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9. ABSTRACT  
 This three year study among the women of four villages of Zaria, Nigeria, attempts to develop a methodology for micro-research on how rural women participate in and benefit from the development process. It also attempts to show how the results of such research may affect the development policies on the roles and activities of women. There is a growing interest in LDCs in the economic roles of women and how these roles affect the development policies of the country. Planners emphasize women as beneficiaries rather than participants in development schemes. There are many impediments to a greater understanding of women's roles in economic development. The existing surveys are not adequate to really shown the relative importance of women in agricultural decision making. Self-employed persons of any sex are difficult to deal with in planning exercises; their wide variations in returns, skill levels and working hours do not lend themselves to neat generalizations about value added or full employment. There is also a lack of prior experience and literature in this field. This project involved several cycles of interviews, three sets of questionnaires, participant observation, and longer, unstructured interviews with some women. Only at this level can differences critical to the participation of women in development be distinguished.

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# Economic Research on Women in Rural Development in Northern Nigeria

by

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## Preface

In April 1976 the OLC invited three researchers from Africa -- Dunstan Spencer, Achola Pala and Emmy Simmons -- to present their research findings at a Seminar on "Women in Rural Development in Africa: Implications for Donors Organizations." Dunstan Spencer's seminar paper was recently published by the OLC as "African Women in Agricultural Development: A Case Study in Sierra Leone." Spencer's research highlighted the need for micro-research on the rural household--rather than research on farmers. Spencer's findings further illustrated the need to pursue research on the labor allocation of men, women and children in rural households rather than jumping on the bandwagon and pursuing research on women.

The paper which Emmy Simmons presented at the April 1976 seminar reinforced the need for micro-research. She pointed out the difficulties she encountered in developing a methodology and questionnaires for studying the commercial activities of Moslem women within their campgrounds (rural households) in three villages in Northern Nigeria. Simmons discusses her mistakes and frustrations with unusual candor and in a spirit of sharing these with other researchers. Emmy Simmons' findings supplement the research by David Norman and reported in his paper "Inter-Disciplinary Research on Rural Development" (OLC Paper No. 6, April 1974).

Simmons' findings reveal that rural research must go beyond farmers, their fields and their adaption rates and include all members in rural households because decisions on production, consumption, marketing, migration, and education are complex household decisions in which the woman is often a key factor and participant in decision-making.

Emmy Simmons is an American agricultural economist who undertook her research in Nigeria as a Research Fellow in the Rural Economy Research Unit, Ahmadu Bello University. Ms. Simmons has undertaken research in Mauritius, Nigeria and Liberia. She is currently working for the Ministry of Economic Planning, Monrovia, Liberia.

Carl K. Eicher, Chairman  
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# Table of Contents

1	Introduction
3	The Background of the Study of Women in Zaria Province
5	Research Methodology
6	Research Results
8	The Occupational Structure
10	The Work Environment
12	Work Patterns and Productivity
17	Incomes
19	Opportunities for Rural Women in Northern Nigeria
23	Conclusion: Research and Planning for Furthering the Participation of Women in the Economy
	APPENDIX
27	Notes on Research Methodology
28	The First Form: CSM/1
29	The First Revision of the CSM/1 Questionnaire
30	Second Revision of CSM/2 Questionnaire
33	Citations

## 1. Introduction

Interest in the participation of women in the development process has been kindled to a large extent by the actions of women in developed countries. Staging a diligent campaign for political and economic recognition of their own position, Western women have also provoked greater concern for women in developing countries.<sup>1/</sup> But the "women's movement" itself has barely touched the developing world. Many educated women in West Africa feel that women's coordinated action is uncongenial to their social and political environments or that it is simply unnecessary. To the majority of women in West Africa--rural, uneducated, and living in relatively media-free environments--the women's movement is unknown. These rural women remain politically under-represented and only peripherally mentioned in economic statistics and planning.<sup>2/</sup> Yet as development proceeds, women are clearly affected.

For a number of years, rural women in West Africa have received some attention from such development organizations as USAID, UNICEF, WHO, and FAO, but projects sponsored by these agencies have frequently reflected a Western perception of women's needs and aspirations.<sup>3/</sup> Viewing women as farmers' wives, housekeepers, cooks, and bearers of children, donor agencies have directed funds towards maternal and child health clinics, family planning programs, and home economics projects. Yet, information has long been available showing

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<sup>1/</sup> For example, in 1973, the so-called Percy Amendment to the Foreign Assistance Act stipulated that U.S. bilateral assistance programs must "give particular attention to those programs, projects and activities which tend to integrate women into the national economies of foreign countries, thus improving their status and assisting the total development effort."

<sup>2/</sup> See, for example, the Economic Survey of Nigeria for 1959, which recorded a total female labor force of 10,539 for Nigeria in that year and indicated that 1,327 of these women were in processing and manufacturing industries. Obviously, female participation was substantially higher than these estimates.

<sup>3/</sup> See (24) for an analysis of aid policies which leads to this conclusion.

that West African women play significant roles as farmers, traders, and entrepreneurs in their own right; and that these roles are of central importance to the women, their families, and the economies of West African countries.<sup>4/</sup>

Both national governments and donor organizations have begun to emphasize the economic roles of women in their development policies, but more current documentation on the activities of women is essential if planners and donors are to implement effective programs to facilitate the active participation of women in the development process. The critical details needed for planning will not emerge from existing general surveys which report that "women participate in agriculture" or "women are primarily engaged in the marketing of food crops."<sup>5/</sup> The knowledge that women spend more time on the farm than their husbands, for example, does not indicate whether women will respond to improved seed varieties or innovative agricultural practices. Nor do accounts of the time women devote to various agricultural tasks shed much light on the relative importance of men and women in agricultural decision making, a crucial factor in the planning of agricultural education programs.

Micro-level research will be the source of useful insights into the motivations, prejudices, goals, and behavior of women; only at this level can differences critical to the participation of women in development be distinguished. For example, Muslim women who never leave their houses in daylight hours will necessarily respond differently to development opportunities than Christian women from the same area who travel from rural market to rural market most days of the week, bulking and retailing local agricultural produce, Muslim

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<sup>4/</sup> Witness the Aba riots in Nigeria in 1929 (14).

<sup>5/</sup> Unfortunately, under pressure to produce some background documents for planning purposes, most efforts are restricted to this level of analysis. See (8), for example.

women whose husbands are financially able and willing to keep them in an idle state of well-being will also define their goals differently from Muslim women whose husbands can provide only one meal a day.

This paper describes a micro-level research project among rural women in the Zaria province of Northern Nigeria. It presents the results of the study from two perspectives: (1) that of a researcher attempting to develop a methodology for micro-research on how rural women participate in and benefit from the development process; and (2) that of a planner whose goal is to utilize the results of such research in tracing the possible effects of alternative development policies on the roles and activities of women.

## 2. The Background of the Study of Women in Zaria Province

This research on women in Zaria province was conducted under the auspices of the Rural Economy Research Unit (RERU),<sup>6/</sup> a multi-disciplinary research group established in 1965 at the Institute for Agricultural Research, Ahmadu Bello University, Zaria. The goals of RERU were micro-oriented; its work plan involved village studies in four rural areas of Northern Nigeria: Zaria, Sokoto, Bauchi, and Omu-Aran. The objective of the first phase of RERU's research was to describe and analyze what farmers were doing. The first study undertaken by RERU in Zaria was David W. Norman's 1966/67 farm management investigation of 120 households<sup>7/</sup> (16, 17, 18, 19). A consumption (budget) survey and an extensive survey of the food grain marketing system followed in 1970/71 (11, 21, 22). Several smaller studies of the adoption of innovations among male farmers were also carried out (4, 5).

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<sup>6/</sup> See (15) for a review of the development of RERU.

<sup>7/</sup> It should be noted that only men's earnings were tabulated in "household" income figures. As will be illustrated later in this paper, the omission of women's earnings may lead to some understatement of "household" incomes.

The extent of women's economic participation in village commerce was an unexpected but significant finding of the 1970/71 consumption survey, which covered nearly all the 120 rural households initially studied in the 1966/67 farm management survey. It was discovered that cash expenditures for ready-to-eat food constitute an important component of rural household spending patterns (22), and that village women both manufacture these food items on a specialized basis and sell them to the village at large. Since these women are Muslim, their participation in the economic lives of their communities is not highly visible; they maintain a form of purdah which confines them to their walled compounds during the daylight hours. Their trade in processed food items represents one aspect of a localized but fairly complex economic system, in which labor is specialized and cash is used as a medium of exchange. The existence of two economically distinct groups is evident; men function largely as producers and traders of agricultural raw materials, while women operate as commercial processors and distributors of food products.

These initial findings on the division of male and female roles led to a research project which I formulated to explore systematically and quantitatively the economics of women's money-earning enterprises in three villages in Zaria Province in Northern Nigeria: Dan Mahawayi, Hanwa, and Doka. My original intention was to conduct this research as an adjunct to the consumption survey, interviewing women in the 120 sample households for the major part of the survey year. While other researchers had noted the contribution of Northern Nigerian women to the domestic economy, they had been unable to quantify the extent of female participation.<sup>8/</sup>

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<sup>8/</sup> M. G. Smith attempted this in his study of Zaria in the 1950's (25) with very uneven results; Polly Hill simply notes that in certain cases (in Batagarawa, Katsina Province), women kept the domestic economy afloat by their own efforts (12 pp.59, 143-44).

### 3. Research Methodology

The survey of women in Zaria was carried out over three years, from April, 1970, through May, 1973. Several cycles of interviews were conducted in the three villages, although the most intensive interviews, to elicit detailed economic data, were done only in Dan Mahawayi and Hanwa villages. Three different sets of questionnaires were developed for the survey, and the consumption survey questionnaires were also utilized from April-July 1970. Interviews in which questionnaires were used were supplemented by participant observation and longer, unstructured interviews with some of the more articulate women.

The first interview form, Form CSM/1, was designed to gather monthly information from each adult woman <sup>9/</sup> in the survey households about her economic activities during the previous month, but this proved to be a completely unattainable objective. <sup>10/</sup> Form CSM/1 was accordingly revised, in an attempt to obtain more specific data about the last week of commercial activity prior to the interview. Still, too many inconsistencies and ambiguities were recorded, making analysis impossible, and the revised CSM/1 form was rejected. A series of 23 questionnaires, designated CSM/2, was then developed to elicit the detailed economic data required. But the recording of women's employment for the month of the consumption survey had to be abandoned, as the year was nearly over before the CSM/2 forms were perfected.

As a result of methodological complications and time constraints, the research project thus evolved from a broadly-based effort to evaluate the commercial activities of women in 120 households to a more limited study of the costs and returns of the commercial activities of 82 individual rural women.

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<sup>9/</sup> Most were married, about to be married, widowed or between marriages. No prostitutes were included. The youngest woman interviewed was about 15, the oldest, about 70.

<sup>10/</sup> The many reasons for the failure of Form CSM/1 are discussed in more detail in the Appendix.

#### 4. Research Results

##### 4.1 The Motivation to Work for Profit

Women in the Zaria villages say they work to earn money. However, this simple economic explanation incorporates a complex mix of social as well as economic motivations toward the accumulation of an independent store of wealth. Three aspects of the male-female relationship and the division of roles within the Zaria household help to explain why women seek to acquire independent financial resources.

First, while the male head of household is largely responsible for the care and maintenance of the household, Zaria women are expected by their husbands to provide for their own personal needs such items as soap, cosmetics, room decorations, and some clothing. Women must also supply part of the dowries for their daughters, particularly enamel and brass pots, clothing, and room decorations. Nearly 90 percent of the 212 rural women interviewed in a preliminary survey further indicated that they provided at least part of their own midday meals and those of their small children, as well as snack items, kola nuts, cigarettes, etc. And in at least three cases, women actually supplied the means of sustenance for their entire households.<sup>11/</sup>

Second, men spend their daylight hours working or visiting with men outside of their compound,<sup>12/</sup> while women remain inside the compound with other women and children. Women, from childhood and through later kin and marriage ties, develop independent social contacts with other women, frequently with

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<sup>11/</sup> This was a matter of shame in one woman's household: her husband would go off to another city to seek work, leaving her with nothing. The women in other households, however, happened to be wealthy in their own right. In one of these, the woman actually employed her own husband as her farm manager.

<sup>12/</sup> The compound is the residence unit for a household or related group of households. A variable number of buildings are enclosed by a high wall of mud or grass. An open space in the center is used as a common working and relaxing area.

women outside of their compounds, whom they visit on special occasions or after dark. These friend (kawa) relationships may take different forms, but a gift relationship that is more or less prescribed generally appears to be an essential part of these friendships, and elicits certain financial responses from one's friends. Thus the moral support offered by a confidante outside of the compound helps to motivate a woman to earn money, in order to cement and maintain the friendship.<sup>13/</sup>

Third, women also try to be good providers for their children, for when they are old and widowed, a strong parent-child relationship may serve as women's only form of social security. Sons who can provide housing for old mothers are especially valued. Friction between parents often results in the mother's leaving the compound without her children, who remain behind to live with their father. If a mother has trained and treated her children well, providing gifts of food, clothing, and money, they may feel obliged to provide for her if she later requests assistance.

Women's motivations to work are also influenced by social norms and conditions other than monetary needs. Women feel that a married woman must have an occupation (sana'a) in order to establish herself as a respectable adult in the community. Newlywed young girls, old women who become weak or senile, and women new to the village are virtually the only women "allowed" to be idle. There are many acceptable excuses for interrupting one's working life, as will be illustrated below, but it is said that a woman should be shunned by other women if she is able but unwilling to engage in some independent economic activity. Although they recognize that the erosion of demand for crafts, particularly for hand-spun cotton thread, has added an element of risk to the choice of a money-earning activity, women still voice the opinion that all women have some opportunity for remunerative work.

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<sup>13/</sup> Baba of Koro (26) tells the stories of such friendships very well.

The feeling also seems to be prevalent that a woman should not depend too strongly upon her husband. This perhaps reflects the ease with which men can divorce their wives, and the fact that one wife in a polygamous marriage is more expendable on practical grounds than a single wife in a monogamous union. While polygamous marriages offer distinct advantages to women, they also present organizational problems that can work to one woman's disadvantage and render her position less secure.<sup>14/</sup> Working and saving a portion of one's earnings are hedges against insecurity, since independent financial resources reduce dependency both on one's husband and on the smoothness of one's relationships with co-wives.

#### 4.2 The Occupational Structure

Acceptable occupations (sana'a) for married women fall roughly into four categories: food processing, crafts, trading, and medicine. As will be explained below, a distinction must be made between sana'a and other money-earning activities.

Food processing dominates the occupations chosen by women as sana'a. Of the 465 women interviewed in the three Zaria villages between 1970 and 1973, 398 (or 86 percent) reported at least one food-processing activity as sana'a. A 1973 occupational census in Hanwa village showed that food-processing activities were performed by nearly 85 percent of the entire female population of the village. The women reported that each operated independently, using only ordinary household equipment to produce one or more product lines. A young dependent child, usually a girl, often assisted in the sales operations. The other villages displayed a similar degree of female participation

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<sup>14/</sup> It is no accident that the Hausa words for co-wives (kishiya) and jealousy (kishi) are so close.

in the food-processing industry, and similar patterns of women's self-employment in this area.<sup>15/</sup>

The distribution of "acceptable" occupations among the sample of women interviewed in 1971 and 1972, and in the complete 1973 census in Hanwa, is shown in Table 1 below:

Occupational structures in two villages of Zaria Province: Hanwa and Dan Mahawayi, 1971 - 1973			
OCCUPATIONS	Dar Mahawayi 1971-72	Hanwa 1971-72	Hanwa 1973
<sup>a</sup> Food processing	35	46	179
<sup>b</sup> Food processing services	4	12	46
<sup>c</sup> Crafts	31	1	18
Trading	6	10	65
<sup>d</sup> Medicine	0	0	2
Number of women	35	47	271

- a. More than fifteen products were produced by village food processors on a regular basis. The women frequently referred to the production of each line as a separate occupation, and that convention will be followed here.
- b. "Food-processing services" indicates those food-processing activities in which the processor does not possess title to the goods produced but merely performs a processing function on contract for another food processor or household cook.
- c. Crafts done in the villages are weaving, spinning, and a little embroidery.
- d. Medicine here specifies only those women publicly producing identifiable products. In fact, many women perform midwifery functions for fees, but on a more occasional basis. Others are engaged in more clandestine forms of spiritual or herbal medicine for which they also receive remuneration, but not all of these women could be identified and none was willing to give information so they were not included in further work.

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<sup>15/</sup> See (1) and (9) for reports of its importance in other areas.

It is apparent from Table 1 that many women pursue more than one of the defined occupations. Sometimes a woman works at several different money-earning activities each day; at other times, she alternates activities each day or week. This approach to work scheduling is discussed below.

Women in the Zaria villages may pursue other money-earning activities besides the four main sana'a. Prostitution is one alternative occupation, even in rural areas, but it is not, of course, quite socially acceptable. Small livestock production, a source of income for many women, is considered to be good "banking" procedure rather than an occupation. Sheep, chickens, and goats serve as stores of value in a bankless rural society, bearing interest in the form of offspring and remaining available for liquidation when cash is required. Agriculture provides a limited amount of work for some women, who may assist in the cotton, groundnut, pepper, and cowpea harvests if their husbands allow them to go out at these times. Harvest work is usually done by the poorer women in the community, or by those older women who are generally not so restricted to the compound (13, p. 19).

#### 4.3 The Work Environment

Women's business enterprises are strongly conditioned by the necessity of living and working inside the compound. The organization and composition of the household affects the type of occupation a woman can pursue, as well as determining how much time is available for her business, as opposed to household tasks.

Although household duties occupy all women, the burden of domestic work is lessened by a number of factors. The average household studied in the consumption survey included three adult women,<sup>16/</sup> despite the fact that fewer

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<sup>16/</sup> That is, women who had been married at one time, though not necessarily at the time of the survey.

than half of the heads of these households had more than one wife. Since many compounds include more than one household, it is not unusual to find six or more women sharing the tasks associated with the maintenance of living quarters. Routine cooking tasks, particularly the preparation of the evening meal,<sup>17/</sup> are also shared by the women in the household, on a more or less fixed rotation. In about half of the consumption survey households, each woman cooked for two consecutive days, the frequency of her turn depending on the total number of women in the household. In an average-sized household, each woman might cook only two nights out of six. It should also be noted that one woman cooked all the time in about 40 percent of the consumption survey households; women who are alone in the village have no choice, and mothers-in-law have the privilege of allocating cooking duties to their daughters-in-law. Other meals tend to be less organized and frequently consist of ready-to-eat food items purchased in the village.

Shopping for cooking ingredients is the men's responsibility in most Zaria households. Only the households of Fulani cattle-owners in Hanwa village show a markedly different division of food-securing responsibilities. Each wife in the Fulani households is given a daily share of milk, whether or not she is cooking that day, and it is her job to sell this milk and use at least part of the returns to buy the household food needed on the days when she does cook.<sup>18/</sup>

Cleaning and laundry duties do not demand much of a woman's time. The

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<sup>17/</sup> The standard evening meal in Zaria consists of tuwo and miya, a stiff porridge of guineacorn or millet covered with a soup most often made of oil, vegetables, salt, and fermented locust bean cakes.

<sup>18/</sup> Indeed, the question may be raised whether milk-selling is a commercial activity or a domestic task. Since a certain amount of entrepreneurship is required to manufacture and sell the sour milk, milk-selling is classified in this paper as a sana'a.

modestly-furnished mud houses require little cleaning. The outdoor space in the center of the compound, used as a work and leisure area by all compound members in common, is usually swept daily by children. Children and men also bring in wood and water as necessary. Laundry may be done in the compound if sufficient water is available, but men frequently take on this task themselves or hire a washerman to do it. Children appear to be responsible for washing their own clothes from about age six on.

Limited household duties and the ability to share most tasks with other women help to explain the prevalence of individual money-earning activities among women in the Zaria villages. On the other hand, household conditions may limit women's choice of occupation and the regularity of their work:<sup>19/</sup>

- 1) the household may be too small to free an individual woman from housework in order to pursue regular, money-earning work;
- 2) children may demand a great deal of attention and care;
- 3) there may be no children to assist with the business, particularly with selling, or the children may be too young or the wrong sex;
- 4) other household members may be unwilling or unable to provide the capital necessary for the maintenance or expansion of a business.

#### Work Patterns and Productivity

It is always difficult to quantify the productivity and incomes of illiterate self-employed persons. The absence of written business records and the difficulty of recalling detailed information from memory certainly conditioned the quality of estimates of incomes, hours worked, and stock turnover which self-employed women in the Zaria villages were able to provide

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<sup>19/</sup> Women also cited boredom as a reason for changing occupations and, in some cases, for temporarily suspending an activity. The extent to which this was related to the work environment--the sameness of the working and living conditions--could not be analyzed from the available data. It would seem reasonable, however, that there is indeed a connection.

for enumerators. As noted earlier, two sets of questionnaires were developed, extensively tested, and then abandoned because the information obtained was too imprecise. Renewed efforts to elicit consistent, detailed information resulted in the CSM/2 questionnaires, in which income and employment data were collected for 23 occupations from a sample of 82 women. The CSM/2 interview series attempted to compensate for faulty recall about costs and returns by repeatedly surveying the same women and emphasizing production and/or sales for the last day that the respondent had actually worked. Similarly, general employment data were collected only for the last week before the interview. These interviews were conducted once a month from January through April 1971, and during the same months in 1972.<sup>20/</sup>

The CSM/2 interviews produced a body of data for each occupation, and for the total employment pattern of each woman as well. Fairly reliable estimates of costs and returns were obtained for each of the occupations (sana'a) performed by the women in the survey period; most of the estimates of average net returns were based on twenty or more reports. A striking degree of variability in work patterns, however, made it difficult to generalize about the relationship between actual and potential returns to employment. For example, some women worked in January, went to visit their daughters in February, felt lazy in March, and worked again in April. Others married their daughters off in January, worked in February, switched product lines in March to improve their gain, and went back to previous occupations in April. Still others pursued three sana'a in January, one in February, two in March, and all three again in April. When women worked at all, they appeared to work at their different occupations on a fairly regular schedule. But domestic affairs,

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<sup>20/</sup> The bias which the selection of this survey period may introduce is discussed in the Appendix. For reasons of enumerator availability, there was no alternative.

financial problems, and personal needs contributed to the on-again, off-again pattern of employment and productivity which characterized their work behavior over the eight month study period.

The method used to analyze the survey data was developed in response to these employment patterns and probably has no theoretical precedent. In order to combine the information on average returns with observed data on employment, and to derive estimates of average individual incomes, individual and collective "employment scores" were calculated. Full employment was defined for the purpose of this analysis as "having worked at all the occupations which the person identified as hers in the relevant time period before the interview." Thus, for women reporting one occupation, a full employment score (100) would be based on eight responses of work in eight interviews. If a woman reporting on two occupations had been actively working at both in all eight interview periods, she too would receive an employment score of 100, based on sixteen responses to sixteen interviews.

One work pattern is illustrated by the case of a woman who reported at the beginning of the CSM/2 interview series that she regularly performed two different food processing occupations and one service occupation. The monthly interview returns for this woman were:

<u>Interview Period</u>	<u>Occupation # 1</u>	<u>Occupation # 2</u>	<u>Occupation # 3</u>
January, 1971	No	Yes	No
February, 1971	No	No	Yes
March, 1971	Yes	No	Yes
April, 1971	... gone on a visit, out of town...		
January, 1972	Yes	"quit, no gain"	No
February, 1972	No	No	Yes
March, 1972	Yes	No	Yes
April, 1972	Yes	No	Yes

This was a typical work pattern, in that some commercial activity was undertaken

in every month but the one spent away visiting. Yet, in no month were all three stated occupations performed simultaneously. The fact that this woman had quit one of the occupations for lack of gain was ignored in computing her employment score, since women often took up occupations previously discarded when the costs of raw materials changed. Thus an employment score of 42 is assigned to this work pattern: with 24 opportunities for employment in her stated occupations, the woman actively worked at them only ten times, or 42 percent of the maximum possible time.

Employment scores can be calculated for occupations as well as for individuals. If, for example, the pounding of grain for others was reportedly done by twelve women, a full employment score of 100 for grain-pounding would be based on 96 monthly reports of employment in that activity. But if the twelve women together reported actual employment in pounding in the week prior to the interview only 73 times, the occupation's employment score would be 76. This means that a work report for the occupation was actually received 76 percent of the time it could have been. A high employment score suggests that an occupation is regularly pursued; occupations with lower scores are performed more sporadically.

Applying this concept of full employment in stated occupations to all of the women surveyed in Hanwa and Dan Mahawayi, slightly greater regularity of employment is evident among Hanwa women (Table 2). The Hanwa women scored an average of 64 on employment in their stated occupations, while Dan Mahawayi women scored 55. This is consistent with the fact that the two major food-processing occupations in Hanwa village received employment scores of 78 and 89. When the occupational distributions for both villages are combined, the average employment score for the women in both villages is 60.

Table 2. RURAL WOMEN'S WORK PATTERNS AND PRODUCTIVITY IN HANWA AND DAN MAHAWAYI VILLAGES  
January-April, 1971 and 1972

Occupations (Sana'a) <sup>a/</sup>	Average Net Return (naira/month) <sup>b/</sup>	Number of Women Employed			Employment Score			Adjusted Net Return By Occupation (naira/month)		Adjusted Monthly Gross Income for All Women (naira)		
		Hanwa Village	Dan Mahawayi Village	Total	Hanwa Village	Dan Mahawayi Village	Total	Hanwa Village	Dan Mahawayi Village	Hanwa Village	Dan Mahawayi Village	Total
<b>Food Processing</b>												
Millet balls	1.89 - 7.08 <sup>c/</sup>	11	7	18	78	50	67					
Soured milk	8.44	19	0	19	89	--	89	5.52	0.95	60.72	6.65	67.37
Koko/kuna <sup>d/</sup>	2.24	5	4	9	53	50	52	7.51	--	42.69	--	42.69
Fried bean cakes <sup>e/</sup>	6.84	6	3	9	63	46	57	1.19	1.12	5.95	4.48	10.43
Tuwo, rice	9.43	2	0	2	81	--	81	4.31	3.15	25.86	9.45	35.31
Roasted groundnuts	0.42	3	2	5	38	25	33	7.64	--	15.28	--	15.28
Cassava, cooked	2.67	8	0	8	39	--	39	0.16	0.11	0.48	0.22	0.70
Dan wake <sup>f/</sup>	-0.52	1	3	4	50	50	50	1.04	--	8.32	--	8.32
Steamed bean cakes	3.48	1	0	1	13	--	13	-0.26	-0.26	-0.26	-0.78	-1.04
Steamed corn cakes	n.a.	0	1	1	--	13	13	0.45	--	0.45	--	0.45
Fried groundnut cakes	2.88	2	12	14	63	47	49	--	--	--	--	--
Fried sorghum cakes	6.21	1	1	2	75	100	82	1.81	1.35	3.62	16.20	19.82
Steamed sorghum cakes	3.10	1	2	3	13	75	54	4.66	6.21	4.66	6.21	10.87
								0.40	2.33	0.40	4.66	5.06
<b>Services</b>												
Pounding for others	1.51	12	2	14	55	31	52	0.83	0.47	9.96	0.94	10.90
Hair-dressing	0.78	0	2	2	--	45	45	--	0.35	--	0.70	0.70
<b>Crafts</b>												
Weaving	1.84	1	8	9	88	64	67	0.74	0.54	0.74	4.32	5.06
Spinning	0.16	0	23	23	--	60	60	--	0.10	--	2.30	2.30
<b>Trading</b>	0.66	10	6	16	47	71	57	0.31	0.47	3.10	2.82	5.92
<b>Total Sample</b>	3.04 <sup>g/</sup> 5.90 <sup>h/</sup>	47	35	82	64	55	60	3.40 <sup>g/</sup>	0.77 <sup>g/</sup>	281.97 6.00 <sup>h/</sup>	58.17 1.66 <sup>h/</sup>	340.14 4.15 <sup>h/</sup>

a/ Only 18 of the 23 occupations enumerated are here. Data on the others was felt to be too unreliable; three of them have been combined here, e.g. koko, kuna; tuwo, rice; two different kinds of steamed sorghum cakes.

b/ See (23) where the methods of calculations used to derive these net returns are more clearly spelled. In general, total cost of ingredients and services were subtracted from total return achieved in all output was sold.

c/ Lower figure is for Dan Mahawayi; upper, for Hanwa (see 23).

d/ A product for drinking, usually in the morning, made from sorghum and millet.

e/ The term "cakes" is used simply to designate units of food.

f/ Fried bean cakes.

g/ Average per occupation.

h/ Average per woman.

#### 4.4 Incomes

Estimates of average income that assumed full employment would clearly <sup>21/</sup> overstate the actual incomes earned by women who were less than fully employed. The employment scores provide a useful mechanism for correcting income estimates based on average net returns (wages and profits combined) calculated from the reports of actively working women. Table 2 shows that the average monthly return in the occupations reported on in the survey period was 3.04 naira, and that the average return to each fully employed person would have been 5.90 naira. <sup>22/</sup> When the average net return in each occupation is deflated on the basis of its employment score, the average monthly return for all occupations is reduced to 2.14 naira, while the average income per woman decreases to 4.15 naira per month.

The disparity in incomes between Hanwa and Dan Mahawayi reflects similar contrasts in work patterns. Women are considerably better remunerated in Hanwa village, which has access to the larger markets of Zaria city and places fewer restrictions on women's movements outside the living quarters, <sup>23/</sup> than women doing similar work in more isolated Dan Mahawayi. After deflation for observed participation rates, the average return per occupation was 3.40 naira per month in Hanwa and only 0.77 naira in Dan Mahawayi. The fact that Hanwa women earned an average of 6.00 naira per month, compared with the 1.66 naira that women received in Dan Mahawayi, may account for the slightly greater participation of Hanwa women in work activities, demonstrated by their higher

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<sup>21/</sup> Again, full employment is defined for this analysis: as actually working in an occupation at the time of the interview.

<sup>22/</sup> At the time of the survey, one naira was approximately equal to U.S. \$1.50.

<sup>23/</sup> Among Fulani women with milk to sell, trips to Zaria selling points were quite acceptable. Hausa women, however, maintained a degree of seclusion comparable to that of all women in Dan Mahawayi.

employment scores. That Dan Mahawayi women pursued their commercial activities as vigorously as they did, despite such relatively low returns, may indicate the importance of independent financial resources to rural women.

It is interesting to compare these estimates of women's incomes with the information on "household" incomes presented by David W. Norman (18, pp. B28, C30, D28). In 1966/67, during the farm management survey, Norman calculated farm incomes by valuing the production of crops both for sale and for consumption. The average gross farm income was estimated to be 199 naira per year in Dan Mahawayi households, and 215 naira per year in Hanwa. Norman also calculated men's off-farm incomes by applying a scale of estimated average rates of daily return to the observed number of days worked in off-farm occupations. (On the average, Hanwa and Dan Mahawayi men worked nearly as many days in their off-farm occupations as they did on their farms, even though these activities were estimated to be much less remunerative than farming enterprises.) However, women's off-farm commercial activities were not considered, and the estimated contribution of "off-farm" income to "household" income did not include women's earnings.<sup>24/</sup>

Since there was a five-year gap between the 1966/67 farm management survey and the 1971/72 occupations survey, a comparison of men's and women's off-farm earnings can only be very rough. In Dan Mahawayi, 13 households in the earlier sample had about the same composition in 1971/72 as in 1966/67. The average off-farm income reported for these households in 1966/67 was 51.48 naira; women's average income from their occupations in 1971/72 may be estimated at 54.95 naira. In Hanwa, men's average off-farm income in 21

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<sup>24/</sup> Because the enumerators were male, they could not enter the living quarters to interview women. This accounts for the omission of women's incomes, although it is de-emphasized in the report (18, p. BCD7).

comparable households was 57.66 naira in 1971/72 while women's average income for the later period is estimated to be 163.22 naira. Thus by omitting women's incomes, Norman's estimates of household incomes considerably understate actual household resources and productivity.

#### 5. Opportunities for Rural Women in Northern Nigeria

Women in Northern Nigeria frequently change commercial activities when domestic situations, the availability of capital, or personal preference indicate that a change is necessary or possible. The usual pattern is a shift from one food-processing product line to another, or from a food processing activity to a service or craft enterprise. For predictive and planning purposes, it is important to understand the factors affecting these choices, and how such factors may influence the expansion or diminution of rural women's opportunities for profitable employment. Will the occupations prevalent in 1970-73 still be pursued in 1980-83?

Some of the influences on women's decision-making about employment opportunities have already been identified and discussed above: the incentives to earn money of one's own, the need for most women to pursue money-earning activities within the confines of the living quarters, the need to integrate domestic responsibilities and business affairs, the size and composition of the household, and the degree of social acceptability of an occupation. In addition, the occupations survey of the Zaria villages revealed conditions which help to explain the current limits on the expansion of opportunities for rural women.

First, none of the women worked for another person for a regular salary. Even those women who pounded grain for others did so in their own homes, at their own pace, and for a charge they themselves set. Nor did any of the

women work together cooperatively, pooling either resources or labor for mutual benefit. Each woman served as owner/operator of her own "firm," producing foodstuffs or craft articles, performing services, or trading. Many women did employ others to assist in buying supplies or selling products. In nearly all cases, however, this labor was provided by men or children, particularly daughters; the only exceptions were a few old women who, for a small commission, sold hand-spun cotton thread produced by others.

Second, none of the women, or any of their daughters, had ever been to a school other than a Koranic school. None could read or write in Hausa, and few could count up to one hundred except by grouping into tens. None had ever attended adult education courses. None of the eighteen occupations discussed in this paper was ever taught; each woman developed her business skills independently through experience.<sup>25/</sup> New skills and techniques were learned by observation, but since opportunities to travel were limited, the women were rarely exposed to new methods. Visits to married children outside the village apparently prompted some small innovations in food-processing lines but have not produced any broad changes in occupational distribution.

Third, all the equipment used in the production of foodstuffs and craft items functions solely on the strength and stamina of the producer -- mortars, pestles, grinding stones, winnowing baskets, etc. The occasional use of the local motor-driven milling machines lightened the task of ingredient preparation, but the cost of the service and the quality of the output effectively limited wider use.<sup>26/</sup> Many women noted that age and failing strength often

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<sup>25/</sup> The range of skills acquired in this manner was apparent from the variance in returns to women within occupational groups as well as between them.

<sup>26/</sup> Machines were particularly useful in the preparation of such foods as groundnuts for oil and fried presscakes, and of sorghum and millet for koko and kunu.

occasioned a change of occupation. Spinning seemed to be the least taxing activity, while the preparation of millet balls and of groundnut oil were among the most physically demanding.

Fourth, in Hanwa village, informal stratification on the basis of tribe limited the processing of soured milk and millet balls to Fulani women. The Hausa women in Hanwa did not consider pursuing either occupation, although in Dan Mahawayi and Doka villages Hausa women did make the millet balls. However, other occupations did not appear to be restricted in this way.

Fifth, all of the occupations studied required minimal amounts of capital (jari). Only three women mentioned purchasing raw materials for a few days' production at a time, and all three were producing foodstuffs on a larger-than-average scale, with many years of successful business experience behind them. Virtually all the other women producing foodstuffs stocked ingredients for only one or two days' production. Weavers rarely had more thread than the piece they were working on required, although many spinners did accumulate cotton stores by picking at harvest time in return for a share of the crop. Two of the women trading in grains reported substantial investments in stocks; most other traders obtained their trade goods in single large units, such as a four-gallon tin of kerosene, which they would sell before buying more.

Finally, none of the food items produced was "modern"; they did not include significant amounts of imported ingredients, such as wheat flour, nor were they made from new recipes. While the village consumption surveys of 1970/71 did not show any great demand for modern food products at that time, experience elsewhere in Nigeria suggests that demand for such products may rise rapidly as urbanization and incomes increase (2). Demand for the output of the modern textile industry was already evident in the Zaria villages, and

was reflected in the view that the production of hand-spun cotton thread was somewhat old-fashioned. None of the more urban-oriented women in Hanwa were pursuing the craft any longer. Spinners in Dan Mahawayi complained of low prices and lack of demand for their thread, yet they themselves wore factory-made cloth.

Given the factors which circumscribed their decision-making, it was not surprising to find that rural women's own perceptions of their opportunities were very limited. Few women in the Zaria survey were willing even to speculate about the sort of employment picture their daughters might face, for all found it difficult to conceive of what might happen in "modern times."

In light of these constraints, it seems likely that the future development of productive opportunities for women will be most affected by conditions external to the village. The survey data have shown that while current modes of operation make women's enterprises profitable and manageable, they also hinder the expansion of business and the refinement of commercial practices. A century of continuous production of the same items despite substantial changes in the social and political environment is, to be sure, evidence of the economic resilience of Northern Nigerian women (3, 26). However, the massive infusion of oil revenues into Nigeria's economy has quickened the pace and changed the direction of the nation's development, and the ability of rural women to maintain their traditional business activities may be severely tested. What, for example, will a millet ball and soured milk producer do when she finds her husband joining a milk cooperative <sup>27/</sup> and her customers eating factory-made wheat bread? <sup>28/</sup> How will a groundnut oil and

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<sup>27/</sup> Milk cooperatives were advocated in the National Development Plan for 1970 to 1974.

<sup>28/</sup> The mounds of factory-made bread at Nigerian bus stops indicate a growing demand for the product. Small-scale industry loans to bakeries (see 10), the government's partial ownership of flour-milling facilities, and price controls on wheat flour all encourage the growth of the industry.

presscake processor react to the establishment of a marketing cooperative among male groundnut producers in her village, or to the guaranteed prices and markets these men might receive from the large scale oil mills in Kano? What will happen to the beancake manufacturer whose children, her only sales agents, go off to school?<sup>29/</sup>

## 6. Conclusion:

### Research and Planning for Furthering the Participation of Women in a Rural Economy

This research on women in Northern Nigeria provides a modest basis for analyzing the impact of proposed development policies and programs on rural women's business activities.

For example, the introduction of crop varieties which are less easily processed by the domestic tools currently in use will affect women's activities in a number of ways. The work will become more taxing, and older women may be removed from employment as a result. If the task requires the use of a mechanical grinding machine, the cost of production may be raised to the extent that product lines based on that crop are no longer profitable. School attendance by children will also influence business operations, though it is likely that women's interest in keeping girls at home will, in the short run, impede the progress of the current campaign for universal primary education. It has already been noted that competition for consumer markets among substitute foodstuffs, such as bread and millet balls, may be damaging to rural women's commercial activities. Livestock development projects, on the other hand, would seem to offer women opportunities for occupational growth, though current definitions of sana'a would have to change. Modern production of

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<sup>29/</sup> The Universal Primary Education (UPE) policy instituted since 1973 is intended to extend free school facilities to all.

animals, such as chickens, could be adapted to many of the conditions which now govern women's employment-- seclusion within compound walls, independent self-employment, ability to integrate domestic and commercial activities, and minimal equipment. A primary factor limiting expansion in this sector would be a lack of the technical expertise needed for a modern livestock operation. More creative efforts in agricultural extension, using female agents, would be required to compensate. The likely effects of other development projects can be similarly examined.

Given the limited supply of data available from this single study, it is, of course, impossible to put forth definitive answers to the question of women's continued participation in productive employment in Northern Nigeria or elsewhere. More information is clearly needed. Without an expanded data base, analyses of employment and productivity are likely to underplay, if not altogether ignore, those areas which most concern women. Planners will continue to view women in the context of social planning, emphasizing their role as beneficiaries of development schemes, instead of facilitating their participation in the development process.

At the same time, the Zaria research experience underlines the obstacles to the acquisition of a more useful data base. First, there are many difficulties in undertaking micro-economic research about a phenomenon largely unknown to researchers. A researcher will normally specify appropriate variables and define relevant concepts on the basis of prior knowledge of similar situations. But the economic literature relating to very small-scale commercial enterprises is scanty, and this is precisely the sphere in which the vast majority of women in the Zaria region conduct their economic activities.<sup>30/</sup> Furthermore, economic studies which examine quantitative data on

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<sup>30/</sup> It is hoped that the Sierra Leone study (6) will contribute some information on this sector in the near future. See (7) for some interesting comments on rural women in Indonesia.

production, trade, and employment in the context of societal and domestic sex roles are almost non-existent.

The absence of a broader perspective in economic studies is evidence of a second impediment to useful research on women: economists may lack the sociological and anthropological tools necessary to consider behavior that wanders out of the strict economic sphere, while the more socially oriented researchers may lack the skills required for quantifying behavior patterns. A concentrated effort must be made to develop a new understanding of rural households and to formulate new techniques of analysis which can compensate for the biases of cultural assumptions. Where women are largely restricted to the home, for example, as in the Zaria villages, it is necessary to define more precisely which of the tasks performed "in the home" are financially remunerative, and which are not. The use of stereotypes remains a problem in this field, too--the farmer as "he," the wife as "housewife," "real work" as employment by a company, to the exclusion of the self-employed. But if a new and more accurate perspective can be gained, it will be possible to adapt concepts used in general economic analysis of business behavior to the analysis of commercial operations within rural households.

Third, the field experience explains why Nigerian and other West African planners have largely ignored the economic contribution of women. Self-employed persons of any sex are difficult to deal with in planning exercises: wide variations in returns, skill levels and working hours do not lend themselves to neat generalizations about value added or full employment.

The task of removing these impediments to a greater understanding of women's roles in economic development will be a lengthy one. Each country will have to develop its own priorities for research in the field. <sup>31/</sup> But

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<sup>31/</sup> See (20) for a fairly comprehensive list of research areas which many countries will need to consider.

research on women must not be viewed as an isolated field task: special studies of women's roles must be linked with larger research and evaluation efforts if the relevance of the results is to be established for most policy-makers and project analysts. The study of women in development is, of course, interesting and informative in itself. But a more significant objective must remain firmly in view: to utilize the results of such studies in the implementation of effective programs which facilitate the participation of women in development.

## APPENDIX

### Notes on Research Methodology

One of the basic premises of research is that one can discover the "truth." Even when the methodology is fairly well established, as for example a household budget survey, the personalities and abilities of the respondents pose challenges to the researcher in the effort to reach the "truth." Questionnaires which check and cross-check must be supplemented by observation, discussion, and application of analytical skills. Enumerators too must be supervised, observed, and thoroughly investigated for biases and errors. The researcher's own point of view must also be examined for the biases introduced by prejudgement, stereotyping, and other faults of perception.

In research on women in economic development, these obstacles are compounded by the lack of prior experience and standard literature on the methodology for collection and analysis of relevant data. This Appendix reviews my field experience in the Zaria study in order to contribute to the literature on research methodology.

The development and revision of the questionnaires illustrate a productive learning experience for the researcher. As more data were collected, more knowledge was gained from the respondents. While it proved relatively easy to obtain general descriptive information about the conduct of certain business activities, it was much more difficult to determine the magnitude of gains and losses and to identify the causes of business success and failure. The researcher's concepts had to be constantly adjusted to match the women's abilities to understand the questions being asked, so that the resulting answers would be as unambiguous as possible. The difficulty of

effective interviewing in a situation where neither respondents nor researchers knew what to expect from one another was underscored time and time again.

The First Form: CSM/1

The first consumption questionnaire, CSM/1, was developed for initial interview of some 300 women in the sample households, in order to get a general idea of women's occupations. The purpose of this first step was to supplement the data Norman was collecting in his male-oriented farm management survey (16, 12, 18) with information about the actual and potential contribution of women to their households. It was hoped that this experience would be useful in developing a questionnaire which could subsequently be administered to a smaller sample of women for the rest of the survey year. This, in turn, could generate more precise monetary figures on inputs, production, sales, and expenditures, as well as documentation on work patterns and seasonality of employment.

CSM/1 was primarily intended to identify the commercial activities pursued by women in households throughout the year and to provide basic data on:

1. quantities of raw materials used
2. source of raw materials
3. marketing arrangements
4. quantity of products sold
5. timing and location of sales
6. work-time requirements
7. amount of home consumption of product.

This form was purposely framed to avoid direct inquiries about money, because it was thought that the women might be reluctant to answer such questions in the presence of co-wives.<sup>1/</sup> While this was probably true, it proved difficult for the women to report "quantity sold" or "quantity purchased" without referring to the monetary value of the quantity involved.

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<sup>1/</sup> Not all households were polygynous, but the majority had more than one adult female member.

While CSM/1 did produce a great deal of general information about women's occupations, particularly women's own definitions of sana'a, it was even more valuable as a lesson in the design and use of such questionnaires. The first form seriously overestimated the ability of the women to summarize in "average" terms and grossly underestimated the time required to complete the questionnaire; The generalized format was clearly ill suited to the minutiae of very small scale enterprises. Although the questionnaire dealt with matters considered "private," some women insisted upon attending other women's interviews, which in many cases encouraged or even forced the respondent to withhold or exaggerate information about certain aspects of her occupation. Even the fairly modest objectives of the survey began to seem very ambitious in light of the first set of interviews. Finally, the importance of gaining experience in designing questions which did not gloss over critical distinctions or ignore certain factors altogether, was demonstrated in a striking manner.

#### The First Revision of the CSM/1 Questionnaire

When the CSM/1 interviews had been completed, a more realistic assessment could be made of the interviewers' and respondents' verbal abilities, and of the variable conduct of the different occupations. The original content of the questionnaire was simplified and expanded into a series of four questionnaires. The new questionnaires were more specifically tailored to the characteristics of certain classes of occupations and were written in the Hausa language after thorough cross-checking of the concepts used. The revised questionnaires specified a number of likely answers for each question, so that it was possible to simply tick off the appropriate response for most questions.

The revised forms requested precise financial information about:

1. prices of raw materials
2. sales prices of products
3. total sales for one day
4. cost of selling
5. expenditures over the past month.

These questionnaires were administered to about 140 women for two months in mid-1970. Preliminary analysis of the results revealed that the desired financial data was not yet forthcoming in a readily analysable form. For example, some women included the value of home-consumed production in total sales, while others did not. Many of the costs and sales figures seemed to be unreliable and inconsistent, and the women were unable to analyze various cost components. Even though many of the women were operating highly successful commercial enterprises, accounting concepts were only vaguely understood. Furthermore, the women tended to provide data which gave the impression that they were making a profit. There was also evidence that many women had limited perceptions of opportunity costs, particularly in regard to alternative employment of their labor. This, too, affected their responses.

#### Second Revision of CSM/1 Questionnaire

Because the survey results achieved by October, 1970, were unsatisfactory, a series of open-ended interviews was conducted with several women. More subjective information was sought on the women's perceptions of occupational necessity, occupational choice opportunity costs, appropriate business conduct, competition, markets, and future economic prospects. A new set of questionnaires, CSM/2, were developed on the basis of these discussions and the experience gained from using the CSM/1 and Revised CSM/1 forms.

CSM/2 comprised a set of 23 interview forms, each specifically designed for one enterprise or occupation. Information on the numbers of days worked in the week before the interview was noted, but detailed cost and return data

were collected only for the last day before the interview that the occupation was performed. (The ability to recall precise figures had been found to diminish rapidly after only one day.)

The wording of the questions which were in Hausa, on the CSM/2 forms was extensively pre-tested to preclude the kinds of indefinite answers that the CSM/1 questionnaires had elicited. Three rules were generally followed:

1. "Either/or" questions were never posed, since the complexity of the responses required the interviewer to record too much information by hand. Extensive recording by hand lengthened the time required for an interview, and there was a greater chance of vagueness or hedging in the responses.
2. Two questions were always formulated and more details would be sought only if the first question were answered affirmatively. Thus, the first question could be answered with a simple "yes" or "no." The second question, would list the appropriate possible responses in such a way that information on each could be elicited separately. This explicit organization reduced the likelihood of omissions by both respondent and interviewer.
3. Care was taken to ask specific questions about each component of such aggregates as total cost or total sales. For example, Form CSM/1 (Revised I) covered the subject of possible total daily revenue from a food processing occupation in one question, but Form CSM/2 used six questions to collect the same general information. By specifying each component separately, Form CSM/2 eliminated considerable ambiguity about the amount of home-consumed products, gifts, and credit sales.

The CSM/2 series was used eight times. The schedule of monthly interviews with a sample of 140 women for the duration of the consumption survey year, which had been begun in mid-1970, had to be abandoned, since the survey year was more than half over by the time CSM/2 series was ready for use. An alternative course was devised which emphasized the collection of economic data, but compounded the seasonality variable. The last week of each of the first four months in 1971 was devoted to interviews using the CSM/2 questionnaire in all three villages.<sup>1/</sup> The consumption survey, which was then drawing to a close, occupied the interviewers' time so completely that a fifth set of interviews was not possible. In 1972, however, two of the interviewers were still working with the research unit, and they repeated the cycle of four interviews in Hanwa and Dan Mahawayi villages.

The CSM/2 questionnaires proved to be a fairly efficient means of eliciting a limited amount of detailed information with a minimum amount of ambiguity. The questionnaires were also useful in recording the data gathered in participant observation sessions. Almost inevitably, however, as a result, the breadth of the research project originally envisioned, had been considerably scaled down.

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<sup>1/</sup> These months were selected primarily for reasons of enumerator availability, but also because most raw materials for the occupations in question were in good supply and in addition, the full range of occupations were being actively pursued at reasonable prices in this post-harvest season.

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