it impossible for them to provide more than CFA 10,000 to CFA 20,000 per borrower. (See Chapter Five for more details.)

Rural women have little access to credit of any kind. Only a few isolated cases of Associations Villageoises guaranteeing loans for women members were identified during the team's fieldwork. A number of projects and NGOs (SECADEV, GTZ, Africare, among others) have credit programs that target women, but these are again isolated instances amid a general situation of neglect.

Given the high cost of even the least expensive items of rural equipment, such as the *houe occidentale*, which sells for about CFA 30,000, credit is necessary for most buyers in rural areas. Women in particular seem to have more difficulty than men in accumulating capital, since they are subject to so many small financial crises in household management. Women in groups do seem to be able to save substantial amounts, but then the dilemma arises that group ownership of one piece of equipment requires constant negotiation for access by individual members. A plow, for example, is most useful just as the planting season arrives and the first rains have prepared the soil for cultivation. Three days later, the ground may be hard again.

### **The Present State of the Economy**

A great constraint for all investment in Chad at this time is the depressed state of the economy. Nonpayment of government salaries, the decline of the cotton market and late payment for the cotton crop, and other factors have resulted in deflation and a general shortage of cash in the rural economy. Any investment is only as profitable as market conditions will allow, and market conditions are changeable. Such conditions evoke questions such as, Can women in the Sahelian zone afford to purchase specialized implements when the price of peanuts crashes because many farmers in the Soudanian zone have decided to grow peanuts instead of cotton? and, Can anyone in a rural area make money with a

grain mill when villagers lack cash to buy food and medicine, and return to a barter system to meet their basic needs?

### **Technical Knowledge**

Women lack education because of cultural factors that prevent them from remaining in school. Lack of education makes it difficult to benefit from training, or to teach oneself from other sources. The ONDR does not provide extension services to women, partly because almost all ONDR agents are men, and partly because the ONDR has had a long-standing philosophy of supplying services in support of cash crops, which are primarily the province of men.

Consequently, one wonders whether women can make the most of an investment in a plow if they never receive any extension support to learn the proper technique for using the implement. Clearly, the case of a grain mill is far more complex and much farther removed from the experience base of village life.

### **Management Skills**

Lack of education is not always a severe impediment to success in business, as the great wealth of some African businesspeople with very limited formal schooling can attest. However, for most people, success is much more likely if they can read and write, keep records, do basic accounting, and learn from various sources by reading. Women are very aware that their lack of education is a serious handicap for them in business. While they may have a well-developed commercial sense, and understand the operation of markets and recognize a business opportunity, they usually cannot evaluate the return on an investment over time, keep track of a large number of people who have bought from them on credit, or evaluate the cost of a product they produce themselves. The larger the investment, the more complex the business activity, and the larger the number of customers and suppliers, the greater the handicap becomes. Consequently, as we have seen throughout this study, women in Chad run very small enterprises, with limited working capital, rapid turnover, and very small investments in capital goods aside from inventory.

The consequence of this situation is inability to make one's business grow. Inability to manage a substantial investment limits the types of technology women can exploit for their businesses, as pointed out above in the case of food processing, for example.

### **Positive Trends and Accomplishments**

In the course of fieldwork for the study, the team found many encouraging signs of change. These trends show the way for development efforts of the future, since they are a spontaneous response to changing economic conditions.

#### **Improved Means of Production**

Although there are no statistics available to indicate the number of plows or carts that have been sold to women or women's groups, the team did hear anecdotally of a number of such instances. AVs and NGOs are responding to requests from women's groups for access to this type of equipment. The fact that women are motivated to press for access to improved means of production, and that traditionally

male dominated ownership of rural equipment is being eroded indicates that there will be increasing opportunities to deliver training and inputs to rural women in the future. This is a challenge the ONDR must not ignore.

### **Food Processing Enterprises**

Micro-enterprises in the area of food processing in N'Djamena provide self-motivated employment for thousands of urban women (see Food Technology Survey, Annex B). Technical and management training should be provided to this large population of entrepreneurial women, to encourage their businesses to grow, and ultimately graduate to the level of small industry and the formal sector.

### **Demand for Management and Technical Training by Women**

All development organizations contacted in the course of this study confirmed that both urban and rural women are clamoring for literacy and management training. They also lack access to technical training in the areas of agricultural production and food processing, two areas of key importance for women's income in Chad. This lively interest in education and training is a very positive sign for any program seeking to strengthen women's basic skills.

### **Project and NGO Experiences in Appropriate Technology**

Diverse experiences with appropriate technology innovations indicate the range of possibilities in this field. The economic viability of these innovations remains in doubt at this time, largely because of the depressed state of the economy. The long-term economic viability of the workshops mentioned below will depend on improved conditions in the Chadian economy as a whole. The skills and techniques introduced, however, will certainly be adapted in time to fit the situation, because of the interest shown by project beneficiaries.

**Africare.** In the Ouaddai, Africare has demonstrated that improvements in storage facilities and processing techniques can result in increased incomes for producers of onions, garlic, and tomatoes.

**APICA.** In response to the widespread demand for a grain mill adaptable to the village economy, APICA is producing and testing the Mamy Rapide, a very small-scale hammer mill introduced from Cameroon. This mill, complete with small engine, should sell for about CFA 450,000, and should have a capacity exceeding 100 kilos per hour.

**PADS/CAT.** Artisans in N'Djamena and Moundou have benefited from training by PADS Centre d'Appui Technique (CAT) to develop their skills to manufacture and repair grain mills, pushcarts, and rural equipment. Demand for these items is constrained at present by the poor state of the economy and lack of credit facilities in rural areas. Widespread adoption of these technologies, however, guarantees a market for parts and services for this equipment in the future. A detailed break-even analysis of the grain mill manufactured by PADS/CAT Moundou is presented in Annex D.

**ACORD.** In Bokoro, the ACORD workshop has introduced bronze castings for local manufacture of parts that were previously all imported. The project manager plans to develop molybdenum motor-powered equipment for grain milling and transport.

### Private Sector Experiences

The test of a truly appropriate technology is its transfer to the private sector. Until this occurs, and the item or technique continues to exist in a project context, subsidized and promoted by forces outside the local economy, it remains suspect. This is the challenge all projects working with appropriate technology must face in order to justify their existence. Unfortunately, in the present state of the Chadian economy, those private sector institutions that provide technical innovations are hurting.

**SIMAT.** This private company has operated in Chad for many years almost entirely dependent on the "marché publique." Its main customer is the ONDR, since the ultimate buyer of the rural equipment it produces cannot afford this equipment without credit, and the ONDR is the only institution that offers rural equipment credit on any significant scale.

There is little doubt the equipment SIMAT offers is accepted as useful, even at a high price that appears to limit its profitability. SIMAT estimates the annual demand for plows and carts, for example, at about 3,000 units each, but sales lag far behind because of the state of the rural economy.

This would appear to be a viable role for those NGOs engaged in Appropriate Technology research and training. These organizations face real problems in the areas of raw material supply and finance, not for their own operations, but for the businesses of the artisans they seek to support. Efforts to link their skilled artisans with SIMAT, as sales agents offering after-sale services and parts, could be a very practical way to address these problems. SIMAT has both the interest and the resources to contribute to an effort of this type. This would at least address the supply side of the problem, although the demand side problem of access to credit will require different solutions.

It is lamentable that auxiliary private sector institutions, such as a network of distributors providing sales, parts, and services for SIMAT equipment, or private rural credit institutions to finance acquisition of this equipment, are almost entirely lacking.

Competition from subsidized projects such as APICA and PADS/CAT is not a healthy situation, either for SIMAT or for the Chadian economy.

**ECADA.** Located in Abéché, this private workshop serves as an outlet for SIMAT products, and provides parts and service after sale. Its owner is a former SIMAT employee, who has been able to sustain his enterprise so far based on a contract with GTZ. It is doubtful that the local economy can sustain this enterprise unless conditions improve.

## CHAPTER FIVE

### CONCLUSIONS AND RECOMMENDATIONS

The Women in Agricultural Marketing Study was oriented from the beginning toward three chief areas of investigation: training, credit, and appropriate technology. *main*

Most of the conclusions and recommendations of the study can be presented within this framework. A few additional remarks on other subjects are included at the end of this Chapter. A general discussion of the major findings of the study is presented in the Executive Summary.

#### TRAINING

##### Literacy Training

Any effort to provide training to women in Chad must address the issue of female illiteracy. Women expressed the desire for basic literacy training (alphabetization) more than any other request during the course of this study. This observation is confirmed by requests received by NGOs, church organizations, and others working with women's groups. Additionally, a comparison of surveys done in 1989 and 1993 by the DRHFRP reveals a dramatic increase in the percentage of women seeking literacy training. This is certainly due in part to the extremely low literacy rate among women in Chad, estimated in some areas at only 10 percent. It is also an indication of women's changing role in society and the economy, and their growing awareness that their lack of formal education is a considerable disadvantage in business.

There are many issues that must be addressed by any literacy program that go beyond the scope of this study. The question of local language training versus French or Arabic, for example, is fundamental in Chad. Availability of reading materials in local language is clearly a relevant concern. The issue of how to train teachers in appropriate methods for adult education is another. There is a need to develop training modules that provide functional literacy to adults, and that correspond to their needs and interests. These materials will be more effective if they are adapted to the cultural context in which they are used, which varies considerably from one region and ethnic group to another in Chad.

Specific recommendations in the area of literacy training include the following:

- **Initiate USAID support for the Comité d'Alphabetisation.** The Government of Chad's Comité d'Alphabetisation, which coordinates literacy training programs now located in four different ministries, would benefit from technical assistance and financial support from USAID. Assistance could focus on developing training modules that would teach basic business skills at the same time as basic literacy and math skills. It is also a substantial task to adapt these materials into local languages and train teachers in their use. Chad has many local schoolteachers, whether employed by the GoC or écoles spontanées (locally financed independent schools), or who teach reading benevolently, who would benefit from training in methods of adult education, and who lack basic didactic materials.

**Previous Page Blank**

- **Target special assistance to publishing reading materials in local languages.** Financing publication of reading materials in local languages would greatly support any investment in local language literacy training. The journal *Tob*, for example, is apparently very popular among Sara speakers, and is one reason for the success of alphabetization programs in that language. It also serves to disseminate information and training in a variety of subject areas of interest to the rural population. As this example shows, journals such as *Tob* are not only useful dissemination vehicles, but they also play a significant role in reinforcing and stimulating the demand for literacy training.

### Business Skills Training

Interest in business training is closely related to the great interest expressed in literacy, since the main reason women want to learn to read and write is so that they can manage their affairs more effectively. Any business training program for market women should take into account the substantial business experience and commercial sense that they already have, and build upon it. Since little is known at present about the level of skills these women possess, developing an effective training program would require some research and a period of trial and error. VITA's own program of business education is still in its trial phase.

As VITA's experience shows, it is appropriate to key business training to the level of education of the participants. To begin, three different levels might be identified:

- Illiterates with no formal education;
- Individuals who left school prematurely who have not used their skills for many years; and
- Educated women with functional skills.

Given this basic differentiation, business training programs should be developed that correspond to the needs and abilities of women at different levels of education and business skill. Specific recommendations are provided below to aid program design for participants at each of these levels.

- As suggested above, illiterate participants would best be served with literacy training materials that also introduce business concepts and management techniques. Training modules could be developed in local languages as well as French and Arabic. This corresponds to the notion of "functional literacy."
- The second group should be able to regain its basic reading and writing skills quickly, and should therefore be able to progress much more rapidly in a formal business training program. Record keeping, basic accounting, estimating profits and losses, preparing a balance sheet, loan application procedures, and basic concepts of the time value of money should all be accessible to women at this level.
- The third group is already organizing, with two new women's associations currently seeking formal recognition: AFTEC in Moundou and AFTC in Djamena. Business education for members, and services such as business training to market women are stated objectives of these organizations. They can be assisted to set up and operate training programs as one way of reaching out to a larger population of educated businesswomen, as well as market women.

## Agricultural Extension Programs

In addition to literacy and business training, rural women also need agricultural extension services. The ONDR is aware that this is a serious oversight, but currently lacks resources to address the problem. Women's crops have been neglected by the research and extension services, and ONDR extension agents have apparently never offered training programs that specifically target women's needs. Basic agricultural production techniques, and the use of improved production technology such as the plow, seeder, and other animal-drawn implements, should be the priority for women's extension programs. There is also a need to develop technical packages for women's crops. Therefore, the team recommends that USAID support the development of agricultural research and extension programs targeted toward women's crops. Were resources available, the ONDR could extend results of programs like Africare's in the Waddai, where a number of significant and highly successful innovations in onion, garlic, and tomato storage and drying have been introduced. Oilseed processing, fruit and meat drying, and milk handling are important to women as well. Technical innovations in these areas are available in other African countries, but in the absence of an extension service that responds to women's concerns, information and technology transfer will remain problematic.

## Training Implementation Considerations

### Urban Areas

In urban areas, programs are often inaccessible to market women or discourage their participation by failing to recognize the time constraints women's business activities impose on them. Transportation is also expensive and difficult, particularly in large towns. Therefore, the provision of both literacy and business skills training could be rendered more effective by setting up a network of small meeting places located next to the major markets. This would greatly facilitate access to services and training for market women. Such "market women's centers" could offer many advantages. Namely, they could do the following:

- Provide a point of contact with clients for VITA or other lending programs;
- Make daily or weekly short courses (perhaps only 15 minutes a day) in basic business skills easily accessible to women;
- Provide a classroom for basic literacy training;
- Offer a location for extension services or other technical training services, such as hygiene in food processing or improved food processing technology demonstrations; and
- Provide continuity in training programs, allowing for "recyclage" as well as progress to more complex topics for participants in extended courses.

The centres sociaux make up an existing network that already serves some of these purposes, and could be further supported to expand the range of services offered. It is very important to design women's programs around their daily business schedule and household activities. The windows of opportunity that seem to be most accessible to urban market women are the early morning hours, late afternoon, and early evening. While these hours may not be convenient for project or government

personnel, designing programs with this schedule in mind will greatly increase the participation of busy market women.

Another important implementation issue that is a particular problem in urban areas is the division of training responsibilities among all the various public, project, and NGO actors. The potential for conflicting and redundant interventions will increase as programs multiply, especially if additional support is mobilized to permit expansion of urban credit programs, such as VITA's, that benefit women and include significant training components. Although there are quite good reasons for targeting women who receive credit for business and literacy training (such training can prove invaluable in helping them develop the necessary financial management skills to use the credit provided effectively), it is an open question whether such training should be provided by the credit institution or some other source.

At least two considerations indicate that an independent training service would better serve the needs of both the women and the credit institution:

- The cost of training is an added financial burden upon the credit institution, which makes long-term sustainability more difficult; and
- Credit institutions tend to provide training to their clients that meets the needs of the credit institution, not the client. This is understandable, since the priorities on the two sides are not the same. Unfortunately for the lender, training in record keeping, which enables the borrower to account for cash flow more accurately, may not help solve more urgent problems for the borrower's business, such as tracking and recovering bad debts.

### **Rural Areas**

In rural areas, government sponsored schools, écoles spontanées, centres sociaux, Centres de Formation Professionnelle Agricole (CFPAs), and other existing institutional structures are being used for training. Many of these are in poor condition and lack materials, and, of course, their teachers are not being paid. The acknowledgment that neglecting women's education during the last 15 years has been extremely costly to Chadian society should encourage investment in these structures. USAID should support the provision of technical assistance targeting rural women through these institutions. The experience of INADES in rural education and training of all types deserves mention. Reactions encountered by the team in the field indicate that INADES is an effective training institution whose services are greatly appreciated by those who have participated in their programs.

In addition, training in local languages is essential in reaching rural populations. The radio remains one of the best ways to reach the rural population. For programs to target women successfully, they must be broadcast in local languages. For training interventions necessitating a physical presence in rural areas, NGOs and other technical services often complain of the difficulty of finding educated women who speak local languages who can serve as teachers or trainers. This is a practical problem for which there is no easy solution, but that planners must consider.

## CREDIT AND FINANCE

### Overview

There are a number of fundamental issues that make credit and savings programs difficult in Chad. Security is a concern in both urban and rural areas. Often, the army, police, or other government services that are supposed to ensure security are the source of the security problem themselves, as they either impose "unofficial taxes" on people, or simply rob them by force of arms. Many such incidents were reported anecdotally to the team. Many rural savings and loan associations (CRECs) have been wiped out in this manner.

Traders are often obliged to pay a heavy "toll" as they travel the rural roads. The team heard reports ranging from CFA 5,000 for a commerçante navette in the local grain trade to CFA 200,000 for a gros-porteur traveling from D'Djamena to Moundou. These unexpected expenses are so frequent that they seriously impair the functioning of the marketing system. While the team was in country, a transporters' strike stopped virtually all road traffic for three days in protest over this type of taxation.

Chad's general business environment is very unfavorable, which both discourages investment and makes loan repayment difficult. Poor infrastructure, weak financial services, a burdensome and complex system of taxation and administration, and high costs associated with the physical isolation of the country are just a few of the major problems confronting the business community in Chad. The present situation caused by nonpayment of government salaries, falling prices, and late payments for the cotton crop has created a financial crisis of gigantic proportions in both urban and rural areas.

All these factors conspire to erode the profitability of enterprises at all levels, and consequently impair businesses' ability to invest and service debt. Nevertheless, at the firm and individual levels, there is a huge unmet demand for financing that is reflected in the enormously high interest rates charged in the informal market and the significant cash discounts available almost everywhere. Although an overall solution to Chad's severe financial sector difficulties depends on the resolution of the security issue and on a return to macroeconomic health, there is still much room for improving the use of financial resources even without waiting for these desirable macro-level developments.

Specific recommendations to enhance the financial sector's ability to offer much needed services to both women and men are described below. Recommendations are divided into those that are relevant for urban and rural areas.

### Urban Areas

#### **Informal Finance**

Although a very active informal credit system operates in most urban agricultural commodity markets that is sustainable, easily accessible, and offers minimal risk for the lender and borrower, it suffers from several major disadvantages:

- The limited amounts available per borrower make it suitable only for relatively low levels of market activity; consequently, the system is unable to supply any sort of investment capital;

- It is costly to the borrower, although the costs are mostly hidden, since the apparently high "interest" charges are only one element of the cost; and
- It does not encourage savings, or provide any mechanism for interest-bearing deposits.

The most common form of informal finance for urban women is the familiar tontine system. Market women use tontines as a substitute for a savings system. They are a means for women to accumulate cash, but they do not pay interest like a true savings deposit system does. In the absence of an accessible banking system with credit and savings components that is oriented toward micro-enterprises, the tontines are the second-best solution. The proliferation of tontines even in this period of economic crisis demonstrates that money is available for savings.

Designing recommendations to improve the informal financial sector's efficacy is a difficult proposition. The most glaring omission in the array of services offered by moneylenders and tontines is the lack of a true interest bearing savings instrument. Existing NGO and project interventions to provide credit have not addressed the savings issue, despite the fact that informal moneylenders and tontines (many of which are formed by women) have proven their abilities to mobilize funds that could form the basis for savings deposits. The mobilization of savings in the informal sector is a critical part of any strategy to improve the efficacy of the Chadian Financial sector, which at present seems to be uniquely focused on the credit side of the equation. USAID should target support for the support of savings mobilization initiatives. A first step would be an in-depth study looking at the current problems in this area. Such a study would look into such key obstacles hindering savings mobilization efforts as:

- **The role of interest rate caps and subsidies on lending operations.** Existing credit programs are extended at unsustainably low interest rates (zero percent for OXFAM, 13 percent for VITA), making it impossible for such schemes to generate enough revenue to remunerate savers and cover costs.
- **The problem of scale and delivery cost.** Since existing forms of grouped savings (the tontines) have a changing membership and are rather ephemeral, they may not be appropriate vehicles for raising medium and long-term savings. On the other hand, individual-based savings schemes in the informal sector are likely to deal in large numbers of small sums and will incur extremely high operating costs that would threaten the whole enterprise's viability.
- **The security issue for savings deposits.** Few Chadians have any confidence in the ability of the banking system to protect their savings from graft or from expropriation in times of political instability. The physical security of deposits is also a very real concern.

### Formal Finance

Because of the limited size of loans made available through the informal sector, as well as their high costs, specific formal credit and savings programs play a vital, and all too small, role in providing financial services to both women and men engaged in agricultural marketing, processing, and other small-enterprise activities.

In view of this and contingent upon one factor described below, the team recommends that USAID increase support for the VITA lending program to permit its extension to other urban areas and more intensive coverage of areas where it currently operates. As detailed earlier, VITA has only begun to scratch the surface of the demand for short-term cash credit. Because cash credit has not been

generally available until very recently, and VITA's program remains relatively unknown, many market women are unaware that it is an option with major advantages. VITA's micro-loan program deserves continued support, particularly since 80 percent of borrowers under this program are women, most of whom are engaged in agricultural marketing or food processing. It would appear to be the only lending program that is capable of meeting the needs of urban market women for cash credit at this time. Women who benefit from VITA loans should have access to literacy and business training to enable them to improve their management skills. This training should focus on the problems that arise as small businesses expand, since this is the primary objective of borrowers in the VITA program.

Support for VITA will require more than just continued and expanded funding. In fact, one of the most important constraints inhibiting the sustainable expansion of VITA's operations is a matter of regulation, which must be addressed before any real expansion is initiated. This regulatory problem concerns the GoC's policy of setting an interest rate cap of 13 percent on VITA's loans. All indications are that this rate is extremely low in comparison with alternative sources of financing, and certainly is far below the opportunity cost of capital in the agricultural marketing system. When wholesalers charge the equivalent of 5 to 10 percent a week for trade credit, and still say they prefer to do business on a cash basis, clearly the opportunity cost of capital is very high. Raising the interest rate VITA can charge will have a number of beneficial effects. Principally it will do the following:

- **Enhance the sustainability of the entire VITA program.** With its lending rate capped at 13 percent, it is illusory to think VITA can maintain its current operations without significant long-term donor financing, much less embark on any expansion. Raising the ceiling to something more closely approaching the informal market rate would furnish vital income VITA needs to continue functioning and reduce its dependence on donor funds. Even if the rate increased to four times its present level, it would still be very competitive with the informal system, and offer other advantages (such as liquidity, longer-term repayments, loan size geared to a business plan, and access to training) that the informal system cannot. How?
- **Increase VITA's pool of reserves and loanable funds.** In addition to paying operating costs, increased interest income can also be earmarked to improve VITA's loan reserves (thereby building VITA's stability), as well as be recirculated to new borrowers (thereby extending its reach into the market).
- **Enhance the productivity of VITA's loans.** Because of their below-market interest rate levels, VITA loans attract customers interested in a wide variety of investments — many of which would be negative net present value investments were they to be evaluated at something approaching market rates. Raising the interest rate ceiling on VITA's loans would help weed out these less productive investments by both discouraging marginal borrowers and by prompting loan officers to apply more rigorous standards. Given the severe shortage of any sort of investment funding in Chad, it is vital that the relatively small amounts of funds flowing through such programs as VITA's be channeled to the most productive uses.

USAID and the GoC should also concentrate their efforts on improving the policy environment for SMEs, which would further enable borrowers to benefit from access to credit. VITA requires that its informal clients register their businesses (graduate to the formal sector) in order to become eligible for loans in excess of CFA 300,000, and for the long-term lending program. At present, government administrative practices, nonpayment of salaries (which encourages corruption), the complex tax system, and lack of any incentive program geared to the special concerns and needs of SMEs heavily discourage Regula  
A?

the transition from the informal to the formal sector and cause some potential borrowers to forgo possible investments that could be financed through VITA's loan program.

There would appear to be some opportunity for VITA to expand its program to Sarh, and perhaps to Abéché and other towns. Moundou, where VITA already has a successful branch office, is an exceptionally favorable area for a formal credit system, because the economy there is still relatively monetized, even in the present circumstances. However, before any such expansions are actually carried out, it is crucial that the issue of the interest cap be addressed, since it would be ill-advised to embark on a large-scale expansion of VITA's geographic scope while such a serious barrier to the project's sustainability remains in effect.

## Rural Areas

Demand for credit appears to be high among rural women, although no systematic survey is available on this question. Rural women need credit to gain ownership of improved agricultural production technology, crop processing equipment, means of transport, and trade.

In rural areas outside the market towns, women have very little access to credit, and VITA only operates in urban areas. Other NGO programs are very localized, and men are the primary beneficiaries, although all NGO rural credit programs do seem to be making a conscious effort to increase access to women. Even the Catholic charities, SECADEV and BELACD, have only recently begun to offer credit to women's groups. A few AVs are reported to have passed loans on to women in the context of the ONDR's program of credit for rural equipment.

To improve the overall availability of credit in rural areas, and to facilitate in particular women's access to it, several steps can be taken:

- **Publicize the positive experience of the few AVs that have loaned money to women's groups through the Marchés Auto-Gérés system.** In the cotton zone, credit for rural equipment is currently available mainly through the ONDR, under the system of the Marchés Auto-Gérés (MAG). This system is essentially controlled by men through AVs. The AVs must guarantee all loans for their members, since repayment for all individual loans is withheld in a lump sum from the value of cotton delivered. Only a few AVs have recognized women's groups and assented to their demands for access to ONDR funds through the MAG, with quite positive results. The experience of these AVs could be communicated via Radio Rurale to speed the dissemination of this practice.
- **Use the experience of the most successful rural lending programs to extend such programs in a more general fashion.** Some rural lending programs have been more successful than others. In general, credit for agricultural marketing activities, particularly for cereal banks, has shown poor results, due in part to very unusual price patterns last year. The most promising program of this type encountered during this study is Africare's credit for vegetable storage in the Waddai. This system imposes strict technical requirements on borrowers for participation, and limits the risk of both lender and borrower by setting a low lending ceiling relative to the value of collateral (50 percent of the current market value of inventory). It is also innovative in offering a package of technical assistance for storage and processing technology, market information, and management training, while allowing borrowers to make all decisions relative to marketing of their crop. Indeed, Africare's credit program appears to be the best model available for supplying crop marketing credit in Chad.

- **Target the incipient rural savings and loan movement for further support.** The approach that holds the greatest promise for meeting Chad's rural credit needs in general is the rural savings and loan association movement. The caisses rurales d'épargne et crédit (CREC) and caisses d'épargne et crédit (CEC), centered respectively around Gore and Pala, have demonstrated that the concept is viable. Two Chadian NGOs, the Association d'Appui aux Initiatives Locales de Développement (ASSAILD), based in Moundou, and DARNA, based in N'Djamena, also have experience working with rural savings and loan associations. So many organizations are currently involved in supporting this movement that regional coordination meetings have begun. While this effort deserves support, identifying a role for USAID would require further study and dialogue with the large number of institutions currently involved. The experiences of other African countries are relevant in Chad, and funding for travel to and study of such countries for local NGO staff working in this field would be very beneficial. Any substantial commitment to technical assistance would have to depend upon improved security in rural areas, since this remains the single biggest constraint to development of this movement.

### APPROPRIATE TECHNOLOGY

The search for appropriate technology in use in Chad revealed a variety of items, ranging from animal-drawn plows and carts to hand-operated peanut dehullers to small manual grinding mills and pasta machines to motorized spice mills and grain mills. Virtually all of this equipment is manufactured and distributed entirely by the private sector. The most important enterprise providing appropriate technology equipment in Chad is SIMAT, a French-owned manufacturer located in N'Djamena that produces animal-drawn agricultural implements. Other sources are primarily private traders who import equipment ranging from hand-operated grinding mills used for making peanut butter (the best model of which is manufactured in Colombia) to motorized stone mills for grinding grain to flour (most of which are manufactured in India).

Given that the private sector is already active and effective in providing appropriate technology to women in both urban and rural areas, the interventions that are most likely to improve women's access to productivity enhancing equipment are those discussed above under the headings of training and credit. The overall strategy of USAID and the GoC should be to continue to support the supply of these technologies through the private sector, as this approach is likely to have much greater long-term sustainability than a more piecemeal, project-based strategy would.

Currently, a very active debate is under way concerning the role of NGOs and projects in the appropriate technology arena. True private sector operations, like SIMAT, cannot compete with project or NGO subsidized operations like PADS/CAT, APICA, or ACORD. All protests to the contrary, it is very rare indeed that these subsidized institutions fully load the cost of their products with all relevant charges, such as the true cost of the management expertise they employ, or the finance charges associated with carrying a raw materials inventory adequate to justify offers to the marché publique. Therefore, for reasons of long-run sustainability, it is important to use private sector channels for appropriate technology dissemination where they exist. Where the private sector approach proves impractical, NGOs and projects should be required to develop a strategy for developing the private sector's capacity to supply and maintain the technologies being introduced.

This private sector focus is not meant to imply that NGOs and projects are not doing valuable and useful work. They bear the cost of innovation and testing of products (for example, APICA's

"Mamy Rapide" village grain mill), which the private sector would be unwilling to bear. They also provide training and encouragement to local artisans, which improves the quality and diversity of parts and services available, as evidenced by the programs of ACORD and PADS/CAT. In the long run, this helps ensure competition for the market presently served almost exclusively by SIMAT. However, the government is correct to insist that institutions with nonprofit status cannot submit offers to the public market in competition with the private sector (although, in practice, this prohibition is not always respected).

The artisans who receive training and support from these NGOs are legitimate players in the marketplace; however, they generally lack the resources (financial and managerial) to successfully tender offers to the public market. An interim step toward developing local manufacturers with this capability might be to encourage business relations between the artisans and SIMAT. Artisans could play the role of distributor and service agents for SIMAT. SIMAT might be able to finance most of their inventory of equipment and parts, and provide training in management. The advantage to SIMAT is not only a larger distribution network, but also a step in the direction of escaping from the monopoly of the state, a source of much difficulty for SIMAT. For this operation to succeed, some source of rural credit other than ONDR must be developed.

Given this fundamental strategy of providing appropriate technology through the private sector whenever possible, the study team can offer three other specific recommendations to USAID and the GoC to improve the use and dissemination of appropriate technologies by both women and men. These are outlined below.

1. **Stop providing subsidized hand-powered equipment.** The experience of the UNDP/UNICEF-funded Centre de Technologies Appropriées workshop in Farcha clearly shows the futility of trying to alleviate rural women's workload by introducing small hand-powered equipment. Manual equipment does not reduce the workload, and "appropriate technology" of this type has been universally rejected by the rural poor, except when the product in question (cooking oil, for example) was otherwise unavailable or extremely expensive, which does not seem to be the case in Chad.
2. **Re-evaluate current policies toward promoting motorized grain mills.** The technological improvement Chadian women desire most is the grain mill. To fulfill this desire, NGOs are currently encouraging women's groups to invest in it. Unfortunately, it is not at all certain that widespread promotion of grain mills is, in fact, desirable. There are two main reasons to argue for a revision of current promotion policies and a more cautious approach to this technological innovation.

The first is that the current state of the rural economy is not at all favorable to grain mill investments. It is not apparent that many of the grain mills in operation at the moment are profitable. An analysis of a grain milling operation shows that the break-even point can be reached in about 40 hours of operation per month (See Annex D). In fact, most of the mills visited during the course of this study that were located outside of major urban areas, and many of those located in urban centers, are barely reaching this level of operation because of the current economic crisis. Saturation of the market is already occurring in some areas, and mill owners are unable to move further out to serve the population in surrounding areas because of the rural financial crisis. In this context, the trend among NGOs to promote rural women's ownership of motorized grain mills is likely to create more problems than it will solve.

The second reason to reconsider the strategy of promoting the ownership of grain mills by women, either individually or in groups, is that few women possess the technical and managerial skills needed to operate a grain mill successfully. Donors and NGOs should recognize that women benefit from access to a grain mill regardless of the gender of the owner. Consequently, policies and programs to promote this technology should be designed not to exclude men.

Rather than focusing narrowly on the investment aspect of the motorized grain mill, the GoC and donors should be concentrating on removing obstacles to its adoption, and allowing the private sector to fulfill the need when the investment is deemed to be feasible. Thus the types of training and credit programs described above that are directed at both men and women can improve access to this technology and improve the chances for its profitable and sustainable use. Similarly, government policies to encourage grain mill operations, such as offering tax breaks during periods of debt service, could be helpful. The government could also help by reviewing import duties on raw materials, electric motors, and engines that are dedicated to agricultural production and processing. Review of national policy and actual practices of the public market might also be appropriate, although this is an area the team did not have time to investigate.

3. **Support appropriate technology exchange programs with other Sahelian countries.** Chad is in the unenviable position of lagging visibly behind other Sahelian countries with similar economic circumstances, such as Senegal, Burkina Faso, and Mali. The positive side of this equation is that many experiences of these other countries should be readily applicable in Chad, particularly in the areas of food technology and small enterprise promotion.

Government experiences in these countries with marché publique policy, tax incentives for small enterprise, and various donor-funded promotion programs would offer useful insight into avenues for private sector development in Chad.

USAID could support exchanges with other Sahelian country food processing institutes, projects, and private companies involved in technical innovation. Funds could be made available for travel for GoC experts and private entrepreneurs (both men and women) to visit the Nigerian private sector, Senegal's Institut de Technologie Alimentaire, Mali's innovative small enterprise promotion projects, and Burkinabe entrepreneurs. Funds to support travel for foreign national experts and private companies to set up demonstrations of successful innovations and promote their businesses in Chad, perhaps as an international appropriate technology/small enterprise trade fair could also help stimulate exchange through the private sector.

## ADDITIONAL CONCLUSIONS AND RECOMMENDATIONS

### General Issues for the GoC

#### Lack of Follow-Through on Women's Issues

The GoC has espoused a "transversal" sectoral development policy, which means that each ministry must act on its own to include women in activities under its guidance. There is no overseer to

coordinate these actions or to incite ministries that are slow to generate ways to address women's problems. The Ministère de la Condition Feminine has at present neither the means nor the weight to assure that other ministries take women's issues into consideration in developing their policies and projects.

Because of this diffusion of responsibility for women's issues, there is a need to carry to fruition activities under way already. One pressing area in which the GoC should act rapidly is the finalization of legislation and establishment of procedures to enable pre-co-ops and other women's associations to gain legal status.

### **"La Code Familiale"**

FNUAP's idea of developing a "code familiale" has merit, but the GoC should be aware that in other African countries such a code has in some ways created more restrictions than freedoms for women. Such a code requires negotiation and compromise among different legal and religious traditions. In the process of compromise, liberal traditions that may already be recognized on a de facto basis are sometimes superseded by more restrictive practices. It may be better to maintain the present situation in which conservative laws are honored inconsistently than to create new laws that will have to be upheld. Given that women's status in Chad is evolving so rapidly, there may be an advantage in leaving some issues unclear, even if this means that some women in conservative areas are disadvantaged, so that the situation for most women can continue to evolve.

## **Project and Program Design Issues**

### **The Lack of Gender-Specific Data**

The Direction de Statistiques Agricoles could gather and codify gender-disaggregated data. Some of the information can be gathered without increasing the burden on the DSA. For example, the questionnaires now identify the respondent by name (from which it may be possible to determine sex) but not sex. Adding such a mention would be easy. It could also be useful for agricultural policy purposes to identify the cropping patterns characteristic of female-headed rural households.

### **Greater Attention to Agricultural Research on Women's Crops**

Donors could fund studies and projects to offset the long-standing neglect of "women's crops," which, in fact, make a major contribution not only to households but to the national economy. Crops such as peanuts, sesame, vodanzeia, taro, beans, and hibiscus could be targeted for improvement in order to increase women's income, not only from production but also from processing and marketing. The CGIAR-World Bank and international agricultural research organizations may be able to offer suggestions on this topic.

Women should also receive agronomic training on "women's crops." The ONDR's efforts to work with women's groups in the Mayo-Kebbi under the UNIFEM/PISB project should be monitored for "lessons learned" on extension work with women. Additionally, ORT, an NGO that has expertise in training and extension work through local délégués techniques in Chad, could propose a project to improve agricultural techniques surrounding women's crops under the upcoming PVO umbrella project.

## BIBLIOGRAPHY

- Abdel-Kader, Khadidja. 1993(?). "Exposé sur la Femme Rurale au Tchad." Ministère de l'Agriculture et de l'Environnement, DRHFRP.
- Adoum, Carol. 1991. "Addressing the Constraints of Chadian Women." USAID/N'Djamena.
- Agala, A., et al. 1993. "La Filière Gomme Arabique au Tchad." Ministère de l'Agriculture et de l'Environnement, Octobre.
- Allen, Hugh. 1992. "Report on Orientation Field Trip to Care Tchad - Kanem Pumps and Agricultural Marketing Project, N'Djaména Market Women's Project." CARE, June.
- BIEP. 1989. "Temps de Travail Feminin et Inventaire des Technologies." Ministère des Affaires Sociales et de la Promotion Feminine et Ministère de l'Agriculture, Octobre.
- BIEP. 1992 (in draft). "Les Filières Céréales au Tchad - Plan Provisoire de l'Aspect Transformation." Ministère de l'Agriculture.
- Brown, E.P. 1992. "CARE Community Development Project Baseline Study-Moyen Chari." CARE International.
- Conseil National du Patronat Tchadien. 1992. "Mémorandum Présenté à la Conférence Nationale Souveraine." Decembre.
- Crouzet, Jean G. 1993. "Project VITA/PEP.- Interest Rate Study." VITA, July.
- DEVRES, Inc. 1992. "Chad Child Survival Baseline Survey-Project #677-0064." Devres, Inc., Bethesda.
- Fall, Serigne. 1990. "La Promotion des Technologies Appropriées pour les Activités Socio-Économiques des Femmes - Bilan-Diagnostique et Propositions d'Appui." PNUD/UNIFEM, Decembre.
- Ferre, T. et Muchnik, J. "Le Netoutou au Sénégal." Systèmes techniques et innovations. Nov. 92.
- \_\_\_\_\_. 1991. "Methodologie de Conception de Prototypes - Procédures de Tests - Essais sur Prototypes - Pre vulgarisation dans les Sites (23 Mai au 19 Juin) Rapport de Mission d'Appui II." PNUD/UNIFEM, Juin.
- Fonds d'Intervention Rurale. 1991. "Schema pour la Mise en Place d'un Système de Crédit Rural." Juillet.
- GOC. 1990. "Plan Directeur: Formation des Ressources Humaines pour le Developpement Rural du Tchad a l'Horizon 2000." N'Djamena.
- Haynes, Dina F., et al. 1990. "Micro-Enterprise Market Survey." VITA/Peace Corps/CARE, September.
- Hennart, Jean-François. 1992. "The Informal Sector in Chad." IRIS Working Paper.

- Isern, Jennifer and Walter West. 1993. "N'Djamena Market Women: Towards Economic Security." CARE, September.
- Jantio, Roger B. 1991. "Chad Financial Sector and Private Sector Financing." IRIS Working Paper.
- Ministère des Affaires Sociales et de la Promotion Feminine. 1990. "Séminaire d'Identification et d'Evaluation Préliminaires des Besoins des Femmes Tchadiennes - Compte Rendu des Travaux." Avril.
- Ministère du Plan et de la Coopération. 1991. "Préparation du Séminaire sur la Promotion du Secteur Privé au Tchad." Mai-Juin.
- Mock, Christopher. 1989. "Agricultural Marketing in Chad: Preliminary Project Identification Assessment." USAID, August.
- Nathan, Robert R. Associates, Inc. 1989. "Profile of Potential Gum Arabic Industries in Chad." USAID/N'Djaména, October.
- Ngakoutou, Rone Beyam. 1991. "Enquete sur les Conditions de Vie des Menages a N'Djamena, Fev-Mars 1991." PADS.
- Njock Nje, Yvonne. 1992. "Mission d'Identification des Besoins d'Assistance du FNUAP - Volet Femmes Population Développement." FNUAP, December.
- Noor, Mariam Mahmat. 1993.
- "Préparation du séminaire sur la promotion du secteur privé au Tchad." Ministère du plan et de la Coopération.
- "Résultats d'une enquête sur la consommation et la vente de poudre et de concentré de tomate à N'Djaména (Tchad)." Christian Seignobos; Mars 1977.
- Thuillier, C., Hounhoungar, J., Devantour, H., Naga M. Muchnik J. "Filières courtes et artisanat alimentaire au Bénin." Juin 1991.
- Yumiseva, Hilda. 1990. "Chad: Agricultural Marketing Policies." Abt Associates, May.

**ANNEX A**  
**MARKET WOMEN SURVEY**

## INTRODUCTION

The following analysis is a part of the Agricultural Marketing Technology Transfer (AMTT) project study on Women in Agricultural Marketing (WAMS). The study was designed to provide information that can assist the USAID mission and the Government of Chad (GoC) to develop policies and programs that will help women to participate more fully in a wide range of marketing activities. Although anecdotal information exists on women's activities in Chad, this is the first quantitative survey of various aspects of Chadian women's involvement in agricultural marketing.

The survey explored several questions about women's involvement in agricultural marketing with broad brush strokes. The questionnaires were refined several times early in the study to include more detail on topics that were more complex than originally thought to be. Even with this, the survey does not treat any of its major areas exhaustively. In most of the areas, the survey provides merely a glimpse at conditions affecting the role of women in marketing. Perhaps one of the most important contributions that the survey makes is to pinpoint those areas for further study that most influence women's marketing activities and have the most potential for developing suitable interventions.

## METHODOLOGY

Although women are involved in almost all levels of the agricultural marketing structure in Chad, in most subsectors of agriculture they are most likely to be found at the top and bottom of the marketing chain. Because of limited time and resources, the team chose to focus on the retail and demi-grossiste level, where women are found in the greatest numbers.

Retail sellers are defined as women who sell primarily to consumers. Demi-grossistes (small wholesalers) usually sell to retailers, but may also sell directly to consumers. Retailers with small amounts of capital and who sell dried vegetables (tomatoes and okra) and onions and garlic often buy from demi-grossistes who will sell in quantities less than a full sack. The demi-grossistes who sell cereals sell to retailers by the sack. Not only is the concentration of women greatest at this level, but they also constitute a fairly stable and accessible group, which tends to make interventions more cost-effective.

Data were collected in October and November 1993, by market surveyors using a questionnaire that was prepared by the WAMS team. The questionnaire was prepared in French, but the questions were asked in the preferred language of the market respondent. This included Arabic, M'Gambaye and Sara.

The WAMS team supervised data collection in all of the markets except for the Abeche market. Unexpected security problems occurred in Abeche the day that the team was scheduled to travel to Abeche. However, market surveyors hired by the WAMS team were already in Abeche and carried out the interviews without supervision. They were able to complete only 22 interviews. Interviewers state that older women were more reticent about being interviewed and were under sampled in Abeche.

The best time for interviewing was found to be from 9 AM until about 1 PM. Interviews were conducted in the market place at the hangar (market stall) where women were selling. Interviewers tried not to interfere with selling and would suspend the interview during sales transactions. Market women were least likely to be free to answer questions earlier in the morning when setting-up or later in the afternoons when packing their goods to leave the market.

About midway through the survey, the team found that the "tontine" (a type of saving club) plays a crucial role in women's accumulation of working capital for their supplies. As a result of this, a separate tontine questionnaire was prepared to investigate in more detail the role of the tontine in women's agricultural marketing. This questionnaire was administered in the daily market at Moundou (one of the major urban areas) and in weekly markets in Bebalem, Lai and Bongor.

### Sample

The study was conducted in daily markets in four major urban areas: N'Djamena (NDJ), Abeche (ABCHE) Moundou (MDOU) and Sarh.

#### Urban Respondents

N'Djamena: Central Market, Millet Market, Cholera Market and Dembe Market 90 respondents

Abeche: 22 Central Market

Moundou: 45 Central Market

Sarh: 48 Central market

Total 205 Respondents

Interviewing was also carried out in seven weekly, rural market towns: Lere, Bongor, Koumra, Goundi, Lai, Kelo and Bebalem. Because of the small samples in each of these areas, data was combined by ethnic region and was analyzed in the following groups:

#### Rural Respondents

Lere/Bongor: 36

Koumra/Goundi: 30

Kelo/Lai: 22

Bebalem: 11

Total 99

Selection of a statistically valid random sample was not possible because of the time constraints and the high number of interview refusals. The market women interviewed were self-selective in that many of those approached declined to be interviewed. The refusals appeared to be random. The exception to this was older women who sometimes refused to be interviewed because they said they had already been a part of too many surveys and they had seen no benefit from it. In the weekly markets in the villages, interviewers found some ethnic groups more reticent than others about being interviewed.

Because the sample of respondents was not statistically random, it cannot be statistically validated as representative of the population of market women. However, the consistency of the statistical information in the urban and rural areas and the its consistency with the team members' observations and in-depth interviews with individuals and focus groups, leads the WAMS team to believe that the data paint a very real picture of women in agricultural marketing.

## Scope of the Study

The study profiles market women in terms of life cycle, family status and financial responsibility to the family. It looks at the level of their commercial activities: motivation and dedication to their business, availability of resources and decision making options, their marketing skill and experience. An importance of part of the study is information on accessibility, cost and adequacy of the credit system and the tontine savings system that is in place in the markets.

## How to Read the Frequency Tables

The data for the tables in this report are taken from those found in the Annex of Statistical Tables. The Statistical Annex provides the reader with the number of responses and respondents as well as the percentages. The tables in this report show only the percentages. Most of the tables in this report have a component which compares urban and rural areas and a second component which shows a comparison of the four large urban cities. A comparison of the four rural areas is not shown in the report because of relatively small samples within each of the rural areas. However, for readers interested in this data, the analysis is provided in the Annex of Statistical Tables.

In the urban/rural analysis, the table columns are labeled:

"URBAN RURAL TOTAL"

Percentages are based on column totals, and will usually add to 100%. If the column responses should add to 100% this will be shown as "100%" at the bottom of the column. If "100%" is not shown at the bottom of the column, then the percentages should not be added. In some questions, respondents were allowed to give more than one response, and on these tables, the column total will add to more than 100%. The TOTAL column represents a "weighted average" of the URBAN and RURAL columns. The percentages in the TOTAL column are not additive to the URBAN and RURAL columns.

The table component comparing the four urban areas are labeled:

"NDJ, ABCHE, MDOU, SARH, TOTAL"

The percentaging of data is the same as for the urban/rural analysis.

## PERSONAL/FAMILY PROFILE

### Age

Traditionally, the age of a woman in Chad has been a factor in the amount of personal and financial independence she has within her marriage. In many ethnic groups, the marketing activities of young women of marriageable age and newly married women were restricted by traditional attitudes. Only the woman of mature years was given freedom to engage in business in towns and cities. However, the losses of husbands and other male family members from the disruption of war has created a large number of young women who are widowed. Socio-political disruption and unemployment has driven husbands to seek employment away from their families and has left a substantial number of married women as heads of households and the sole wage earner for their family. In this study 55% of the

women interviewed were less than 36 years of age and 17% were less than 26 years old. Although there is no baseline information to measure the change in the proportion of young women in the market, younger women were well represented in the markets with no indication of discrimination because of age.

TABLE 1  
AGE OF RESPONDENTS

Years	URBAN	RURAL	TOTAL
15 - 25	16%	18%	17%
26 - 35	32	47	38
36 - 45	35	28	32
46 - 55	14	5	11
55 +	3	2	2
TOTAL	100%	100%	100%

Years	NDJ	ABCHE	MDOU	SARH	TOTAL
15 - 25	12%	27%	9%	19%	16%
26 - 35	27	27	44	31	32
36 - 45	41	23	44	29	35
46 - 55	18	14	3	19	14
55 +	2	9	0	1	3
TOTAL	100%	100%	100%	100%	100%

In a comparison of urban areas, market women in N'Djamena were found to be older than in the other urban centers. In Abeche, an exceptionally large percentage of the respondents were less than 26 years of age because of the reluctance of older women to be interviewed. However, interviewers confirm that younger women are a substantial part of that market as a result of many men being involved in military activities and economic difficulties in the area.

### Marital Status

In the survey sample, two-thirds of the women were married. The proportion of married women was similar in the urban and rural areas, but women in the urban areas were twice as likely to be widowed than in the rural areas. One reason for this may be that the urban market sample was somewhat older.

TABLE 2  
MARITAL STATUS

	URBAN	RURAL	TOTAL		
Married	64%	70%	66%		
Widowed	16	7	13		
Divorced	13	11	12		
Single	7	12	9		
TOTAL	100%	100%	100%		

	NDJ	ABCHE	MDOU	SARH	TOTAL
Married	72%	40%	56%	71%	64%
Widowed	13	32	20	8	16
Divorced	12	14	20	6	13
Single	3	14	4	15	7
TOTAL	100%	100%	100%	100%	100%

In the four urban areas, nearly two-thirds of the women interviewed were married and almost 30% were widowed or divorced. Abeche had the highest incidence of women widowed or divorced in spite of the fact that they were the youngest group and 14% had never been married. This may be partially explained by the fact that women in the major ethnic groups in Abeche tend to marry at an early age. This would give them more years of marriage in this age group and make them more susceptible to being widowed and divorced.

### Financial & Family Responsibility

The marital data show that although 66% of the sample was married, 39% of the women said they were head-of-household and 47% were the sole source of family income.

TABLE 3  
FINANCIAL & FAMILY RESPONSIBILITY

	URBAN	RURAL	TOTAL		
Sole Source of Income	54%	35%	47%		
Head-of-household	42%	32%	39%		

	NDJ	ABCHE	MDOU	SARH	TOTAL
Sole Source of Income	60%	77%	47%	38%	54%
Head-of-household	43%	55%	49%	29%	42%

Women's family and financial responsibilities are particularly heavy in the urban areas. In the four urban areas, 42% of women are head-of-household and 54% are the sole source of income. The market women in Abeche have the greatest responsibilities: over half are head-of-household and more than three-quarters are the family's sole source of income.

The data on head-of-household and sole source of income raise questions about change occurring in women's ownership and decision making influence of economic resources. The financial and family responsibilities of women are further underlined by an analysis of the status of married women. The survey found that among married women 20% say they are the head-of-household and 41% are the sole source of family income. Married women consider themselves to be head-of-household if their husbands are permanently absent and do not contribute to the family income.

TABLE 4

## MARRIED WOMEN: HEAD-OF-HOUSEHOLD/SOLE SOURCE OF FAMILY INCOME

	NDJ	ABCHE	MDOU	SARH	TOTAL
Sole Source of Income	52%	89%	16%	26%	41%
Head-of-household	23%	22%	16%	18%	20%

According to the data collected in Abeche, the financial responsibilities of married women are severe. Nearly nine out of ten women interviewed said they are the sole support of their family. Nearly a quarter of the N'Djamena sample were head-of-household and half were the sole source of family income.

## Children

Even though women spend most of the day in the market, they still have the responsibility of young children. Eighty-seven percent of the women in the sample had children. Of those women with children, three-quarters had children less than 10 years old and two-thirds had older children.

TABLE 5

## CHILDREN

	URBAN	RURAL	TOTAL
No Children	13%	13%	13%
Children	87%	87%	87%
Of Women with Children			
Children < 10 years	72%	81%	75%
Children > 10 years	76%	59%	67%

	NDJ	ABCHE	MDOU	SARH	TOTAL
No Children	10%	23%	11%	15%	13%
Children	90%	77%	89%	85%	87%
Of Women with Children					
Children < 10 years	67%	65%	73%	85%	72%
Children > 10 years	81%	88%	73%	63%	76%

In the four urban areas, the percentage of women with children was similar. Abeche had a slightly lower percentage (77%) compared with the urban average of 87%. Surprisingly, in the Abeche market the study found the highest percentage of women with children over 10 years of age even though the women tended to be younger than in the other areas.

### Conclusions

Most (91%) of the market women are at a point in their life cycle in which they are or have been married. They have children which they are still caring for, but have had to assume financial responsibility for themselves, their children and often their husbands.

The age distribution of women in the survey sample indicates that there are a substantial number of younger women in the market, in spite of traditional social attitudes that would discourage this. The incidence of widowed and divorced women is greater in the urban areas and consequently the proportion of women who are head-of-household and sole family provider are higher than in the rural areas.

Overall, there is a significant proportion of market women who are mature with substantial family and financial responsibilities and who can, therefore, be expected to control their own resources and make economic decisions. The predominance of these women in the large urban areas suggest targeting women in these markets would have the potential to reach a receptive group of beneficiaries.

The changing economic and social role of Chadian women seen in these data point to the need for a reevaluation of women's social and economic policies and programs.

## MOTIVATION AND STARTING RESOURCES FOR MARKETING

### Motivation

Economic need is the underlying reason that women turn to marketing agricultural products. There is a long tradition in Chad as in other countries in Africa for women to market agricultural products. In Chad, there is a saying that if you do not find a woman at home, you will find her in the market. In the agricultural areas of Chad, women are expected to help market the products from family fields. In addition to being responsible for family fields, women often have fields of their own and they sell their own product.

This survey studied the women who have shifted from the more traditional marketing of family produced agricultural products to becoming full-time market women. The vast majority of women cited family needs as the reason for becoming marketers in daily and weekly markets. This is highly understandable as nearly half of them said they were the sole source of income for the family. Almost 90% percent of the women said that selling in the market was their own idea, but many explained that they were also encouraged by family members.

Secondary reasons for becoming market women varied. Some said they wanted to become business women, to follow the tradition of female family members or to join friends who were in the market. For women whose families are involved in fishing or have cattle herds from which they sell milk

products, their involvement in the marketing of these products is traditional and is expected by family members.

### Original Source of Capital for Marketing

The survey asked about the original source of capital used to start their selling activities. There were four major sources: family members, personal resources and loans. Nearly half of the women said that their original capital was given to them by a family member. In the urban areas, the husband was the family member most likely to provide capital. In the rural areas, a female member of the family was most frequently the person to get them started. About a third of the women said that they raised capital from sale of jewelry or from personal savings (usually small amounts saved out of household expense money). Rural women were likely to raise money by sale of jewelry. Urban women were more likely to have savings to draw on. The urban market woman was more than twice as likely to be able to start her business with credit in-kind from a supplier.

TABLE 6  
ORIGINAL SOURCE OF CAPITAL

	Urban	Rural
Family member	48%	46%
Husband	20	12
Male family member	16	11
Female family member	12	23
Personal resources	28%	37%
Sale of personal effects (jewelry)	17	33
Savings	11	4
Loans	24%	10%
In-Kind	21	6
Cash	3	4
Other	1%	7%

(Percentages total more than 100% because of multiple responses.)

Although the table above does not include the comparison for the four urban areas (see the statistical annex), the original source of capital was fairly similar in three of the four major urban areas. The greatest differences were found in Abeche. Because most of the demi-grossists and retailers in Abeche purchase their products with cash, none of the women interviewed started with credit in-kind from suppliers. In the other urban areas, about 20% of the women started with this kind of credit. On the other hand, nearly a third of the Abeche women received their seed capital from a male member of the family. This was twice as frequent as in the other urban cities and three times as frequent as in the rural areas.

## Conclusions

The main conclusion to be drawn from this is that the economic situation is driving women to become an increasingly important marketing force, especially in urban areas. Much of the motivation for women to be active in marketing derives from strong cultural traditions, but these are being reinforced by economic necessity. This dynamic, socio-economic movement is not merely a "women's" movement, to flex the feminist muscle, but is being supported by the family, including male members, who understand that this is the only way to feed the family.

## LEVEL OF EXPERIENCE IN MARKETING

### Permanence in the Market

The survey found that most of the women were full-time, permanent sellers in the market. In both the urban and rural areas, almost all of the women interviewed said that marketing was their principle activity. In the rural areas where weekly markets are held, women said that marketing was their principle activity, but 11% did not work during certain seasons: usually during the rainy season. In the daily urban markets, the women worked throughout the year except in Abeche where only 68% of the women marketed year round. Thirty-two percent said that they worked in the fields during the rainy season.

TABLE 7

#### PERMANENCE IN THE MARKET

	URBAN	RURAL	TOTAL		
Principal Activity	99%	97%	98%		
Sell Year Round	94%	89%	92%		
	NDJ	ABCHE	MDOU	SARH	TOTAL
Principal Activity	100%	95%	100%	100%	99%
Sell Year Round	97%	68%	98%	96%	94%

### Number of Years in the Market

Forty-three percent of the women interviewed had worked in market 10 years or more and 71% have been in the market five years or more. On one hand, this indicates that there is a considerable pool of highly experienced market women whose management abilities have enabled them to survive the numerous economic and political vicissitudes since 1983 and before.

On the other hand, there are a significant portion of the women who are much newer to the business and who are experiencing the current level of economic crisis for the first time. Generally, rural women have been selling for fewer years than urban women. This may be a result of more alternative opportunities such as working in their family fields. Thirty-five percent of women selling in the rural, weekly markets have been involved for less than five years.

TABLE 8  
NUMBER OF YEARS SELLING IN THE MARKET

	URBAN	RURAL	TOTAL		
Less than 5 years	26%	35%	29%		
5 years - 9 years	26	32	28		
10 years - 14 years	23	15	21		
15 year or more	25	18	22		
TOTAL	100%	100%	100%		

	NDJ	ABCHE	MDOU	SARH	TOTAL
Less than 5 years	32	23%	18%	27%	26%
5 years - 9 years	30	32	22	21	26
10 years - 14 years	24	13	24	29	23
15 year or more	14	32	42	23	25
TOTAL	100%	100%	100%	100%	100%

Among the urban areas, N'Djamena had the lowest median number of years in the market. Moundou market women have the largest proportion of long time veteran retailers and demi-grossists.

### Conclusions

The data above show that a sizable proportion of the retailers and demi-grossists found in the markets constitute a highly experienced and dedicated group of marketers. Policies and programs aimed at marketing women should make every effort to ensure that they have a significant voice in determining the type of training and technical assistance offered. The other side of the coin is that 30% of the retail sellers have not had the advantage of years of experience and would benefit from training.

## SELLING STRATEGIES

### Products and Markets

Market women have adapted their selling strategies to their level of expertise, market conditions and the amount of capital available to them. Most of the retail market women sell a variety of products on a daily basis, but they usually specialize in a single product category. An individual will sell different types of dried vegetables, another will sell several types of cereals. However, there are women who specialize in selling a single product. This is likely to be a processed product such as peanut butter, spaghetti or the donut-like pastry, "beignet".

Eighty-one percent of the women sell in a single market. Even in the rural areas with their weekly markets, only 70% of the women said that they frequented more than one market. However, in Sarh, a third of the women sold in other markets, mostly in the night market.

## Conclusions

The main conclusion to be drawn from this is that the economic situation is driving women to become an increasingly important marketing force, especially in urban areas. Much of the motivation for women to be active in marketing derives from strong cultural traditions, but these are being reinforced by economic necessity. This dynamic, socio-economic movement is not merely a "women's" movement, to flex the feminist muscle, but is being supported by the family, including male members, who understand that this is the only way to feed the family.

## LEVEL OF EXPERIENCE IN MARKETING

### Permanence in the Market

The survey found that most of the women were full-time, permanent sellers in the market. In both the urban and rural areas, almost all of the women interviewed said that marketing was their principle activity. In the rural areas where weekly markets are held, women said that marketing was their principle activity, but 11% did not work during certain seasons: usually during the rainy season. In the daily urban markets, the women worked throughout the year except in Abeche where only 68% of the women marketed year round. Thirty-two percent said that they worked in the fields during the rainy season.

TABLE 7

#### PERMANENCE IN THE MARKET

	URBAN	RURAL	TOTAL		
Principal Activity	99%	97%	98%		
Sell Year Round	94%	89%	92%		
	NDJ	ABCHE	MDOU	SARH	TOTAL
Principal Activity	100%	95%	100%	100%	99%
Sell Year Round	97%	68%	98%	96%	94%

### Number of Years in the Market

Forty-three percent of the women interviewed had worked in market 10 years or more and 71% have been in the market five years or more. On one hand, this indicates that there is a considerable pool of highly experienced market women whose management abilities have enabled them to survive the numerous economic and political vicissitudes since 1983 and before.

On the other hand, there are a significant portion of the women who are much newer to the business and who are experiencing the current level of economic crisis for the first time. Generally, rural women have been selling for fewer years than urban women. This may be a result of more alternative opportunities such as working in their family fields. Thirty-five percent of women selling in the rural, weekly markets have been involved for less than five years.

TABLE 8

## NUMBER OF YEARS SELLING IN THE MARKET

	URBAN		RURAL		TOTAL
Less than 5 years	26%		35%		29%
5 years - 9 years	26		32		28
10 years - 14 years	23		15		21
15 year or more	25		18		22
TOTAL	100%		100%		100%

	NDJ	ABCHE	MDOU	SARH	TOTAL
Less than 5 years	32	23%	18%	27%	26%
5 years - 9 years	30	32	22	21	26
10 years - 14 years	24	13	24	29	23
15 year or more	14	32	42	23	25
TOTAL	100%	100%	100%	100%	100%

Among the urban areas, N'Djamena had the lowest median number of years in the market. Moundou market women have the largest proportion of long time veteran retailers and demi-grossists.

### Conclusions

The data above show that a sizable proportion of the retailers and demi-grossists found in the markets constitute a highly experienced and dedicated group of marketers. Policies and programs aimed at marketing women should make every effort to ensure that they have a significant voice in determining the type of training and technical assistance offered. The other side of the coin is that 30% of the retail sellers have not had the advantage of years of experience and would benefit from training.

## SELLING STRATEGIES

### Products and Markets

Market women have adapted their selling strategies to their level of expertise, market conditions and the amount of capital available to them. Most of the retail market women sell a variety of products on a daily basis, but they usually specialize in a single product category. An individual will sell different types of dried vegetables, another will sell several types of cereals. However, there are women who specialize in selling a single product. This is likely to be a processed product such as peanut butter, spaghetti or the donut-like pastry, "beignet".

Eighty-one percent of the women sell in a single market. Even in the rural areas with their weekly markets, only 70% of the women said that they frequented more than one market. However, in Sarh, a third of the women sold in other markets, mostly in the night market.

The market women sell their own products, they do not sell on consignment. Although many of the retailers buy from suppliers with in-kind credit, they own the products and are responsible for selling them. They can not return them to the supplier.

About two-thirds of the women said that they have continued to sell those items that they started with. The most common reason for not changing was that the retailers are familiar with selling these products. Even though market women sell from the same product category throughout the year, 85% sell different products within that category according to seasonal availability.

TABLE 9  
PRODUCTS AND MARKETS

	URBAN	RURAL	TOTAL		
Sell in Single Market	86%	70%	81%		
Continue to Sell Same Products Started With	67%	61%	65%		
Sell different Products According to Season	86%	84%	85%		
Sellers Own Products (Do not sell on Consignment)	100%	100%	100%		
	NDJ	ABCHE	MDOU	SARH	TOTAL
Sell in Single Market	90%	100%	91%	67%	86%
Continue to Sell Same Products Started With	73%	68%	56%	67%	67%
Sell Different Products According to Season	89%	77%	93%	79%	86%
Sellers Own Products (Do not sell on Consignment)	100%	95%	100%	100%	100%

### Change in Categories of Products Sold

The survey asked market women if they had changed the products they sell over the course of time. The purpose of this was to determine if there are some products that are easier to start with, but that women shift away from as they gain experience and accumulate capital. In both the urban and rural areas, the most popular product categories that women started with continue to be the most popular. However, a larger proportion of the retailers now sell these product categories indicating that there tends to be a shift to these product categories.

The table below shows cereals, onions & garlic, and dried vegetables to be the most popular product categories. In the rural areas oil seed products are also popular selling items. In the urban areas, the largest shift was to dried vegetables (dried tomatoes and okra). The percentage of women selling this

category doubled. In the rural areas, there was a strong shift to onions and garlic, dried vegetables and oil seed products.

TABLE 10  
CHANGE IN CATEGORIES OF PRODUCTS SOLD

	URBAN	
	Most Popular Starting Categories	Most Popular Current Categories
Cereals	14%	20%
Onions & Garlic	21%	28%
Dried Vegetables	14%	28%

	RURAL	
	Most Popular Starting Categories	Most Popular Current Categories
Cereals	34%	34%
Onions & Garlic	8%	18%
Dried Vegetables	8%	25%
Oil Seed Products	17%	33%

In answer to why they chose the products that they are selling, the most frequent response was that this is the product they are most familiar with, they knew how to sell it. This may indicate that when they began selling in the market, they already had some experience with these products through their family or through their community. An example of this can be found in Bongor where specific ethnic groups specialize in selling specific products:

#### SPECIALIZED ACTIVITIES OF BONGOR ETHNIC GROUPS

GROUP	PRODUCT
Kim-Kabaiaye	Fish (husbands are fishermen)
Arab/ Fulbaye	Milk and milk products (Fulbaye sell house to house)
Arabs	Onions, garlic (products grown in Abeche area), perfume
Masa	Cereals
Marba	Grow Peanuts/Transformed by Arabs

Respondents also preferred certain products because they had a high turnover rate, they are easy to sell, they are the most profitable.

Reasons for Continuing to Sell Products Started With  
Know how to sell these products  
Easy to sell  
Sell quickly (high turnover rate)  
Profitable

### Conclusions

Market women tend to specialize in product categories, but shift from product to product within that category according to seasonal availability. The product categories that retailers sell are influenced to a great extent by cultural, community and family background. However, there are indications that women do change to new product categories for business reasons. Some women prefer low risk products with high turnover potential. Others, are willing to risk losses for higher profits. Any future interventions involving developing marketing strategies should determine the basis on which women make choices of the product to sell.

## MANAGEMENT AND FINANCIAL ASPECTS OF RETAIL MARKETING

### Capital to Start Enterprise

One of the objectives of the study was to determine how well market women manage their enterprises. Although the WAMS team was not able to obtain the full amount of detailed and reliable data needed to provide a wholly, reliable comprehensive analysis, it was able to gather enough data to demonstrate that the majority of women are very good managers at the low level of economic activity at which they are currently operating.

Relatively small amounts of capital were needed to start this selling activity. Half of the women in the survey started with capital (cash or products) valued at less than 5,000 CFA. Nearly a third said they started with less than 2,000 CFA (See Statistical Annex). Table 11 shows that rural women started with less capital than urban women. The greatest urban/rural difference in capital requirements was among those who started with 10,000 CFA or more: The urban respondents were twice as likely as rural respondents to start with 10,000 CFA or more. Most striking is the starting-cost in N'Djamena. In N'Djamena, fifty-eight percent of the respondents started with capital of 10,000 CFA or more. This is more than twice the percentage in the other urban areas.

TABLE 11

## AMOUNT OF CAPITAL REQUIRED TO START MARKETING ACTIVITY

	URBAN	RURAL	TOTAL		
Less than 5,000 CFA	47%	61%	52%		
5,000 CFA - 9,999 CFA	15	23	17		
10,000 CFA or More	38	16	31		
TOTAL	100%	100%	100%		
	NDJ	ABCHE	MDOU	SARH	TOTAL
Less than 5,000 CFA	26%	59%	54%	73%	47%
5,000 CFA - 9,999 CFA	16	18	20	8	15
10,000 CFA or More	58	23	27	18	38%
TOTAL	100%	100%	100%	100%	100%

A partial explanation for the higher N'Djamena start-up cost may be that the women began their marketing activities more recently when prices were higher. A third of the N'Djamena women started selling within the past five years, versus 23% of the women in the other urban areas. In the post war years, ie, within the past 10 years, 62% of the N'Djamena respondents versus 47% of the women from other areas began their selling activities. (See Table 12). Another possible explanation for the high N'Djamena start-up is that these women beginning with higher cost product lines.

TABLE 12

## YEARS IN THE MARKET (NDJ vs Other Urban areas)

	NDJ	Other Urban Areas
Less than 5 years	32%	23%
5 - 9 Years	30	24
10 years - 14 years	24	22
15 year or more	14	31
Median number of years	8	10

The data also show that N'Djamena women relied more on a combination of their husbands and loans in-kind for capital than did other urban women and N'Djamena women, had the highest incidence of personal funds to rely on (See Table 6).

## Daily Revenues

As an indicator of the revenue contribution to basic family needs, the survey asked the amount of their current daily revenue. Because of time constraints, the team was not able to verify the reliability of the women's answers. It is understood that levels of revenue are seasonal and may change dramatically from day to day. The data are primarily useful as general indicators of magnitude rather than precise amounts.

To avoid the pitfall of applying imprecise data to a narrow revenue range, the first revenue category in table 13 is for daily revenues of less than 2,000 CFA. Country-wide, 39% of the respondents fell into this category. As might be expected, the urban median revenue was higher than the rural median. A comparison of revenues among the urban areas shows a striking difference between N'Djamena and the others. Median revenues in N'Djamena were between 5,000 CFA and 10,000 CFA. In Abeche and Sarh the medians were less than 2,000 CFA. In Moundou, the median was between 2,000 CFA and 5,000 CFA.

TABLE 13

## DAILY REVENUE

	URBAN	RURAL	TOTAL		
Less than 2,000 CFA	36%	47%	39%		
2,000 CFA - 4,999 CFA	29%	25%	28		
5,000 CFA - 9,999 CFA	20	13	18		
10,000 CFA and More	15	15	15		
TOTAL	100%	100%	100%		
	NDJ	ABCHE	MDOU	SARH	TOTAL
Less than 2,000 CFA	25%	71%	18%	52%	36%
2,000 CFA - 4,999 CFA	23	5	52	31	29
5,000 CFA - 9,999 CFA	28	14	14	15	20
10,000 CFA and More	24	10	16	2	15
TOTAL	100%	100%	100%	100%	100%

## Marketing Assets

To obtain a rough estimate of the asset level at which market women are operating, the survey asked respondents about the value of marketing assets (cash, stock and equipment, etc). As with daily revenues, the data gathered are reliable only as indicators of general magnitude.

Table 14 shows the responses to questions about the level of cash assets from marketing. Although cash is an important part of business assets in many economic systems, it must be used with caution as a indicator of business levels in Chad. The economic and social environment pushes entrepreneurs out of cash holdings and into inventory and capital goods. Nonetheless, table 14 is interesting in that nearly two-thirds of the respondents said that they were holding more than 5,000 CFA in cash assets. This can be compared with the 48% shown in table 11 who said that they started with more than 5,000 CFA in capital.

TABLE 14

## CASH ASSETS FROM MARKETING

	URBAN	RURAL	TOTAL		
Less than 5,000 CFA	34%	44%	38%		
5,000 CFA - 9,999 CFA	12	10	11		
10,000 CFA - 14,999 CFA	14	16	15		
15,000 CFA - 19,999 CFA	7	6	7		
20,000 CFA and More	33	24	29		
TOTAL	100%	100%	100%		
	NDJ	ABCHE	MDOU	SARH	TOTAL
Less than 5,000 CFA	33%	47%	29%	32%	34%
5,000 CFA - 9,999 CFA	9	10	17	12	12
10,000 CFA - 14,999 CFA	12	5	14	24	14
15,000 CFA - 19,999 CFA	3	14	2	12	7
20,000 CFA and More	43	24	38	20	33
TOTAL	100%	100%	100%	100%	100%

The same analysis is done for the value of assets held in stock in table 15. A very similar pattern emerges in terms of the value of assets in stock: as with cash, nearly two-thirds of the respondents hold more than 5,000 CFA in stock. Also there is a "bulge" at the high end of both tables where respondents say that they hold 20,000 CFA or more in cash and stock. One explanation for the similarity in the data in the two tables is that this is the cash level required to purchase the level of stock inventory.

TABLE 15

## VALUE OF ASSETS IN STOCK

	URBAN	RURAL	TOTAL		
Less than 5,000 CFA	32%	34%	33%		
5,000 CFA - 9,999 CFA	19	17	18		
10,000 CFA - 14,999 CFA	8	12	9		
15,000 CFA - 19,999 CFA	8	9	8		
20,000 CFA and More	33	29	32		
TOTAL	100%	100%	100%		
	NDJ	ABCHE	MDOU	SARH	TOTAL
Less than 5,000 CFA	20%	10%	26%	55%	32%
5,000 CFA - 9,999 CFA	16	37	3	23	19
10,000 CFA - 14,999 CFA	8	14	10	4	8
15,000 CFA - 19,999 CFA	11	14	3	2	8
20,000 CFA and More	45	25	51	16	33
TOTAL	100%	100%	100%	100%	100%

### Growth of Assets

Table 16 presents the analysis discussed above for urban and rural areas and shows a comparison among the urban areas. The table shows that in the urban areas 53% of the respondents started with 5,000 CFA or more of capital and 66% have that much or more in cash assets. Fifty-six percent have that much or more in stock. The ratios are about the same in the rural areas. Among the major urban areas, the ratios of current cash and capital to starting capital are positive, except for cash in N'Djamena. In N'Djamena, 74% of the respondents said they started with 5,000 CFA or more, but currently only 67% hold that much in cash assets. Part of the reason for this may be that N'Djamena respondents had a higher incidence of receiving credit in kind from suppliers and received greater amounts of credit than respondents in other cities ( See Table 21.)

TABLE 16  
ENTERPRISE GROWTH ANALYSIS  
(Starting Capital 5,000+ CFA)

	URBAN	RURAL			
Starting Capital 5,000 +	53%	56%			
Current Cash 5,000 +	66	55			
Current stock value 5,000 +	56	66			
	NDJ	ABCHE	MDOU	SARH	TOTAL
Starting Capital 5,000 +	74%	41%	47%	26%	53%
Current Cash 5,000 +	67	53	71	68	66
Current stock value 5,000 +	80	90	74	45	58

The same growth analysis can be done with respondents who said they started with capital valued at 10,000 CFA or more. Table 17 shows the percentage of respondents starting with 10,000 CFA in capital and the percentage of respondents with that much or more currently in cash and in stock. The "current" versus "starting" ratios are generally greater for retailers starting with 10,000 CFA or more. This indicates that there has been greater growth at this level. However, as in the previous analysis, the enterprises of the N'Djamena respondents show lower growth levels than in the other major cities.

TABLE 17

ENTERPRISE GROWTH ANALYSIS  
(Starting Capital 10,000+ CFA)

	URBAN	RURAL			
Starting Capital 10,000 +	37%	16%			
Current Cash 10,000 +	54	46			
Current stock value 10,000 +	40	49			
	NDJ	ABCHE	MDOU	SARH	TOTAL
Starting Capital 10,000 +	58%	23%	27%	18%	38%
Current Cash 10,000 +	56	43	55	56	54
Current stock value 10,000 +	63	52	71	21	40

As a final check on the growth of the marketing enterprises, the survey asked the respondents if their business had increased, decreased or remained the same. Overall, 85% of the women sampled said that their business had increased over time. In the urban areas, N'Djamena pulled the average down to 81%.

TABLE 18

## CHANGE IN LEVEL OF MARKETING ACTIVITIES

	URBAN	RURAL	TOTAL		
Increase	81%	92%	85%		
Decrease or Same	19	8	15		
TOTAL	100%	100%	100%		
	NDJ	ABCHE	MDOU	SARH	TOTAL
Increase	66%	95%	96%	90%	81%
Decrease or Same	34	5	4	10	19
TOTAL	100%	100%	100%	100%	100%

In N'Djamena a third of the women complained that business was the same or had decreased. Table 19 shows that in the other urban areas only 7% of the businesses had decreased or remained the same.

TABLE 19

GROWTH IN MARKETING ACTIVITIES  
(NJD vs Other Urban)

	NDJ	Other Urban Areas	Rural Areas
Increase	66%	93%	92%
Decrease or Same	34	7	8
TOTAL	100%	100%	100%

Although the percentage of market businesses that increased (66%) in N'Djamena is relatively high, it is low compared to the other urban cities and the rural area. This suggests that marketing problems exist for retail women in N'Djamena. There are some characteristics of the N'Djamena market that could contribute to this:

- N'Djamena retailers have had less marketing experience than women in other areas;
- The average start-up costs are twice as high as those in other areas;
- A high percentage of retailer stock is purchased on credit;
- Their credit debt to their suppliers is higher; and
- Retailers extend more credit to consumers.

### Conclusions

Although the survey data is "rough", We may draw the conclusion that the women interviewed are managing their businesses well (except, perhaps, in N'Djamena). The difference in the percentage of women in N'Djamena and other areas who say their marketing activities are increasing is great enough to warrant further investigation.

If a difference of this magnitude truly exists, there would appear to be an opportunity to develop interventions which will have a major impact on agricultural marketing in N'Djamena. This would entail identifying the specific constraints and develop interventions to relax them. In all of the market areas surveyed, the team found that the current level of management skills, lack of literacy and in-kind credit system are a powerful constraints to expanding beyond a certain level. The team has found that the market women are well aware of these constraints are very receptive to interventions that would help to remove them.

### CREDIT

In modern economies, credit play a major role in the economic system. This is also true for agricultural marketing in Chad, but the political and economic conditions have stunted the development of institutional credit and created an environment for the development of an informal indigenous system.

The study found that a very pervasive urban area credit system exists. It has emerged in response to demand that is not being met by institutional credit. It differs from institutional credit in several important ways: is based entirely upon credit in-kind, the amounts of credit are relatively small, repayment time is usually less than a week, it requires no physical collateral and it is accessible to a large number of retailers.

### Institutional Credit

Several NGOs have begun making institutional credit available to micro-enterprises and retailers of agricultural products. This is an important initiative, but the numbers of borrowers is very small and its impact in the market place minimal. Of the women interviewed, only 7% had received institutional cash credit and this was almost entirely through foreign NGOs' micro-enterprise programs. None of the credit programs operated by the NGOs are self-sustaining at this time and there is a question of their continued presence in the long-run.

TABLE 20

#### INSTITUTIONAL CREDIT IN CASH

	NDJ	ABCHE	MDOU	SARH	TOTAL
Received Institutional Credit	11%	0	9%	0	7%
VITA	5%		7%		3%
OXFAM	1%				*
CARE CHAD	1%		2%		*
OTHERS	4%				2%

\* Less than 1%

### The Indigenous Credit System: Suppliers Credit to Retailers

In contrast to institutional credit, the existing system of in-kind credit given by suppliers to retailers is well established. Seventy-seven percent of the women in the urban markets said that they receive credit from their suppliers. In the rural areas, only 41% of the women receive credit. Retailers in the larger cities usually receive their goods from traders or wholesale suppliers who will sell on credit, whereas retailers selling in the rural markets usually buy their goods directly from producers who sell on a cash basis.

The median value of the goods given on credit is between 5,000 CFA and 10,000 CFA. Within the four urban areas, the maximum amount of credit extended was highly variable. In Abeche only a third of the women said they receive credit. Although Abeche is an urban area, its market supply system operates similarly to a more rural area in that the market women often buy their products directly from producers. When Abeche women do receive products on credit, it is likely to be for small values only. The median amount is less than 5,000 CFA.

In N'Djamena and Sarh, over 80% of the retailers receive credit from their suppliers. The median trade value of credit extended to the market women in N'Djamena was over 15,000 CFA. Although the incidence of borrowing was high in Sarh, the median amount credit extended was less than 5,000 CFA.

In N'Djamena, retailers obtain credit for almost all products except for the highly perishable fresh fruits and vegetables. Suppliers giving credit come from all parts of Chad, Cameroon and Nigeria. In N'Djamena, over half of the suppliers selling to retail women are males. In Sarh 44% are male. In the other two urban areas female suppliers predominate.

TABLE 21  
IN-KIND CREDIT FROM SUPPLIERS TO RETAILERS

<u>Suppliers to Retailers</u>	URBAN 77%	RURAL 41%	TOTAL 65%		
<u>Maximum Credit extended</u>					
Less than 5,000 CFA	44%	36%	41%		
5,000 - 9,999 CFA	15	16	15		
10,000 - 14,999 CFA	12	12	12		
15,000 and Over	29	36	32		
TOTAL	100%	100%	100%		
<u>Gender of Suppliers</u>					
Male only	39%	29%	36%		
Female only	25	39	36		
Male and Female	26	32	28		
TOTAL	100%	100%	100%		
<u>Suppliers to Retailers</u>	NDJ 84%	ABCHE 36%	MDOU 76%	SARH 81%	TOTAL 77%
<u>Maximum Credit extended</u>					
Less than 5,000 CFA	21%	63%	40%	64%	44%
5,000 - 9,999 CFA	9	25	20	15	15
10,000 - 14,999 CFA	15	12	13	8	12
15,000 and Over	55	0	27	13	29
TOTAL	100%	100%	100%	100%	100%
<u>Gender of Suppliers</u>					
Male only	55%	12%	21%	44%	39%
Female only	33	63	41	25	35
Male and Female	12	25	38	31	26
TOTAL	100%	100%	100%	100%	100%

### Retail credit to consumers

Another component of the credit system is the credit that retailers give to consumers. There is no baseline information that would enable the WAMS team to measure change in the incidence of consumer credit, but from interviews with retailers it appears that retail credit to consumers has increased. It is clear that retailers prefer not to give credit, but in these difficult economic times they feel it is necessary. Retailers say that selling on credit is one way of getting new customers and keeping the old ones.

Seventy-two percent of the retailers in the sample extended credit to consumers. This was more frequent in the urban areas (82%) than rural (67%), and reflects the differences in retailer-consumer relationships in the daily and weekly markets. About 60% of the retailers extend less than 5,000 CFA worth of goods to consumers. About 90% extend credit occasionally or rarely.

The period of reimbursement varies from consumer to consumer. In some cases it is two to three days, in other instances it is one or two weeks. Some consumers take advantage of the bad economic situation in which the retailers has to give credit to get customers and don't repay promptly--or at all. This can be dangerous for the consumer as word gets around the market that she is a bad risk and she may lose the privilege of buying on credit. Although sixty percent of the retailers interviewed said that they had no problems with recovery, forty percent did have a problem.

TABLE 22

#### CREDIT FROM RETAILERS TO CONSUMERS

	URBAN	RURAL	TOTAL
<u>Retailers to Consumers</u>	82%	67%	77%
<u>Maximum Credit extended</u>			
Less than 5,000 CFA	58%	60%	59%
5,000 - 9,999 CFA	16	16	16
10,000 - 14,999 CFA	7	2	5
15,000 and Over	19	22	20
TOTAL	100%	100%	100%
<u>Frequency of Credit</u>			
Often	11%	11%	11
Occasionally	57	50	54
Rarely	32	39	35
TOTAL	100%	100%	100%
<u>Credit Recovery</u>			
Difficulty Recovering	40%	41%	40%
No Difficulty	60	59	60
TOTAL	100%	100%	100%

	NDJ	ABCHE	MDOU	SARH	TOTAL
<u>Retailers to Consumers</u>	86%	86%	76%	79%	82%
<u>Maximum Credit extended</u>					
Less than 5,000 CFA	39%	62	55%	80%	58%
5,000 - 9,999 CFA	25	11	18	4	16
10,000 - 14,999 CFA	10	0	15	0	7
15,000 and Over	26	27	12	16	19
TOTAL	100%	100%	100%	100%	100%
<u>Frequency of Credit</u>					
Often	11%	5%	18%	8%	11%
Occasionally	58	58	71	34	57
Rarely	21	37	11	58	32
TOTAL	100%	100%	100%	100%	100%
<u>Credit Recovery</u>					
Difficulty Recovering	34%	58%	48%	27%	40%
No Difficulty	66	42	52	73	60
TOTAL	100%	100%	100%	100%	100%

### Cost of Credit

Throughout Chad, the question of the cost of credit is very complex within the agricultural marketing system. Credit is extended "without interest" according to the suppliers and the retailers. That is to say, neither the term "interest rate" nor any equivalent is mentioned. The socio-economic conditions that prevail make it difficult to formalize interest in their credit transactions.

For some product lines, such as cereals, dried fruits and vegetables and onions and garlic, there may be a cash discount price. For other product lines, suppliers and retailers say that cash price and the credit price is the same. At the same time, suppliers say that they prefer to sell for cash and it is likely that there is some advantage to the retailer who pays cash. When there is a cost for credit, it is usually stipulated as a "fee" or "cash discount" without any reference to time.

### Demand for Institutional Cash Credit

Suppliers and retailers were unanimous in their preference to escape from the in-kind credit system. They cited the advantages of cash in giving them more flexibility in purchasing the type of goods they wanted and in expanding their business. However, in spite of the disadvantages of the in-kind credit system, only 58% of the market women said that they "needed" cash credit. Forty-two percent of the women said they did not need it.

The most frequently cited reason for not wanting cash credit was fear of not being able to repay it. Respondents cite the difficulty of dealing with family demands for cash that they hold for business purposes. There is also the problem of theft. Many of the women explained that the current economic

situation made it difficult to dispose of the level of stock they now carried and to expand their stock through credit was very risky.

TABLE 23

## CREDIT NEEDS

	URBAN	RURAL	TOTAL		
Need Credit	57%	59%	58%		
Do Not Need Credit	43	41	42		
TOTAL	100%	100%	100%		

	NDJ	ABCHE	MDOU	SARH	TOTAL
Need Credit	43%	45%	87%	60%	57%
Do Not Need Credit	57	55	13	40	43
TOTAL	100%	100%	100%	100%	100%

## Conclusions

There is a very active credit system operating in the markets, especially in the major urban areas. At the current level of economic activity in Chad, it is a highly serviceable system: easily accessible, carries low risk for the lender and the borrower, easy to operate, and financially sustainable. However, the system has major disadvantages: it is suitable only for relatively low levels of market activity, it is costly to the borrower (although the costs are mostly hidden), and it does not encourage savings.

The efficacy of the indigenous system at the current level of economic activity in the country, does not preclude a need for an institutional cash credit system. Although 42% of the women interviewed said that they did not need cash credit, they may not be aware that this could be an option with major advantages. The surge of micro-enterprise loan applications (by market women in N'Djamena) experienced by VITA and the use of tontines, shown in the following section, belie any notion that there is limited demand for cash in supplier-retailer transactions.

The information from this survey about the in-kind credit system operating in the markets and needs for a cash system, provide only a glimpse at a very complex issue. Further study is needed to understand how credit interventions could be effectively introduced. There is obviously an opportunity for programs which would increase market women's awareness of the advantages of institutional credit and to institute a carefully designed credit program. However, in doing this, the GOC and donors should exercise caution in replacing the existing system, which is in equilibrium with the current economic conditions, with a system that will create an intolerable debt load on market women.

## TONTINES AS A SAVINGS SYSTEM

### Membership in Tontines

Without a cash credit system, and without an institutional bank saving system, the market women have turned to using business tontines, an indigenous African system of safely saving small amounts of cash for a few days and then collecting a lump sum of cash to replenish their stock. More than half of the market women interviewed said they were members of at least one tontine. Rural market women were more likely to belong to tontines (65%) than urban market women (52%) because they often buy directly from producers or traders who sell only on a cash basis.

Within the four urban areas there are major differences in the incidence of participation in tontines. The market women in Moundou are the most active. One of the reasons may be that Moundou is a major cereals trade center and many of the cereal wholesalers require cash sales. The least active area for tontines is Abeche. Abeche market women tend to be younger, have weaker market relationships and depend more on their family members for cash to buy stock.

TABLE 24

#### MEMBERSHIP IN TONTINES

	URBAN	RURAL	TOTAL		
Member of Tontine	52%	65%	56%		
Not Member of Tontine	48	35	44		
TOTAL	100%	100%	100%		
	NDJ	ABCHE	MDOU	SARH	TOTAL
Member of Tontine	50%	5%	80%	52%	52%
Not Member of Tontine	50	95	20	48	48
TOTAL	100%	100%	100%	100%	100%

### Description of the Tontine System

In the tontine system, market women typically form a more or less permanent group of 10-15 women from among their close market colleagues. Almost all of the members of tontines said that their tontines limited the number of members. The most common size group is 10 to 15 members. Two-thirds of the women belonged to tontines of this size.

TABLE 25  
MEMBERSHIP CHARACTERISTICS

<u>Stability of Membership</u>	
No Change	49%
Occasional Change	35
Frequent Change	16
TOTAL	100%
<u>Tontines Limiting Membership</u>	
Limit Membership	97%
Not Limited	3
TOTAL	100%
<u>Number of Members</u>	
10 - 14	61%
15 - 19	35
20 or more	4
TOTAL	100%

The tontine operates in the following manner: The tontine group meets regularly and each member puts a predetermined amount of money in the "pot". At each meeting one of the members has a turn to take the "pot". There is no cash box to guard. Each time the group gathers to put in their money, the total amount is given to one member. The member may use this in any way that she wishes. The only organizational structure is the tontine "Mother". As the leader (and often the organizer) of the tontine, she is a woman who is respected for her honesty and ability to manage the group.

The membership in tontines is fairly stable, but individual members may not always be active in a specific tontine. If a woman does not have the cash to participate, she may drop out of the tontine on a temporary basis. It may also happen that the tontine itself is suspended during a period of economic hardship, and then revived when economic conditions improve. Although most of the women interviewed were long-term members of their business tontine, they had become inactive from April, 1993 until August 1993. At that time they resumed their tontine activities.

Although the basic concept of the tontine is fairly standard, there are differences in: how the group is formed; how often they meet; and, the amount of the contribution. In this survey, 90% of the market women who are tontine members have formed a business tontine in the market. This was usually made up of other women selling the same items and located in the same area of the market. The market women's "Business Tontine" has the same general operational characteristics and management structure of other tontines, but there are differences from the tontines found in the villages and residential quarters. The following is an illustrative description of the differences:

<u>Characteristics</u>	<u>Business Tontine</u>	<u>Residential Tontine (Village/ Urban Quarter)</u>
Purpose	Business/ Family	Projects/ Family
Permanence	More Permanent	Less Permanent
Contribution	100 - 250 CFA	500 - 1,000 CFA
Size of Group	10 - 12 members	15 - 20 members
Frequency	Daily	Weekly/15 days/Monthly

### Use of Tontine Money

Although Business Tontine members use the "pot" for a variety of purposes, it almost always includes a business purpose. Twenty-six percent said they use it for family purposes. Of those that use it for family purposes, three-quarters of the women said that they use it for family expenses very often or somewhat often.

TABLE 26

#### USE OF BUSINESS TONTINE MONEY

Buy Stock (cash)	90%
Reimburse Supplier	35%
Buy Equipment	16%
Other (Family)	26%
<u>Used for Family Expenses</u>	
<u>(Among Family Expense Users)</u>	
Very Often	19%
Somewhat Often	59%
Rarely	16%
Never	6%
TOTAL	100%

In a general question to respondents asking what they did with their last tontine money, they answered:

- Increased stock;
- Used it for family needs; pay for school, buy clothes;
- Bought equipment; and
- Reimbursed credit.

### Multiple Membership in Tontines

Business women are often members of more than one tontine. Half of the women who were part of the tontine system were members of more than one tontine. Some of these participated in a second business tontine, but many were also members of a tontine in their residential quarter or village. Most of the daily tontines were primarily for business purposes, and the tontines in the residential areas were

weekly or 15 day tontines and were used to collect larger sums of money to be used to buy capital goods or for special family projects.

TABLE 27

MULTIPLE MEMBERSHIP IN TONTINES

Membership in Number of Tontines	
1	48%
2	42
3	18
TOTAL	100%

Amounts Contributed/Received from Tontines

The WAMS team had included questions about the amounts that members contributed to tontines in its main questionnaire. Later the team developed a supplementary Tontine Questionnaire to collect information on tontines in greater detail. Tables 28 and 29 present the information from the Main questionnaire.

The contribution to the daily tontine (members meet daily) ranged between 75 CFA and 500 CFA. The median was 200 CFA. The "pot" was usually about 2,000 CFA and turns came around about every two weeks.

Weekly tontines usually collected between 500 CFA and 2,000 CFA. The pay-out was about 6,000 CFA every 2 weeks.

Fifteen day tontines were the least frequent. The "hand" varied between 1,000 CFA and 5,000 CFA. The amount of the "pot" varied widely from tontine to tontine. In this sample the range of the pay-out was between 20,000 CFA and 75,000 CFA and on average was given out every three months.

TABLE 28

AMOUNTS CONTRIBUTED TO DAILY TONTINE

	URBAN	RURAL	TOTAL		
250 CFA or Less	56%	56%	56%		
More than 250 - 500 CFA	27	26	27		
More than 500 CFA	17	18	17		
TOTAL	100%	100%	100%		
	NDJ	ABCHE	MDOU	SARH	TOTAL
250 CFA or Less	47%	100%	56%	61%	56%
More than 250 - 500 CFA	37	0	28	17	27
More than 500 CFA	16	0	16	22	17
	100%	100%	100%	100%	100%

TABLE 29

## AMOUNTS CONTRIBUTED TO WEEKLY TONTINE

	URBAN	RURAL	TOTAL		
Less than 1,000 CFA	23%	55%	34%		
More than 1,000-1999 CFA	42	28	36		
More than 2,000-2999 CFA	21	3	16		
3,000 and More	14	14	14		
TOTAL	100%	100%	100%		
	NDJ	ABCHE	MDOU	SARH	TOTAL
Less than 1,000 CFA	10%	0	25%	35%	23%
More than 1,000-1999 CFA	37	0	50	36	24
More than 2,000-2999 CFA	42	0	13	7	21
3,000 and More	11	0	13	21	14
TOTAL	100%		100%	100%	100%

**Conclusions**

Tontines are used by market women as a substitute for an institutional savings system. Although they are a means for women to accumulate cash, they do not have an institutional investment function in which the savings are loaned out as part of a credit system. Nor do the tontines provide an interest rate return to the the women who contribute to the tontine. However, in the absence of an accessible banking system with credit and savings components and which is oriented toward micro-enterprises, the tontines are an acceptable substitute.

The proliferation of tontines even in this period of economic crisis demonstrates that money is available for savings and that there is a need for cash. As noted in the "Credit" section above, the very high incidence of business tontine money being used to pay for supplies indicates that there is a need for cash and that market women know how to save and how to use the money for business purposes.

The ability of women to organize them selves into these viable "savings clubs" and administer them on a long term basis is evidence that the socio-cultural traditions and management abilities already exist. This provides a basis for taking the tontine concept one step farther and developing a true savings club that would provide provide credit to its members.

### PRINCIPAL PROBLEMS

At the end of the survey the respondents were asked to list their principal problems.

- The most frequently mentioned category of problem was poor sales, slow turnover of product, and too few customers.
- The second most important problem was unreliable supply of goods, unreliable suppliers.
- Lack of credit (no money to buy supplies, lack of capital) was a major for many of the women, even among those who said that they did not need cash credit.
- Among retailers who sold perishable products, spoilage of perishable products (fish, fresh vegetables, pate — peanut butter) was a major concern.
- Price fluctuations that result in loss of profits were mentioned as problems for some of the women.
- Transport (usually with respect to obtaining supplies) mostly in villages with weekly markets) was mentioned by retailers in rural markets.

### VISIONS OF THE FUTURE

The final question of the survey asked women what plans they had for the future for their business. The following is a list of their most frequent response categories.

- Most often mentioned was to increase size of business, become a big business woman or become a wholesaler.
- Build/buy a house or concession was a major goal for many of the women.
- Make a pilgrimage to Mecca was an important goal for many Muslim women.
- Buy equipment for business (vehicle, hangar/storage, processing equipment).
- Buy land.
- Start livestock or poultry business (mostly in Sarh and weekly markets).
- Live in comfort.

## CONCLUSION

The survey has provided statistical evidence that Chadian market women are playing an increasingly important role in their families as head-of-household and sole source of family income. It paints a picture of dedicated and professional market women faced with economic conditions which have forced them accept greater financial and family responsibilities. They are making asset management and business decisions that were formerly the domain of male members of the family.

The survey has looked at the market women's management capabilities and overall professionalism in marketing and found them to be surprisingly sophisticated. They are adequate at current level of economic activity, but the women themselves recognize that they face constraints to expanding their business because of lack of literacy and management knowledge.

The two important issues addressed by the survey were credit and savings. In the absence of institutional credit and savings systems, indigenous systems have evolved that operate fairly effectively at the current level of economic activity. However, even at this level, 58% of the women interviewed said that they needed cash credit. The use of tontines to accumulate cash to pay suppliers confirms this. The survey results and in-depth interviews by WAMS team members indicate that there is a need for institutional credit and an institutional saving system. The survey only touched the surface of this issue and further investigation credit and savings requirements is needed. However this area presents a potential for high impact interventions.

**ANNEX B**  
**REPORT ON THE PROCESSING OF AGRICULTURAL**  
**PRODUCTS BY THE WOMEN OF N'DJAMENA**

**BY MBAYHOUEL KOUMARO**  
**AND ADOUMBAYE ALLASSIAM**

**For AMP/AMTT/DAI/USAID, Women in Agricultural**  
**Marketing Study, November 1993**

## CONTENTS

- I. INTRODUCTION
- II. PRESENTATION OF PROCESSED AGRICULTURAL PRODUCTS AND THEIR ECONOMIC SIGNIFICANCE
- III. STUDY OF THE PROCESSES USED IN PREPARING SELECTED PRODUCTS
  - 1. Fermentation of néré seeds
  - 2. Production of peanut butter
  - 3. Production of local pasta ("douédé)
  - 4. Flour production from local cereals
  - 5. Production of powdered tomatoes
- IV. STUDY OF THE PROFITABILITY OF PROCESSED PRODUCTS
  - 1. Operating account
  - 2. Economic performance of processing activities
- V. OBSTACLES TO EXPANDING THE PROCESSING SECTOR
  - 1. Technical constraints
  - 2. Financial constraints
  - 3. Lack of training
- VI. OBSERVATIONS AND CONCLUSION
- VII. RECOMMENDATIONS

## I. INTRODUCTION

In Chad as elsewhere in Africa, women play an important roll in the processing of agricultural products. Within the context of the crises currently afflicting Chad in the political, economic, and social arenas, development of the country's informal sector is an ongoing process. One sector activity concerns the processing of agricultural products by women for marketing purposes. In Chad and throughout Africa, women play a dominant role in the processing of agricultural products. These products are more or less conditioned by consumer demand or, at the very least, by issues of affordability. In this connection, the processing sector deserves the attention of researchers and development workers. Quite likely, the technologies involved do not constitute in and of themselves an alternative model for long-term development, yet they certainly represent a technical, economic, and social fabric.

In N'Djamena, the women who process and market varied food products can be found in the marketplaces, the streets, and in front of homes; this is a clear indication of the vitality of this sector. Surveys have made it possible to quantify these activities and estimate the number of women involved in them.

In view of their importance, the challenge is to examine more thoroughly five key products: *néré*, *douédé* (local spaghetti), peanut butter, flour from local cereals (millet, corn, sorghum), and powdered tomatoes. The task is to understand better the operating mechanisms of local food preparation and their connections with other economic sectors.

In conducting this study, we have relied upon the technique of direct observation, in addition to a series of surveys involving 250 women who process and market these five N'Djamena products, in order to understand more fully their social behavior, learn their methods of food technology, and identify the problems confronting women.

The report is organized as follows:

- We will first present the agricultural products processed in N'Djamena and discuss their economic significance.
- Next, a study of the processes used to prepare the selected products will allow us to analyze their profitability in relation to their significance.
- We will then analyze the obstacles to progress within this sector.

These sections of the report, as well as the survey results, will then enable us to formulate observations and appropriate conclusions.

## II. PRESENTATION OF PROCESSED AGRICULTURAL PRODUCTS AND THEIR ECONOMIC SIGNIFICANCE

N'Djamena is a cosmopolitan city with a population of more than 600,000, where all of Chad's ethnic groups can be found, food-related practices intermingle, and the range of processed agricultural products is just as great as that of the various ethnic groups. By conducting a survey of the major marketplaces in the city, we were able to catalogue the different products based on the raw materials used to make them (see Table I).

TABLE 1

<u>Raw materials</u>	<u>Processed products</u>
Cereals	Hulled grain Sprouted grain Flour "Kissare" pancakes "Douédé" spaghetti Porridge Sweetened beverage Alcoholic beverages ("Cochette, Bilbil") Doughnuts
Fruit	Fruit juices
Vegetables/pulses	Powdered gumbo Powdered tomatoes Powdered hot pepper Shelled squash Hibiscus juice Sesame cake Peanut cake Peanut oil Peanut butter Peanuts
Gathered products	"Ndi" fermented néré Sheanut oil ("Karité") "Kawal" fermented cassia leaves

Our study method was to estimate the number of women in the different marketplaces of N'Djamena and then in the various neighborhoods of the city. The survey was conducted in four of N'Djamena's major marketplaces (Dembe Market, Central Market, Millet Market, and Cholera Market) and two of the less important marketplaces (Farcha Market and Moursal market). The data collected on the Farcha and Moursal Markets enabled us to extrapolate data on the Abéna, Chagoua, Cent Fils, and Hazarai markets.

Products that require grinding or hulling, such as cereals, peanuts, and dried tomatoes, are made by men, who control the machinery. Fruit juice is made by men and women. Otherwise, 98 percent of all food processing is handled by women. Tables 2a and 2b indicate the large number of women involved in such activities. Overall it is estimated that 6,000 women are engaged in food processing in Chad.

Table 3 provides summary information indicating the estimated annual volume of their monetary value. Peanut products appear to be the most important product in terms of the number of women who process them (about 1,700); this can probably be explained by the fact that the survey was conducted during a period of abundance, although most of the women surveyed said they process peanuts year-round. We believe, however, that the quantity of peanuts processed varies and is lower during a period of scarcity than during a period of abundance. Wheat flour closely follows peanuts in terms of the number of women who process this product (about 1,200), followed by alcoholic beverages "bilbil" and "cochette" (about 1,000 processors).

In brief, with respect to processing, cereals (including wheat) occupy first place in terms of volume (local cereals: 1,444 tons/year; wheat flour: 789 tons/year) and the number of women who process them (approximately 2,800). Vegetables and pulses are first in terms of value, at CFA 286,389,000/year. In third place are the products of gathering activities (CFA 33,912,000/year), while fruit processing appears to be the poor cousin among the products processed by women. Eating habits could explain this. However, in the future, fruit processing may increase in scope.

In fact, on an annual basis, the activities of these women generate close to CFA 0.5 billion, a figure that is quite substantial in light of the country's current crises and the activities' potential benefits to women. As a result, certain funding organizations such as VITA/PEP have taken a particular interest in this informal sector. According to VITA sources, 1,510 women involved in food technology received loans amounting to CFA 103,014,000 during July 1990 to September 1993. These loans to women represent 80 percent of overall VITA loans.

Given the dynamic character of the sector despite the unfavorable economic climate, the current challenge for development workers, researchers, and people of goodwill is to identify the problems facing this sector in order to propose solutions based not only on technology but also training.

Before making any specific proposals, we have selected five of the sector's products for the purpose of better understanding the processes used in their preparation. These are discussed below.

TABLE 2a

## WOMEN INVOLVED IN FOOD PROCESSING ACTIVITIES IN D'DJAMENA, BY MARKET

Product	Moursal		Dembe		Central		Mil		Cholera		Farcha		(a) Chagoua		(b) Abéna		(c) Sanfil		(d) Harazai		(E) Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%										
Cereal meal	3	1%	6	1%	8	2%	4	1%	0	0%	1	0%	3	1%	3	1%	0	0%	0	0%	28	1%
Hulled cereals	18	7%	40	5%	19	4%	23	5%	53	17%	21	8%	18	7%	18	7%	27	18%	26	16%	263	8%
Sugared drinks	5	2%	16	2%	3	1%	4	1%	3	1%	1	0%	5	2%	5	2%	1	1%	2	1%	45	1%
Kissare (crepe)	6	2%	4	0%	18	4%	8	2%	12	4%	2	1%	6	2%	6	2%	6	4%	6	4%	74	2%
Douédé (spaghetti)	9	4%	44	5%	11	2%	31	7%	16	5%	18	7%	9	4%	9	4%	8	5%	8	5%	163	5%
Wheat doughnuts	0	0%	26	3%	5	1%	11	2%	14	4%	3	1%	0	0%	0	0%	7	5%	7	4%	73	2%
Millet doughnuts	0	0%	3	0%	3	1%	1	0%	0	0%	1	0%	0	0%	0	0%	0	0%	0	0%	8	0%
Wheat cake	6	2%	30	4%	6	1%	8	2%	0	0%	0	0%	6	2%	6	2%	0	0%	0	0%	62	2%
Cereals flour	7	3%	20	2%	25	5%	13	3%	21	7%	0	0%	7	3%	7	3%	10	7%	11	7%	121	4%
Sprouted seeds	0	0%	58	7%	12	2%	58	13%	2	1%	7	3%	0	0%	0	0%	1	1%	1	1%	139	4%
Peanut butter	50	20%	130	15%	46	9%	51	11%	43	14%	52	21%	50	20%	50	20%	20	13%	23	14%	515	15%
Peanut oil	40	16%	135	16%	40	8%	0	0%	23	7%	4	2%	40	16%	40	16%	11	7%	12	7%	345	10%
Nougat	2	1%	5	1%	9	2%	6	1%	5	2%	3	1%	2	1%	2	1%	3	2%	2	1%	39	1%
Powdered okra	30	12%	27	3%	14	3%	12	3%	16	5%	4	2%	30	12%	30	12%	8	5%	8	5%	179	5%
Sesame cake	1	0%	3	0%	3	1%	3	1%	3	1%	1	0%	1	0%	1	0%	2	1%	1	1%	19	1%
Cored squash	20	8%	46	5%	17	3%	0	0%	0	0%	11	4%	20	8%	20	8%	0	0%	0	0%	134	4%
Pepper powder	0	0%	0	0%	55	11%	81	17%	36	12%	48	19%	0	0%	0	0%	13	9%	23	14%	256	7%
Hibiscus juice	1	0%	44	5%	40	8%	7	2%	15	5%	1	0%	1	0%	1	0%	7	5%	8	5%	125	4%
Tomato powder	0	0%	0	0%	64	13%	95	20%	32	10%	48	19%	0	0%	0	0%	16	11%	16	10%	271	8%
Roasted peanuts	4	2%	19	2%	7	1%	10	2%	6	2%	10	4%	4	2%	4	2%	3	2%	3	2%	70	2%
*Niebe* doughnuts	0	0%	11	1%	20	4%	17	4%	7	2%	1	0%	0	0%	0	0%	4	3%	3	2%	63	2%
Fermented nééré *ndi*	40	16%	169	20%	17	3%	0	0%	0	0%	8	3%	40	16%	40	16%	0	0%	0	0%	314	9%
Sheanut oil	10	4%	20	2%	31	6%	0	0%	0	0%	2	1%	10	4%	10	4%	0	0%	0	0%	83	2%
*Kawal* (Cassia tora)	0	0%	0	0%	17	3%	21	5%	6	2%	6	2%	0	0%	0	0%	3	2%	3	2%	56	2%
<b>TOTAL</b>	<b>252</b>	<b>100%</b>	<b>856</b>	<b>100%</b>	<b>490</b>	<b>100%</b>	<b>464</b>	<b>100%</b>	<b>313</b>	<b>100%</b>	<b>253</b>	<b>100%</b>	<b>252</b>	<b>100%</b>	<b>252</b>	<b>100%</b>	<b>150</b>	<b>100%</b>	<b>163</b>	<b>100%</b>	<b>3,445</b>	<b>100%</b>

(a,b): The number of women shown was taken to be the same as for Moursal, since these markets are of similar size.

(c,d): Figures for Santil and Harazai: together equal those of Cholera.

(e): Totals may include individuals who are active in the production of more than one product.

TABLE 2b

## WOMEN INVOLVED IN FOOD PROCESSING ACTIVITIES IN INDIVIDUAL NEIGHBORHOODS IN N'DJAMENA (Outside of Markets)

Product	1		2		3		4		5		6		7		8		9		10		11		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
"Douédé" (spaghetti)	105	13%	55	12%	80	12%	13	6%	0	0%	73	35%	27	33%	46	22%	21	29%	33	33%	0	0%	453	16%
Roasted peanuts	317	41%	65	14%	181	28%	46	20%	20	54%	60	29%	35	42%	56	26%	23	32%	31	31%	0	0%	834	29%
Doughnuts	148	19%	117	25%	68	11%	30	13%	10	27%	51	25%	21	25%	56	26%	16	22%	11	11%	0	0%	528	18%
Bilbil	89	11%	160	34%	186	29%	63	27%	7	19%	8	4%	0	0%	12	6%	7	10%	0	0%	35	50%	567	20%
Cochette	106	14%	55	12%	120	19%	82	35%	0	0%	14	7%	0	0%	23	11%	6	8%	0	0%	35	50%	441	15%
Fruit juices	13	2%	20	4%	7	1%	0	0%	0	0%	0	0%	0	0%	20	9%	0	0%	24	24%	0	0%	84	3%
<b>TOTAL</b>	<b>778</b>	<b>100%</b>	<b>472</b>	<b>100%</b>	<b>642</b>	<b>100%</b>	<b>234</b>	<b>100%</b>	<b>37</b>	<b>100%</b>	<b>206</b>	<b>100%</b>	<b>83</b>	<b>100%</b>	<b>213</b>	<b>100%</b>	<b>73</b>	<b>100%</b>	<b>99</b>	<b>100%</b>	<b>70</b>	<b>100%</b>	<b>2,907</b>	<b>100%</b>

Key:	1	Moursal/Paris-Congo
	2	Chagoua
	3	Dembe/Amtoukouin
	4	Ardebdjoubal/Sabangali/Kabalaye
	5	Ambatsana/Gardole
	6	Raboudsoulbak/Mardjandafak/Rogue/Bololo
	7	Senegalais
	8	Centre/Ridina
	9	Klebmat/Goudji
	10	Digue/Repos
	11	Farcha

Source: AMP/AMTT/DAI/USAID - Chad Women in Agricultural Marketing Study, November 1993

TABLE 3

## QUANTITIES AND VALUES OF PROCESSED FOOD PRODUCTS IN N'DJAMENA

Finished Product (Finished Prod.)	Estimated Number of Women Sellers	Quantity Proc./ Seller per Day (coros)	Total Proces. per Day (coros)	Price (CFA/coro)	Value Processed per Day CFA	Annual Quantity (coros)	Annual Value CFA
Peanuts (roasted)	904	1	904	250	226,000	325,440	81,360,000
Flour (doughnuts)	601	4	2,404	375	901,500	216,360	81,135,000
Flour (douédé)	616	3	1,848	375	693,000	221,760	83,160,000
Cereals (bilbil)	567	18	10,206	150	1,530,900	204,120	30,618,000
Cereals (cochette)	441	2	882	150	132,300	158,760	23,814,000
Peanut butter	515	2	1,030	250	257,500	185,400	46,350,000
Peanut oil	345	3	1,035	250	258,750	124,200	31,050,000
Dried tomatoes (powder)	271	4	1084	175	189,700	97,560	17,073,000
"Néré" (fermented)	314	1	314	300	94,200	113,040	33,912,000
Cereals (hulled)	263	3	789	150	118,350	94,680	14,202,000
Cereals (germ)	139	3	417	150	62,550	50,040	7,506,000
Dried pepper (powder)	256	1	256	850	217,600	92,160	78,336,000
Dried okra (powder)	179	1	179	500	89,500	64,440	32,220,000
Cereals ("kissare")	74	2	148	150	22,200	26,640	3,996,000
Cereals (flour)	121	3	363	150	54,450	43,560	6,534,000
<b>TOTAL</b>	<b>5,606</b>				<b>4,848,500</b>		<b>571,266,000</b>

### III. STUDY OF THE PROCESSES USED IN PREPARING SELECTED PRODUCTS

The procedures used in food processing reflect Chadian women's mastery of processing raw materials into edible foods. Women make use of traditional methods and receive virtually no scientific and technical support. Many of these methods could be improved were research and development efforts made to consider better how they function. The hygienic conditions in which the women operate could also be improved.

#### 1. Fermentation of *néré* seeds

The *néré* (*Parkia biglobosa*) is a tree of the Mimosaceae family. Its seeds are processed to obtain a fermented condiment, which is known locally as "ndi" or "dawa-dawa" and which is called "nétoutou" in Senegal, "sumbala" in Mali, and "dawa-dawa" in Nigeria. In Chad, this tree is primarily found in the Sudanian zone; as a result, *néré* as a condiment is very popular among the natives of this zone, which covers five prefectures. About 300 women in N'Djamena are involved in processing an average of 200 tons of *néré* seeds per year.

This activity provides each woman an average income of approximately CFA 225,000 francs. Insofar as *néré* processing is a lengthy and complex process, we need to learn as much about it as possible in order to determine what should be done to simplify and promote the process.

At the present time, ndi is produced by traditional means. Figure 1 indicates the steps in its production.

Ndi is sold at CFA 25 for a mound weighing approximately 50 grams (1 coro of *néré* = 2.2 kilograms).

The materials used are, in general, the same as those used in cooking (a pot, a bucket, and a woven basket).

Ndi production consumes an enormous amount of energy, in addition to water, and lasts six days. In a country like Chad, which is threatened by desertification, if there is a possibility to conserve energy, it should be examined.

#### 2. Production of peanut butter

About 500 women in N'Djamena process peanuts into peanut butter. This activity provides each of them with an annual income of at least CFA 41,400.

In contrast to ndi production, which is traditional from beginning to end, the processing of peanuts concludes with a mechanized treatment that produces the butter. The butter is then sold at a price of CFA 25 per mound weighing 120 grams. Its production process is outlined in Figure 2.

FIGURE 1

TRADITIONAL METHOD OF PRODUCING NDI

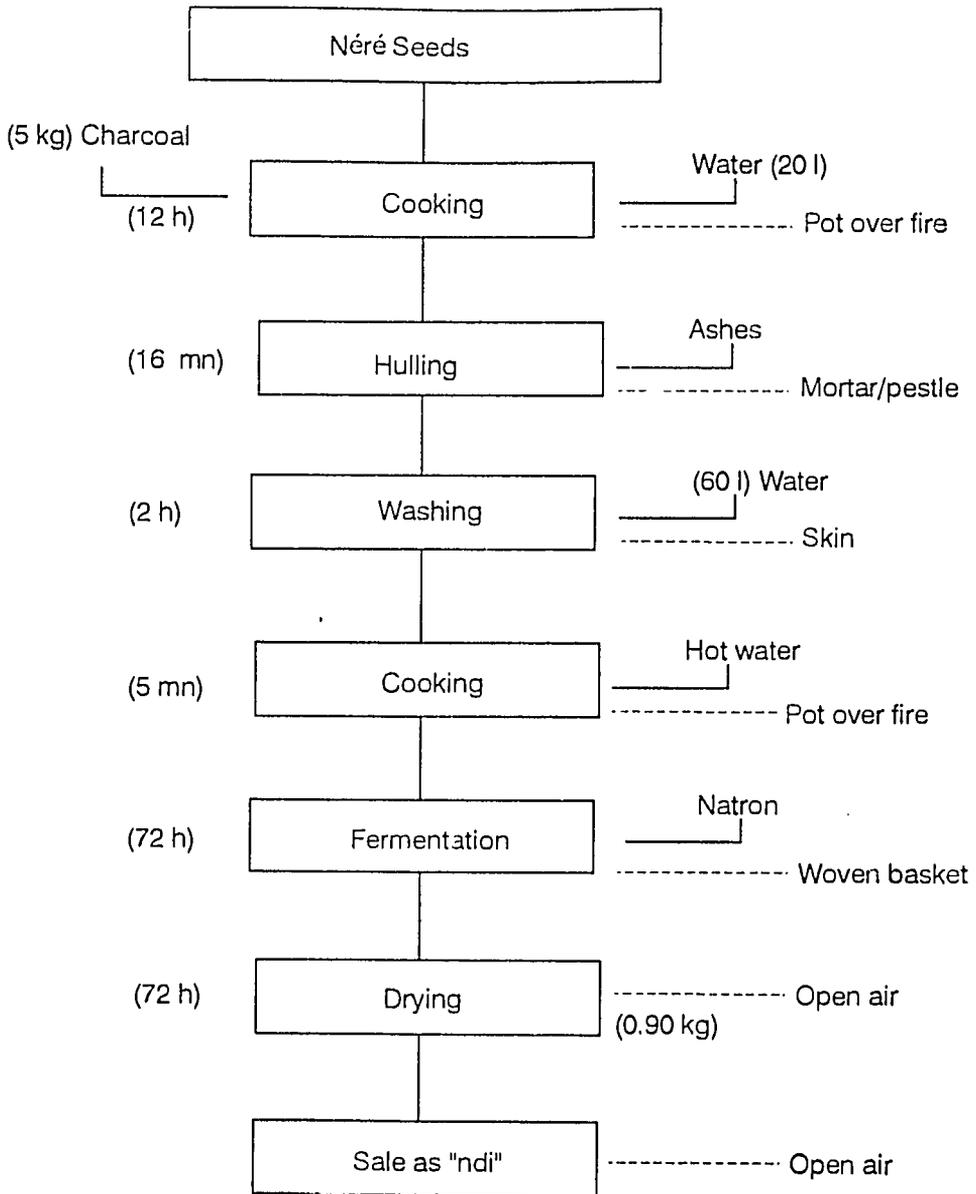
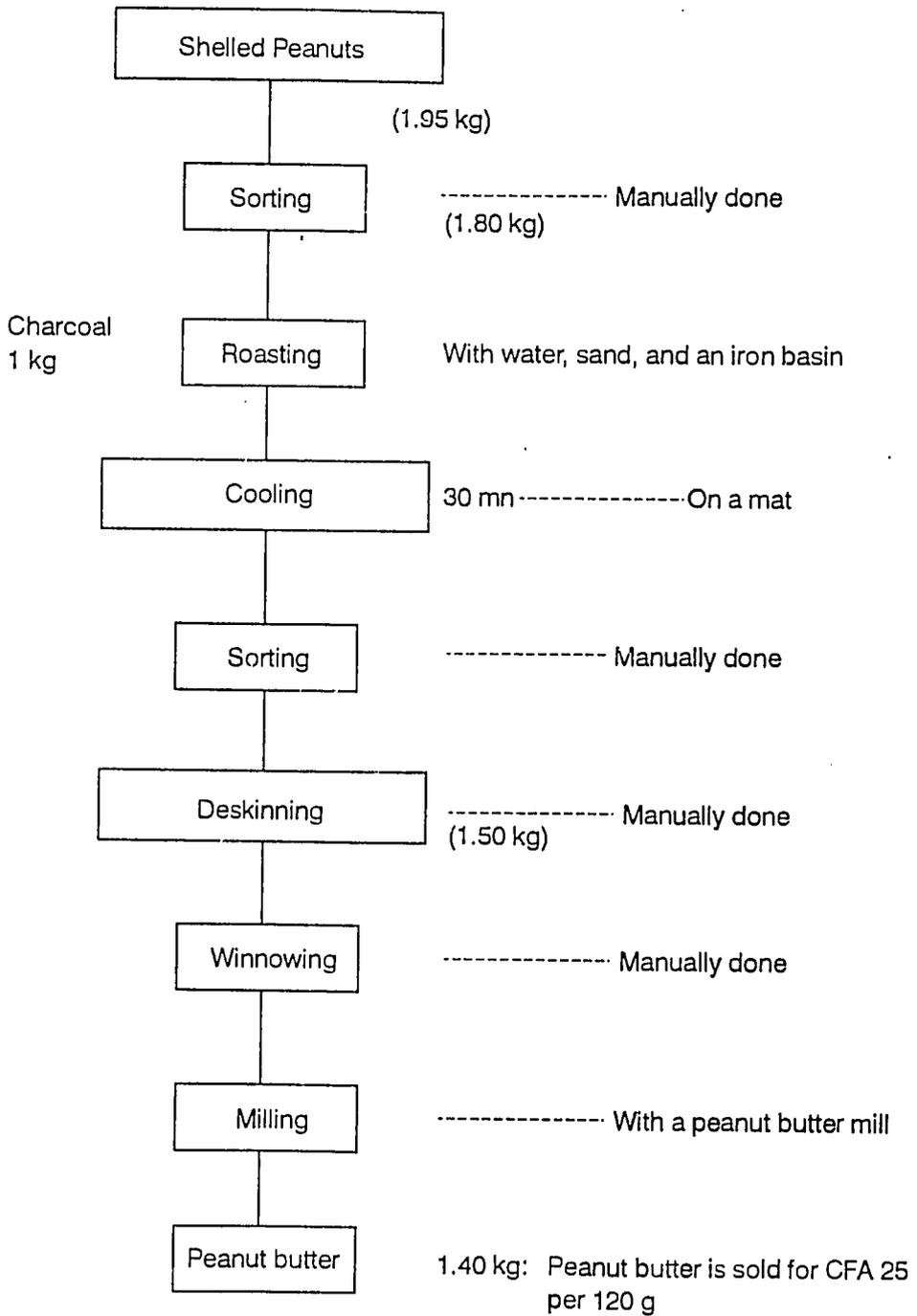


FIGURE 2

STEPS IN PRODUCING PEANUT BUTTER



In general, the peanuts are shelled manually, one by one, but occasionally a mechanical huller is used. This machine is not highly prized by producers, due to the high rate of peanuts lost during its use. The peanuts are then roasted to impart a certain flavor and facilitate removal of the skin covering them. The roaster is made from a locally produced iron basin. Sand is placed in the roaster, which is then set on a stove and preheated for 15 minutes before the peanuts are added; the sand to peanut ratio is 1:1 in terms of volume. The length of roasting greatly influences the paste: undercooked peanuts produce a white paste, properly cooked peanuts produce a yellow paste, and overcooked peanuts produce a dark, dry paste with a bitter taste. The length of roasting varies in accordance with the moisture content of the peanuts, and the moment at which cooking is complete is determined by observation.

The roasted peanuts are spread on a mat to cool. As they cool, they shrink in size and the thin skin detaches itself from the peanut. Removal of the skin also serves to remove the bud or eye, which would otherwise cause the paste to be somewhat bitter (the loss of skin and bud amounts to 0.06 percent of total weight).

Prior to grinding, the peanuts are manually winnowed. The grinding is done either in a manually operated peanut butter mill or in an electric mill, with a yield exceeding 70 percent. Many women say the electric mill makes the paste slightly liquid and therefore reduces its market value, although the liquid paste is considered desirable for producing peanut oil.

### 3. Production of local pasta ("douédé")

Douédé is a type of spaghetti that is locally produced from imported wheat flour. About 616 Chadian women are involved in processing this product. Each of them earns approximately CFA 174,000 per year doing so; collectively, they process more than 399 tons annually. The production process is outlined in Figure 3.

This activity is growing in scale due to the introduction of machines for making pasta. Even young girls are eager to practice this trade.

### 4. Flour production from local cereals

Flour from local cereals refers to any flour obtained from cereals such as corn, millet, sorghum, and rice. In fact, the production and sale of flour is fairly marginal, involving only 4 percent of the women surveyed, but we believe this activity is likely to develop further. Figure 4 provides a diagram of the flour production process.

Currently, Chadian women process 327 tons of cereals annually. They do not carry out the actual processing but rely instead on service providers, namely men, who possess hullers and cereal mills. However, this activity provides women with an annual income of CFA 117,000.

### 5. Production of powdered tomatoes

Because tomatoes are generally dried outside of N'Djamena, this study focuses exclusively on that part of the production process that concerns the transformation of dried tomatoes into powder. Two hundred seventy-one women are involved in this semi-wholesale activity. The majority of the women

FIGURE 3

STEPS IN PRODUCING DOUEDE

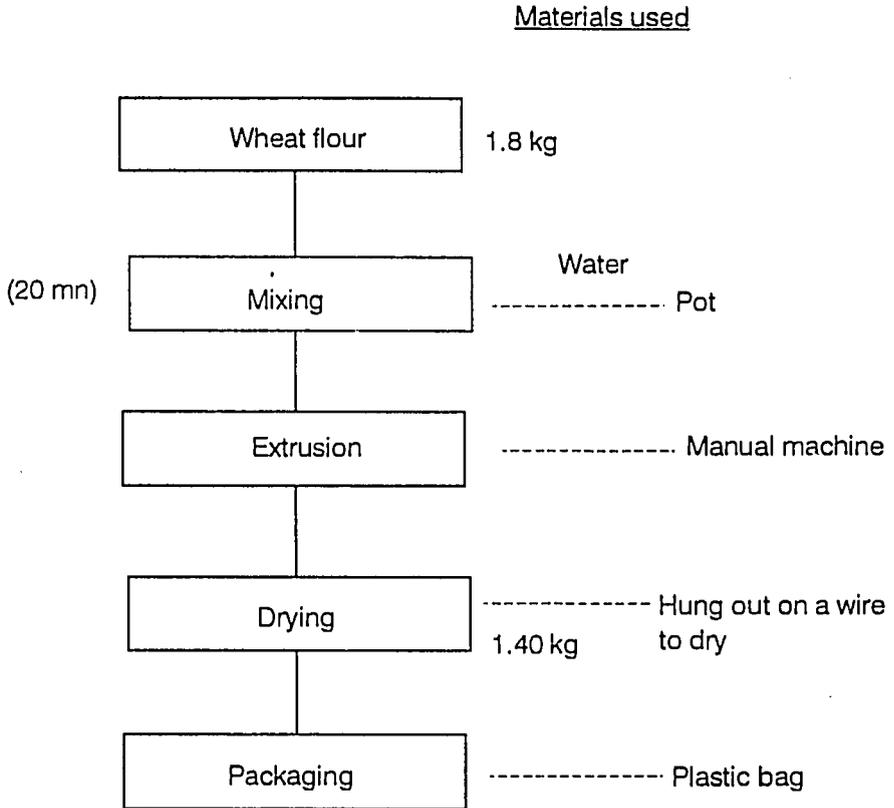
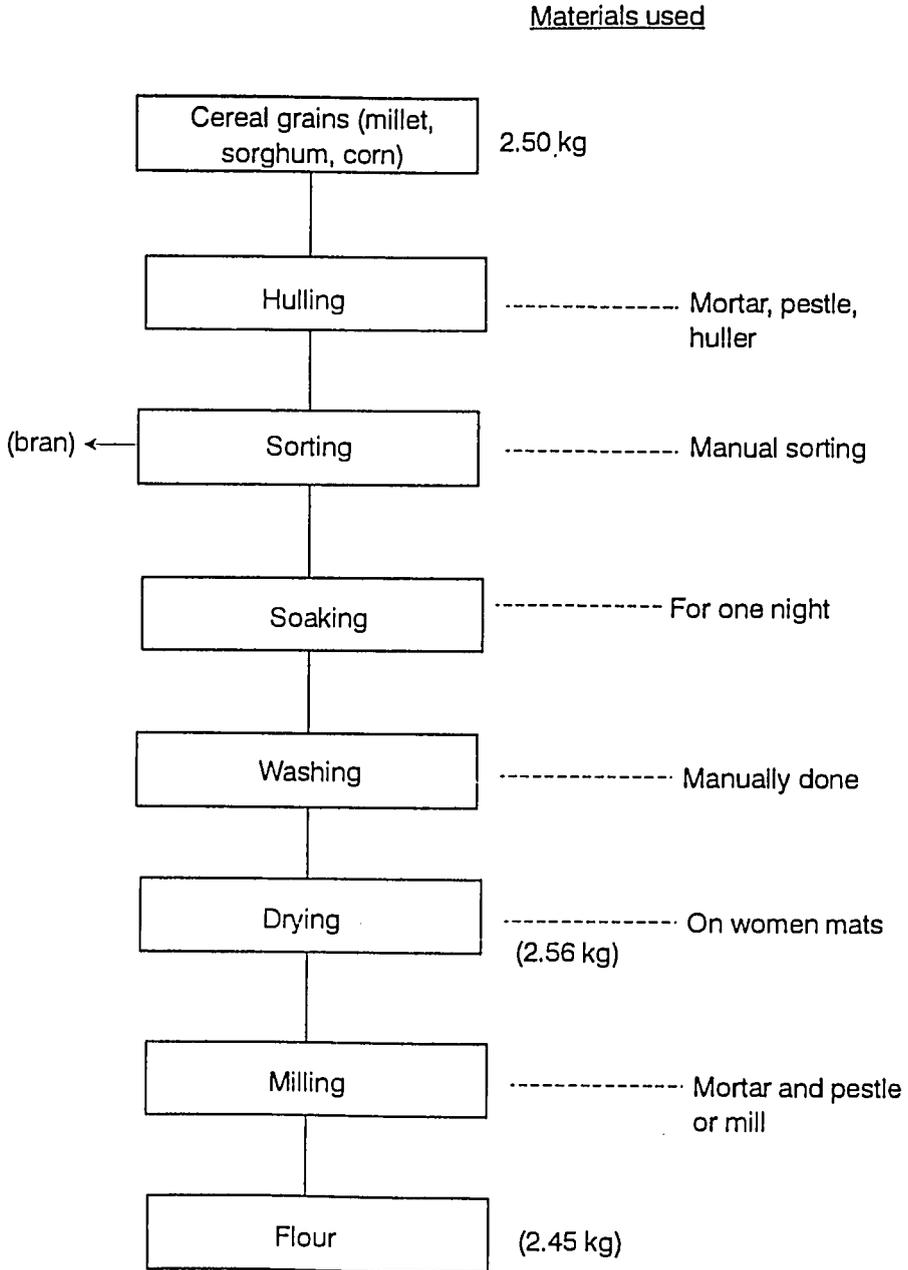


FIGURE 4

STEPS IN PRODUCING FLOUR



who process powdered tomatoes are located at the Millet Market. The semi-wholesalers, of whom 3 percent are men, purchase dried tomatoes from wholesalers, process them into powdered tomatoes, and then sell them to retailers. A survey conducted in 1977 on the consumption of powdered tomatoes in N'Djamena revealed that consumption is limited to natives of the Ouaddai region, where dried tomatoes are typically produced. At present, it would not be an overstatement to assert that consumption is rising; any reluctance is due to the quality of the product presented. If the tomatoes are dried under favorable conditions and the powder is properly packaged and sealed, then powdered tomatoes can compete strongly with imported tomato concentrate and provide the desired capability of "reddening" a sauce. In brief, the technology for drying and reducing tomatoes merits further attention and should be explored in cooperation with the women involved in this activity.

Unfortunately, the problem persists that those individuals involved in processing dried tomatoes into powder have a very small profit margin. One wonders how they can continue very long in this line of work with no appreciable profits, according to our calculations.

The production of powdered tomatoes is a simple process: it is done with the use of mills, about five of which are specialized for this work. It would be useful to have another, fairly simple machine to plastic-wrap various the product of different weights.

#### IV. STUDY OF THE PROFITABILITY OF PROCESSED PRODUCTS

##### 1. Operating account

###### Fermented *néré* ("ndi")

On average, each seller processes 1 coro per day.

Purchase: 1 coro x 300	=	CFA 300/day
Purchase of charcoal	=	CFA 100/day
Purchase of water	=	CFA 50/day
Municipal tax	=	CFA 25/day
Total daily expenses	=	CFA 475/day
Total monthly expenses = 475 x 30	=	CFA 14,250/month
Total annual expenses = 14,250 x 12	=	CFA 171,000/year

##### Daily sales

"Ndi" is sold at the rate of CFA 25 for a mound weighing 50 grams (i.e., CFA 500 per kilogram). One coro of "ndi" is equivalent to 2.2 kilograms; therefore,  $500 \times 2.2 = \text{CFA } 1,100/\text{day}$ .

Monthly sales = 1,100 x 30	=	CFA 33,000/month
Annual sales = 33,000 x 12	=	CFA 396,000/year
Annual value added per seller = CFA 396,000 - CFA 171,000	=	CFA 225,000
Number of sellers = 314		
Total value added = 314 x 225,000	=	CFA 70,650,000

## 2. "Douédé" spaghetti

Monthly expenses per woman: CFA 34,500

Monthly sales per woman:

- 1 coro of flour makes 11 bags of pasta

- 1 bag costs CFA 50

3 coros x 11 x 50 x 30 = CFA 49,500

Value added = CFA 14,500

Annual value added = CFA 174,000

Total value added = CFA 107,184

## 3. Peanut butter

Expenses per woman per month:

Purchase of raw materials	= CFA	15,000
Municipal tax	= CFA	750
Mill	= CFA	3,000
Charcoal	= CFA	3,000

Total expenses = CFA 21,750/month

Pasta sales = CFA 25 per 120 grams (i.e., 210/kg)

Sales = CFA 25,200

Value added = 3,450 CFA francs

Annual value added = CFA 41,400

Total value added = CFA 21,321,000

## 4. Cereal flour

Expenses per woman per month:

Purchase	= CFA	13,500
Hulling	= CFA	3,000
Milling	= CFA	4,500
Municipal tax	= CFA	750
Total expenses	= CFA	21,750
Monthly receipts	= CFA	31,500
Value added	= CFA	9,750
Annual value added	= CFA	117,000
Total value added	= CFA	14,157,000

### Powdered tomatoes

Expenses per woman per month:

Purchase of dried tomatoes	= 175 x 4 x 30	= CFA 21,000
Milling	= 20 x 4 x 30	= CFA 2,400
Rental		= CFA 3,000
Municipal tax		= CFA <u>750</u>
Total expenses		= CFA 27,150

Monthly receipts:

4 coros of dried tomatoes > 2.4 coros of powder

2.4 x 380 x 30 = CFA 27,360

Value added = CFA 210

Annual value added = CFA 2500

Total value added = CFA 677,500

## 2. Economic performance of processing activities

Economic estimates are often very approximative because they rely heavily on the environment and the figures stated by individual operators, which may be either highly inflated or underestimated.

The income levels identified in this sector vary widely. They depend on the nature and significance of the activity, the location of the operations, and the existence of a regular clientele.

Daily income identified at the time of the survey ranged from CFA 725 (for peanut butter) to CFA 1,650 (for local douédé spaghetti). The calculations did not take into account any portion deducted for family consumption.

Actual monthly profits obtained by women from these activities range from CFA 210 (for powdered tomatoes) to CFA 18,750 (for fermented *néré*). In terms of overall value added, the five products cited above account for approximately CFA 106,912,684. In reality, of course, these five are not the only products processed. At least 30 products are made, so, by extrapolation, we can estimate that the sum of all of these activities for processing agricultural products contributes more than CFA 1 billion in value added.

## V. OBSTACLES TO EXPANDING THE PROCESSING SECTOR

### 1. Technical constraints

Women's tools are simple and are used for various individual food processing operations, such as washing, grinding, winnowing, and cooking. Certain utensils are used specifically for processing and preparing a given dish. Only a few of the operations used in food processing incorporate mechanical energy in the form of motorization (either electric or thermal). The most common mechanical process used is mechanical grinding, which is typically subcontracted to service providers, who are most often men.

The thermal energy used in cooking operations comes from wood or charcoal; the stoves used are traditional ones with very low energy efficiency (from 6 to 10 percent). They are made of stones (for cooking with wood) or "ganoun," a type of woven wire, in which charcoal is placed.

The implements used are the same as those used in normal household cooking, the only difference being the size of the tools. For the most part, they are manufactured by local blacksmiths and artisans.

Generally speaking, the tools and instruments used in food preparation technology, while they may be well adapted to the prevailing form of individual production, are largely unproductive and, in the case of certain operations, inefficient. Some tools cause women artisans to endure considerable hardship.

Last, but not least, the women who process and sell these products often fail to consider hygiene. Operations such as drying are conducted outdoors, sometimes on the ground, and in contact with dust, flies, and other contaminants. As a result, the finished product may harbor eggs laid by flies.

## 2. Financial constraints

In the current context, asking women to invest in improved or better adapted technologies in order to increase production or reduce hardship is to ask the impossible. The financial resources at the disposal of these women are so insignificant that they are in no position to invest in so-called "adapted" or "appropriate" technologies. Our surveys revealed that 61 percent of the women started up their processing activities with personal funds of about CFA 10,000; no reliable machine costs under CFA 10,000. In addition, the women often have cash-flow problems and are therefore unable to tie up funds for an extended period of time.

Despite the dynamic nature of the traditional food processing sector and the value added that this sector contributes to the country, the present environment is not conducive to its development. The present environment is characterized by a lack of access to institutional credit, with the exception of a few NGOs (VITA/PEP, OXFAM) that provide small loans to these women; no other parastatal or state institution pays them any attention, although this sector appears to be much more solvent than many formal sectors involved in food processing.

## 3. Lack of training

The big problem confronting these women is their lack of training. More than 85 percent of the women questioned cannot read or write. This low literacy rate partially explains the lack of regard for basic principles of food hygiene and the resulting problems of food contamination and digestive disorders. Furthermore, due to their illiteracy and lack of training, the women cannot avail themselves of management tools. Among the sample of women surveyed, most have no conception of cost price or monthly production. This situation creates a serious problem insofar as they are not even aware of the level of profitability of their activities.

## VI. GENERAL OBSERVATIONS AND CONCLUSION

In conducting our study, we observed the following general conditions.

- In the current crisis situation affecting so many African countries, it is expected that informal groups and associations will play an increasingly important role in the future development of food processing activities. This will apply to small farmers who supply the small processing units, as well as to those directly involved in such units. It would therefore be useful to determine the capacities of these target groups, particularly their management capabilities. It would also be useful to evaluate their training requirements and any needs for technical and organizational assistance.
- We must recognize that Chadian women fulfill an important role in processing and promoting local foods. Unfortunately, they are faced with the following obstacles: difficult access to credit, lack of security, and limited technical and management capabilities. They should be in a position to benefit from the services provided by state agencies involved in business promotion and technical support. Presently, however, women are overlooked. When designing industrial products and production methods, we should consider their needs as users (implements to simplify their work, techniques centered on basic needs, ways to improve quality of life, and so on); in addition, women should be included in the testing and final design of such products.
- Access to traditional food processing activities in Chad is facilitated by a small initial investment and limited technical qualifications. The required knowledge is transferred either from mother to daughter, in a classic process of perpetuating customs and domestic means of production, or through other family members or friends. These activities, which are often compatible with domestic chores, serve to enhance what is exclusively women's work, although some men (merchants, millers, transporters, and so forth) are directly involved. Given their predominant use of female labor and their accessibility, traditional processing activities constitute a sector that creates employment, wealth, and income.

To complete our analysis, we surveyed 250 people involved in the processing of the five products presented above. Ninety-seven percent of our respondents were women, with an age range of 12 to 64. Ninety-six percent of the respondents perform their processing activities at home (in a courtyard, shed, or kitchen) and 86 percent of these locations have neither water nor electricity.

The equipment used is traditional, except for the spaghetti machines and cereal and peanut butter mills, which are used for the finishing operations. These machines are all imported from Nigeria or elsewhere. As an example, the price of a manual spaghetti machine ranges from CFA 7,500 to CFA 15,000 and can process 5 kilograms of flour per hour.

In the preceding pages, we have referred to the lack of training of the women who process these products. The survey revealed that approximately 85 percent of them cannot read or write. As a result, they are unable to maintain a ledger of accounts or an operating account. Since access to these activities requires limited technical qualifications, the lack of training has not prevented 36 percent of the women from practicing their trade for more than five years. The survey also revealed that 95 percent of the women work for themselves and that, for 75 percent of them, these activities are their principal source of monetary income.

**ANNEX C**  
**APPROPRIATE TECHNOLOGIES INVENTORY**

## Agricultural Production

### Animal Drawn Implements:

- Plow (common)
- Harrow (rare)
- Seeder (fairly common in peanut zone)
- Weeder (rare, except houe occidentale)

## Crop Processing

### Cereals

- Threshing Machine (rare, not observed)
- Dehullers (rare, but increasing)
  - Engleberg
  - Abrasive disk
  - Rotary beater (newly invented in Sarh)
- Flour mills (motorized, common)
  - Stone mills
  - Hammer mills
  - Metal disk mills
- Rice dehullers (Engleberg type mill)

### Maize

- Manual Sheller (not observed, rare)

### Peanuts

- Thresher (just introduced)
- Dehuller (common)
- Animal powered gani for oil extraction (in Ouaddai, Batha)

### Tomatoes, gumbo, piment

- Improved drying systems with elevated trays, shade

## Transport

- Horse, donkey, or ox drawn carts (common)
- Pushcart (common)
- Pushcart adapted to bicycle (fairly common)

## Food Processing

- Hand operated metal disk mill for peanut butter (common)
- Motorized oil mill for peanut butter, spices (common)
- Pasta machines
- Blenders for juices

**ANNEX D**  
**GRAIN MILL FINANCIAL ANALYSIS**

Grain Mill Financial Analysis

INVESTMENT

Hammer Mill	
Lister Diesel Engine	330,000
Installation Costs	650,000
Parts and Supplies	33,500
Contingency	30,000
Total Investment	52,175
	1,025,675

ECONOMIC ASSUMPTIONS

Service Charges

Millet/Sorghum milling	30 FCFA/koro
Maize milling	60 FCFA/koro

Parts and Input Costs

Diesel Fuel	290 FCFA/liter
Engine Oil	1,000 FCFA/liter
Oil Filter	4,000 FCFA each
Fuel Filter	12,000 FCFA each
Hammers	8,000 FCFA per set
Bearings	50,000 FCFA per set
Drive Belt	10,000 FCFA per set

Labor Charges

Manager	24,000 FCFA/month
Mill operator (salary)	9,000 FCFA/month
Mill operator (incentive bonus)	125 FCFA/day

General Overhead

Office Supplies	2,000 FCFA/month
Rent	12,000 FCFA/month

Taxation

Patente	43,000 per year
Market Tax	1,500 per month
Income Tax	50% of net

PHYSICAL FLOWS	YEAR	1	2	3	4	5	6	7	8	9	10
Hours of operation per day		4	5	6	7	8	8	8	8	8	8
Millet/Sorghum		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Maize		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Downtime (days)		5	7	10	12	15	15	15	15	15	15
Fuel Consumption		308,850	383,898	456,750	529,830	600,300	600,300	600,300	600,300	600,300	600,300
Oil Changes		11	14	17	19	22	22	22	22	22	22
Oil Filter Changes		6	7	8	10	11	11	11	11	11	11
Fuel Filter Changes		3	4	4	5	6	6	6	6	6	6
Hammer Replacements		5	6	7	8	9	9	9	9	9	9
Bearing Replacements		0	0	1	1	1	1	1	1	1	1
Drive Belt Replacements		0	0	1	0	1	0	1	0	1	0

[SOURCE: PADS/CAT MOUNDU]

TECHNICAL ASSUMPTIONS

Milling Capacity - Millet/Sorghum	48 koro/hr
Milling Capacity - Maize	40 koro/hr
Diesel Consumption	0.75 liter/hr
Engine Oil	125 hours
Oil Filter replacement	250 hours
Fuel Filter replacement	500 hours
Hammer replacement	300 hours
Bearing Replacement	5,000 hours
Drive Belt replacement	4,000 hours

Working Days per Month	30 days/month
------------------------	---------------

BREAKEVEN CALCULATION

VARIABLE COSTS PER HOUR

Diesel	218
Motor oil	24
Oil Filter	16
Diesel Filter	24
Hammers	27
Bearings	10
Drive Belt	3
Total Variable Costs per Hour	321

VARIABLE COSTS PER KORO PROCESSED

Millet/Sorghum processing	6.68 FCFA/koro
Maize processing	8.02 FCFA/koro

FIXED COSTS PER MONTH

Depreciation (3 years)	28,153
Labor	36,750
Rent	12,000
Office Expenses	2,000
Patente	3,583
Marketplace tax	1,500
Total Fixed Costs per Month	83,986

Millet/Sorghum Breakeven Point	1,939 koros
Maize Breakeven Point	1,616 koros

Millet/Sorghum Breakeven Point	40 hours of operation
Maize Breakeven Point	40 hours of operation

**ANNEX E**  
**PERSONS CONTACTED**

**PERSONS CONTACTED**

M. le Ministre de l'Agriculture

Mme. le Ministre de la Condition Feminine

M. Aboubakar Ousti Ourdi, Directeur du DRHFRP, Ministère de l'Agriculture

M. Brahim Idrissa, Directeur a.i., BIEP

Mme. Sako Odile, Ing. Agrc-Alimentaire, BIEP

M. Loatard Mogabe, Directeur du Direction Statistique Agricole

Mme. Massalabaye, Directrice a.i., Dir. de la Promotion Feminine, Ministère des Affaires Sociales

Mme. Selguet Achta, Coordinatrice volet Femmes du Projet PISB de l'UNICEF/UNIFEM

Mme. Thonnad, Coordinatrice du CILONG

Mme. Fatini Chombi, Responsable de la Promotion Feminine, SECADEV

M. Atakem Djemambé Tandoh, Coordonnateur, PADS/CAT-MIE

M. Adoumbaye Bati, Technicien-Formateur, PADS/CAT-MIE

M. Jean-Claude Barneaud, Ingénieur, GRET

M. Claude Vincent, PADS/CAT Moundou, GRET

M. Arsène, PADS/CAT Moundou

Dr. Mariam Alladoungué, Directrice, Centre Nutritionnel et de Technologie Alimentaire

Mr. Bill Stringfellow, Director, Care

M. Gos Mbaïron

Mlle. Nico'e Mouguelta Nadinja, Chef de Projet, Market Women Credit

Mme. Mbayetoubam, Responsable du Centre de Technologies Appropriées du PNUD/UNIFEM

Mr. Iven Ose, Director, VITA

Mlle. Moudelbaye Appoline, Manager of Micro-Lending

M. Abakaka, Regional Manager, VITA Moundou

M. Ganguebé Mboninga, Loan Officer Moundou

Mr. J. Riley, Director, Africare

MM. Ahmet Moussa, Aboubakar Mohamet, Issa Mardo, Africare/Abeche

M. Kimma Douga, Coordinateur Adjoint, AFPES

M. Nicola Morganti, Director a.i., ACRA

M. Luca Paietta, Project Manager, ACRA/Nicellim

Mme. Achta Djibrine Sy, OXFAM  
M. Djoubo Watchong, OXFAM

M. Jean-Pierre Leroy, Director, ACORD  
M. Pascal, ACORD Bokoro

M. Soumaïne Adoum, Secrétaire Général, DARNA

M. Meinolf Spiekermann, Representative of GTZ

M. Yao Pokou, Ingénieur Agronome, World Bank

M. Joël Louapambet, Chef du Service d'Analyse des Projets, ONDR/FIR  
M. Behom Laokas, Chef du Service d'Appui aux Organisations Rurales, ONDR/FIR

M. Dounia Kagne, Directeur, INADES-Formation Tchad

Mme. Kolingar Kadidja, Directrice Générale, ECBTP

Dr. Nicole Froud, Sect. Gen. CNPT, propriétaire de la Pharmacie du Canal

Mme. Bintou Keita, Responsable du PISB, UNICEF

M. Ousman Seid, Directeur de l'Alphabétisation

M. Pierre Gense, Représentant de l'FAO

MM. Allium, Jean-Louis, Nelimta, APICA

MM. Pierre-Andre Plomb, Ricardo Rodari, BRA

M. Ningataloum Tin-Tin, CREC

M. Djétodjidé Fidèl, ASSAILD

M. Nadjastan Tougondjide, Chef de Secteur, Sarh  
Mme. Ndadi-Allah, Responsable Formation Feminine, CFP, Sarh

M. Firman Mansis, ORT Sarh

Pere Ramon, BELACD, Sarh

M. Rassembaye, ONDR, Sarh

Mr. Warren Eckert, CARE Tchad, Sarh

M. Ngoulou Pierre, Pierre Gotiyo Ngolba, SECADEV, Bokoro  
M. Achiek, SECADEV, N'Djaména Bilala  
M. Tidjani Assad, SECADEV, Oum Hadjer

M. Amin Moussa, ECADA

M. Didier Bicart, Directeur Général, SIMAT

Various millers in the towns of Bebaloum, Benoye, Moundou, Sarh, Abeche and N'Djaména.

Many women members of groupements féminins in every prefecture visited by the team.

Mme. Selgue, Direction de la Promotion Féminine

M. Amadou Maiga, conseiller technique, Projet FAO Aménagement des Ressources Forestières du Tchad

Dr. Monika Midel, Chef de Projet Microrealisation, Mayo-Kebbi, GTZ

M. Alexander Proehl, Projet Planification Regional du Mayo-Kebbi, GTZ

Mme. Bintou Malloum, MInistre Affaires Sociales

M. Patchane, ONDR, Lere

M. Chindane, ONDR, Lere

M. Lucien Challa Kebzalo, Responsable, BELACD, Lere

M. Sakaou, Abba Mei, FIR Lere

M. Khalil Djalal, Directeur, SODIMEX Sarl

M. Berassal Klamadji, Ingenieur des Techniques de l'Élevage, Laitiere

Goni Malloum Moustapha, agent de service credit, VITA

Mme. Molelnoudjiel Koumando Bibiane, AFTEC, Moundou

M. Alio Adoum Abdoulaye, Secrétaire General, Aliaawoun, Abeche

M. Oustas Sambo, VITA

Mme. Fatime Malakona, Responsable activités féminines, DARNA

M. Luc Laotay, Chef Laiterie, SONAPA

M. Gueralbaye Koumadoum, Chef Division Formation de l'Alphabétisation et Promotion des Langues Nationales, Sarh

M. Yambay, formateur, Division de l'Alphabétisation, Sarh

M. Madjirange Madibay, Domgang Beradimge, Ndintamnan Paningan, APIA, Sarh

M. Michel Nguinambaye Kaibe, Mme. Ndingueta Claire, Mbaihoroum Mbaindoul, INADES Formation, Moundou

M. Dildatam Sangahay, Mme Gouguet Sophie, formateurs CRAD, Lere

M. Mbairnom Negdam Isaac, Ingenieur Techniques Agricoles, CRAD, Lere

M. Adoum Mahamat, Chef de Secteur Lere, ONDR

M. Mbaire Rogoto, Formateur ONDR, Lere

M. Victor Maes, Directeur du BELACD, Moundou

Mme. Lonai Thaelem, Coordinatrice Promotion Feminine BELACD, Moundou

Mme. MBaitoloum Dina, Bansebe Monique, Boudou Matta, Centre d'Education Feminine, Sarh

MM Valentin Dingamsande, Valentin Ngariyanar, Radio Sarh Rural

Mme. Ymingra, Anbainelta, Koutou Kadidja Kossi, Centre Social, Sarh

Mme. Munyangar, Therese, Formatrice, Centre d'Alphabetisation, Bebinga

Mmes. Kimala. Susanne, Alafi Beda, Laoukoubou Nodhiam Louise, Dimance Ngeligoto, Association Mosso, Koumra

Mme. Khadidja Abdel Kader, Directrice DRHFRP

Mme. Jenifer Echols, Directrice, Projet Ecoles et Forests, Bongor

M. Dimanche Nodjiram Djimadoun, Commission de l'Alphabetisation, Bongor

M. Kayar, Directeur, Chef Formation de l'Alphabetisation et Promotion des Langues Nationales

M. Elina Yanrandi, ONDR, CARE, Bongor