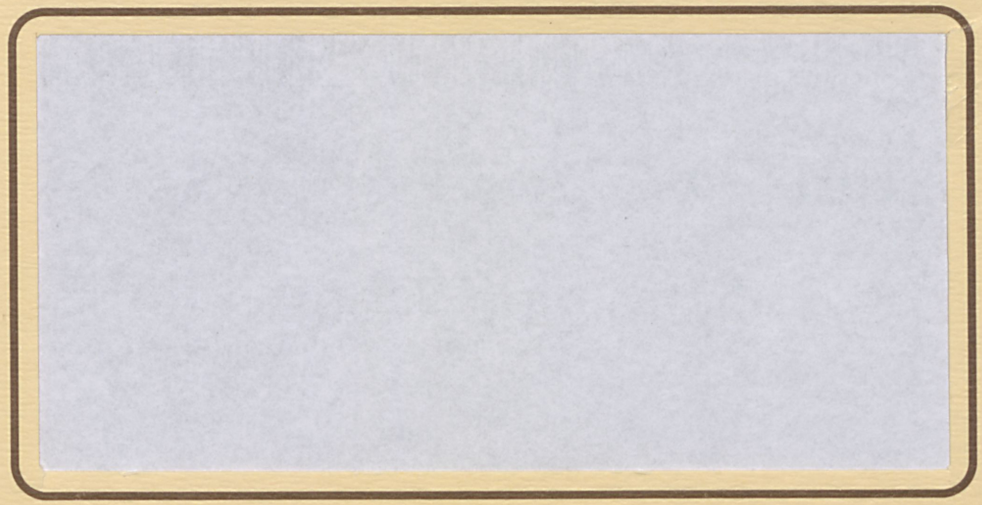
RURAL ECONOMY



STAFF PAPER

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Factors Constraining Women Farmers' Access to Agricultural Extension Services in Sierra Leone

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Staff Paper 94-04

June 1994

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The Problem

Women farmers in Africa traditionally have been involved in various aspects of farming while receiving little of the infrastructural support that male farmers enjoy. This study on access to agricultural extension services among the women of Sierra Leone illustrates the situation faced by women farmers throughout the Third World and Africa. African men perform the heavy jobs of land clearing, hoeing and fencing, but it is women who weed, harvest, transport, store, process and market produce, in addition to feeding and caring for livestock. The work of women farmers in raising food crops, however, is seldom perceived by officialdom as productive labour. Women often fail to be seen as "serious" farmers: men are the real farmers, and women are unpaid labour, or merely "helpers." The perception of women farmers as nonproductive has hindered their access to land, extension services and credit sources, resulting in less than optimal production of the food crops for which they are responsible. Furthermore, invisibility in the field results in neglect of women farmers at the development planning stage.

The study of Sierra Leone's women farmers is a necessary step towards recognizing their role in crop production and promoting their inclusion in planning programs. This survey analyzes the importance to women of the different extension services available to farmers, as well as the demographic characteristics of women involved in farming.

Agricultural Services in Sierra Leone

Sierra Leone is an African nation with 60-70% of its economically active population involved in agriculture. Of these, approximately 45% are women (FAO, 1988:66), and women provide at least 50% of the labour involved in food production (Longhurst, 1985:16). The provision of agricultural services to farmers in Sierra Leone is largely the responsibility of the Ministry of Agriculture and National Resources (MANR). Services, including the introduction of new techniques, farmer training, and provision of credit and information, are channelled primarily through the extension system. Other sources of these services besides the ministerial

system are large projects funded by external donors, and Njala University College, modelled after the landgrant university system in the USA.

Agricultural extension is of vital importance in Africa. Collins (1980), regards it as a key agency for development at the local level for two reasons. Firstly, the agricultural extension service is one of the few arms of government with a direct effect on individual farmers. Secondly, it is a source for scarce agricultural development resources such as farm inputs, information and loans. The importance of agricultural extension notwithstanding, a survey by the Adaptive Crop Research Extension (ACRE, 1983) found that extension in Sierra Leone is predominantly male-focused and oriented toward cash crop production. Since it is mainly women who plant the food crops that nourish families, while men concentrate on cash crops, the situation has serious effects on food supplies.

Sierra Leone's Growing Food Crisis

About three decades ago, Sierra Leone was an exporter of rice, its staple food crop. Recently, however, production has not kept pace with the increasing domestic demand. The Adaptive Crop Research Extension (ACRE) in 1983 projected the rate of increase in local consumption of rice to rise from 2.4% per annum in the 1980s to 4.0% per annum in the 1990s. Rice production has been declining since1974, and while importation made up the gap between supply and demand, money spent on rice imports has strained the country's balance of payments. According to the FAO, rice imported in 1965 was 18.9 thousand metric tons. By 1987, Sierra Leone was importing 97.7 metric tons. During the same period, the population growth rate increased from 2.7 to 3.0%. Clearly, greater food production is a priority for Sierra Leone.

The role of women in helping to fulfill the food needs of Sierra Leone was recognized by the FAO during the 1980 UN Women's Decade Conference. Recommendations to promote the inclusion of women in programs for increasing agricultural production have been made, but there are few studies on the resources available to do this. There is also little research on the women who would use these programs and services. The lack of information for a proper diagnosis makes the formulation of solutions difficult. This study attempts to fill part of the information gap. It follows a series of studies done in other African countries: Fortmann

(1979) in Tanzania; Moock (1976) in Kenya; Lucas (1979) in Botswana; and Gladwin (1987) in Malawi.

The Study: Objectives, Hypotheses and Limitations

The objectives of the study were threefold: 1) to assess the degree of access women farmers in Sierra Leone have to extension services in the form of advice and information, training , and loans; 2) to identify women's own perceptions of the factors that constrain their access to these services; and 3) to identify their suggested strategies for eliminating the constraints.

There were three main hypotheses:

1) Women's access to agricultural extension services is related to male presence in the household. That is, women in male-headed households will have better access than women who head their own households.
2) Women who do have access to services possess certain socio-economic characteristics. They will be younger, more educated, with a secondary occupation and higher income, and they will be responsible for supporting fewer people. Correspondingly, the husbands of these women will also be younger and educated. They will have farming as their main occupation, with a secondary occupation, and they will have only one wife and fewer dependents.
3) Access to agricultural extension services is related to distance from Njala, where the university is located. Women in villages close to Njala will have easier access to services than women in more distant villages.

The study assumes that at present, rural farm women in Sierra Leone have little access to agricultural services relative to male farmers. It is also assumed that there are socio-cultural factors operating which constrain women's access to services, and that assisting women to gain access to extension services can enhance food production in the country.

The study has several limitations, the most of which concern data collection. The research is based on surveys conducted by personnel from the local university. Also, the interview schedule was designed in English, while the target population is non-English speaking. The interviewers were fluent in both English and the local dialect, and the questions

were translated by them; however, it is recognized that certain information may have been vulnerable to loss during the translation process. A final limitation of the study relates to pretesting: African women with a farming background living in Edmonton, Alberta, comprised the pretest group, as time and resource constraints prevented the use of a pretest group more closely resembling the target population. However, the pretest was meant to establish at least the content validity of the questionnaire.

Theoretical Perspectives on Gender

Rogers (1980) distinguishes between the terms "sex" and "gender." "Sex" is regarded as the physical distinction between men and women and "gender" refers to the social and cultural roles attached to "sex". Similarly, Garrett (1987) defines sex as "the biological differences between males and females" and gender as "the socially determined personal and psychological characteristics associated with being male or female, namely, 'masculinity' and 'femininity'." Masculinity and femininity are regarded as gender-specific terms, hence "gender" for Sullivan and Thompson (1988) is learned behaviour involving how we are expected to act as males and females in society.

Murdock (1949) sees women's tasks as basically determined by their nature, which he calls "natural labour." He characterizes men's tasks as "conscious, rational, planned and productive." This "biological essentialism" perspective divides tasks according to sex. Feminists and others who maintain that culture, rather than biology, determines social relations between men and women argue that it is incorrect to categorize sexual divisions of labour as natural labour. This would mean that the social roles of men and women are innate and unchangeable. To them, sexual division of labour is socially, not biologically, determined.

In Africa, certain attitudes and practices continue to disadvantage women. Only those factors have been classified which have been considered relevant to the role of women in agricultural production. These are: gender structuring; gender divisions of labour; and gender relations of production.

Davison (1988) defines gender structuring as the "process through which a society structures relations between females and males." One gender makes the major decisions and controls the valued resources in the society, including wealth, income, credit, knowledge,

valued income-generating activities, food, power and prestige. Dey (1984) suggests that this results in the male being considered the head of the household, which enables him to participate in agricultural development, while the woman farmer remains invisible.

Gender division of labour is described by Ellis (1988) as "the socially-defined allocation of tasks between men and women in peasant households." The generally higher status accorded to male tasks and roles in Africa enables them to appropriate more of the available resources. Muntemba (1982) writes about men's control over women's labour and that labour's products. Traditionally, men control the labour of women in most of Africa and as a result, women are sometimes forced to decrease the time spent in food production. Men also monopolize more advanced means of production. For example, in East Africa, men use ox-drawn plows for cash crop production, while women use only hoes. Muntemba points out that this division of labour results in women being heavily overworked even as they produce less.

The last gender issue, gender relations in production, is closely related to the preceeding issues. It is defined by Davison (1988) as the socio-economic relations between females and males that are characterized by differential assignment of labour tasks, control over decision-making, and differential access to and control over the allocation of resources. These relations include who controls and decides how resources should be used, who the beneficiaries are, and if this type of relation increases or hinders production.

In Sierra Leone, women are so highly involved in farming that the country has what Boserup (1970) calls a "female farming system." With male migration from rural Africa, women are saddled with "male" tasks as well as their usual duties. Several studies (Gill, 1987; Guyer, 1984; Kydd, 1982; Chaney and Lewis, 1980) have noted that African agriculture is becoming increasingly feminized. Colonial rule and the ensuing emphasis on cash crops such as palm oil, coffee and cocoa are credited with the imbalance in labour relations between men and women. Before colonial rule, male and female tasks were considered different but complementary. The promotion of crops profitable in Europe, however, brought about a separation between production for exchange and production for use. Production for exchange, or cash crop farming, was classified as an economic activity, while production for use, or food crop production, was not. Males became wage earners while women remained

food producers. The importance of foreign exchange made the male role even more salient, and meant less access to agricultural services for the "invisible" women farmers.

Ideally, both men and women should have access to extension services, as extension is considered by the FAO to be a vital means of increasing production. The resources, however, are not readily available to women. In Sierra Leone, the ratio of farmers to extension workers is 500 to one (Gill, 1987:161) and male farmers are most often the ones visited and trained by the extension worker. Most extension workers are males, and according to FAO (1988:3), about 90% of these "by habit and cultural custom regard farmers as males," and thus tend to focus on other males in imparting information and training. Information is not likely to "trickle across" to female farmers. One reason for this is the nature of information in African societies: information is regarded as a source of power and success, and it is not readily shared with other men, let alone women who are perceived as lacking the "will power" to keep secrets. Another is that men and women have quite distinct spheres in the farming system and may grow different crops and have different interests and problems. Techniques taught to male farmers may not be applicable to female farmers' crops, for example.

Even in programs developed specifically for female farmers, such as group extension efforts, the advantage of male over female can be observed. Only women who have their husbands' permission to attend can take part. Furthermore, the inputs required for greater production are considered a good investment only when used on cash crops. Women's food crops are not regarded as important enough to warrant the extra investment in inputs. Credit, available to male farmers through the government bureaucracy, is available to women farmers only through informal means and at higher interest rates. The most common forms of collateral, land title, cattle, house and plantation, are controlled by males. Wives' loans must be guaranteed by their husbands, but under traditional law, women have no claim to a husband's wealth.

To conclude, "as long as gender arrangements leave women poorly placed to gain control of productive resources, gender relations will remain central to women's agricultural problems and solutions" (Cloud and Knowles, 1988).

The Study Area

The study was carried out in the Chiefdoms of Dasse, Kamajei, Kori and Kowa, in Moyamba District, in the southern part of Sierra Leone. These particular Chiefdoms were chosen for their long history of contact with agricultural services, dating back to 1911.

The selected Chiefdoms lie in the inland plains of the country, areas described as prime rice-producing land. Climatic conditions are similar to those in the rest of the country, with an average temperature of 80 degrees Fahrenheit. There are two seasons, a dry and a wet, and average annual rainfall is 100-120 inches. Most of the area today is farm bush, which is largely a result of slash and burn farming.

Agriculture is the main economic activity in the area. Main food crops grown are rice, sweet potatoes, cassava, oil palm and vegetables, along with ginger, which is grown for a local beverage.

The predominant language is Mende. There is a male society called the Wunde Society, and a female society or bundo. These societies " control most of the political, administrative, educational and religious life of the farmers involved in their practice" (ACRE, 1983), and have both positive and negative effects on farming. While the need to meet the demands of initiation ceremonies encourages greater food production, if the ceremonies conflict with farming activities, the latter generally suffer. However, people feel that the Societies are integral to their culture, and they should therefore be taken into account in planning programs.

The four Chiefdoms in the study are similar in terms of ecology, culture and economic conditions. The major difference among the four in terms of the study is how far they are located from Njala and its agricultural services.

The Department of Agriculture headquarters was established at Njala, Kori Chiefdom, in 1911, and Njala remained the centre for agricultural research even after stations were established elsewhere in the country. Eventually, the concentration of the limited staff on administration instead of actual extension led to the establishment of an Agricultural Training Centre to train intermediate staff. Independence in 1961 brought staffing problems, as most of the expatriates who held key positions left the country. The US Agency for International Development (USAID) assisted in the transformation of the Training Centre into Njala

University College in 1964, to provide training at both degree and certificate levels.

Selection of Villages and Households for the Study

The national census report (1985) was the main source of data for background information. It provided the general population figures and household lists used in the selection of villages.

Villages were selected for the study according to two factors: distance from Njala, and village population size. The study divided the villages into three zones: Zone 1 villages were located fewer than 8 miles from Njala; Zone 2, 8-16 miles from Njala; and Zone 3, villages 17-25 miles from Njala. Within each zone, the village with the highest population was selected. These larger settlements were expected to exhibit greater variability, and extension workers tend to favour larger settlements over smaller ones.

The compiled household list for a village was categorized into farm and non-farm households by means of preliminary interviews. The head of the family, defined as the person responsible for deciding all matters of importance concerning the family or household, was also determined. The individual respondent households were then selected by the simple random method as the sample frame was not large. The highest number of households in a selected village was 627 in Taiaama, and129 were chosen to participate in the survey. In Senehun and Njama, the other two villages, the households numbered 122 and 227 respectively, and 25 and 45 were selected. Only one respondent per household was interviewed. In a male-headed nuclear household the wife was interviewed. In polygamous households only the most senior wife was interviewed. The field data were collected in the year 1990.

Respondents in Zone 1 showed the least enthusiasm about the study. Being closest to Njala University College, the people had already been involved in a number of surveys. They complained that they expected at least some of their identified problems to have been addressed by now, and it took a good deal of talking to gain their co-operation. Some male household heads were concerned that only women were to be interviewed about issues they regarded as in the male domain. In other surveys they had either been directly interviewed themselves or had acted as "mouthpiece" for their wives. This problem was overcome by

explaining that as women's farming tasks were different from men's, the women needed to be heard from this time in order to get a complete picture of extension-related farming problems.

Interviews and Questions

Interview method was used, as at least 80% of the population in the study area can neither read nor write. Face-to-face interviews allowed the interviewers to clarify the meaning of questions if there were misunderstandings on the part of the respondents, and to probe when answers were incomplete or not directly focussed.

The interview consisted of four categories of questions. The first dealt with the independent variables of the study: household type, socio-economic characteristics of respondents and their husbands (if applicable), and village zone. Information on income (defined as proceeds from the last season's farm activities, both crops and animals, and any other economic activity such as trading, fishing or crafts) was collected for respondents only. This was because rural incomes were difficult to determine in a non-literate setting, and also because men in Sierra Leone do not generally disclose their incomes to their wives.

Categories two, three and four dealt with the selected agricultural services: extension information/advice, extension training, and farm loans. Questions on each type of service explored three main areas: accessibility of the service, constraints and problems in accessing the service, and respondents' suggestions for ways in which constraints to access could be removed. Accessibility was evaluated for each service by questions about the women's awareness of the service and the degree to which the service was presently available to, requested by and used by the women.

The four interviewers were students in the Department of Agricultural Economics and Extension at Njala University and were trained by the Department. All were from the region under study. Their four days of training included a day of practical experience set in a village not included in the study.

Data Processing and Statistical Analysis

For each schedule, the responses were grouped into categories depending on the objectives established for the particular data, and these classifications were converted into

numerical codes. An analysis was then carried out using the "SPSSX" statistical package.

Profile of the Respondents

Household head status is an indicator of decision-making power and responsibility in most of Africa. In the study overall, nearly 87% of the households sampled were headed by males. However, the proportion of female-headed households increases as one moves away from Zone 1, with Zones 2 and 3 having nearly twice the percentage of female-headed households as Zone 1. The high proportion of male household heads in Zone 1 may result from this Zone's proximity to Njala, which provides more employment for males than the other Zones. This is borne out by the 1985 census data, which shows that Zone 1, the Kori Chiefdom, is one of the few rural areas in the country where males outnumber females.

The study also sought to establish respondents' ages, as age affects both labour capacity and degree of decision-making power. (Decision-making powers tend to increase with age in areas where tradition and illiteracy prevail.) The average age of women in the sample was 38 years, with nearly 34% of the women in the 30-39 group. When age groups are divided into active producer (18-60) and dependent (over 60) groups, over 96% of the sample belong to the active producer group.

The highest level of education attained by the women in the study is high school, and only 8% of the sample had attained this level. Zone 1 had a slightly higher level of education than the other two zones. This may be due to proximity to schools and to the University in Njala.

Over half the women farmers sampled had a secondary source of income. Those in Zone 1 had a variety of income-generating activities; those in Zones 2 and 3 were involved in trading alone. Jobs which required an education were held almost exclusively by Zone 1 respondents. Fishing, weaving and pottery were other sources of income, but accurate information on these activities was not possible to establish.

Respondents were asked how many people they were responsible for supporting, i.e. feeding, clothing, educating and providing with medical care. It is important to make this distinction because in polygamous families the household may include members not supported by the woman in question, such as other wives, their children and relatives. Ninety-nine

Table 1. Socio-Economic Characteristics of Respondents

	Zone I		Zone II		Zone III		Total	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Household Heads								
Male Head	116	89.9	21	80.8	36	80.0	173	86.5
Female Head	13	10.1	5	19.2	9	20.0	27	13.5
Age								
Under 20	3	2.3	--	--	--	--	3	1.5
20 - 29	39	30.2	4	15.4	4	18.9	47	23.5
30 - 39	43	33.3	10	38.5	14	31.1	67	33.5
40 - 49	26	20.2	8	30.8	19	42.2	53	26.5
50 - 59	11	8.5	4	15.4	8	17.8	23	11.5
60 - 69	4	3.1	--	--	--	--	4	2.0
70 - 79	3	2.3	--	--	--	--	3	1.5
Education								
None	91	70.5	21	80.8	36	80.0	148	74.0
Primary	24	18.6	3	18.5	8	17.8	35	17.5
Secondary	14	10.9	2	7.7	1	2.2	17	8.5
Secondary Occupation								
None	36	27.9	19	73.1	34	75.6	89	44.5
Traditional	33	25.6	--	--	--	--	33	16.5
Trader	36	27.9	7	26.9	11	24.4	54	27.0
Salaried	24	18.6	--	--	--	--	24	12.0
Persons Supported by Respondents								
1 - 5	33	26.0	3	11.5	10	22.2	46	23.2
6 - 10	74	58.3	23	88.5	34	75.6	131	66.2
11 - 15	20	15.7	--	--	1	2.2	21	10.6
Annual Income (Leones)								
Below 10,000	40	80.0	--	--	--	--	40	74.1
10,000 - 19,000	8	16.0	--	--	--	--	8	14.8
20,000 - 29,000	--	--	1	100.0	2	66.7	3	5.6
30,000 - 39,000	--	--	--	--	1	33.3	1	1.9
40,000 - 49,000	1	2.0	--	--	--	--	1	1.9
50,000 - 59,000	1	2.0	--	--	--	--	1	1.9

percent of the women surveyed were responsible for people in their households. Over 3/4 of them supported not fewer than 10 people, with the remainder supporting not fewer than 15 people.

Income levels in Sierra Leone are generally low, but women's incomes in the survey were even lower than the men's by as much as two-thirds. Income was measured by annual earnings from the sale of crops and animals plus proceeds from other income-generating activities. The average income for women was Le10,000 per annum (Le120=US$1 in 1990). Women in Zone 1 had slightly higher incomes, with 4% earning about Le40,000 or more. Incomes were consistent with the general economic condition of women farmers in Sierra Leone.

Socio-economic characteristics of husbands of respondents were the following. There was a 10 year difference between the average ages of the men and their wives. Traditionally, men are encouraged to marry later than women as they are expected to be household head, and tradition may account for the age gap. Men also had a higher literacy rate than the women. Less than half of the men had had no formal education, as opposed to about 3/4 of the women. At least 10% of the men had post-secondary education, while none of the women in the survey had reached this level.

The main occupation of the men was farming. Zone 1 had the greatest proportion of salaried workers (33%) among the three zones, and the greatest proportion of men with regular jobs (33%). Conversely, Zone 1 had the least number of respondents' husbands engaged in farming. This supports the proposition that in developing countries, formal education reduces the number of people involved in farming.

In this sample, about 40% of the men had one wife. Of the polygamous households, more than half had at least two wives, while 3% had at least five wives. On the zonal level, the major difference was that while only 10% of the men in Zone 1 support more than 10 people, at least 27% of the men in the other two zones were responsible for this number of dependents. With the highest level of education, the highest proportion of respondents' husbands in salaried jobs, and the lowest proportion of farmers, in Zone 1 there seems to be less need for more family members to provide farm labour.

Availability of Agricultural Services For Women

Three areas were considered in assessing the availability of agricultural services for women. The first examined how aware the respondents were of services available: i.e., the women were asked if they had ever heard that extension workers provided a particular service for farmers in general and for female farmers in particular. The second determined whether the respondents had ever used or received each of the services under consideration, and the third, how much of the service they had

received during the last season.

While almost 75% of the respondents knew that agricultural services are made available to farmers in general, only 42% were aware that the same services were available to female farmers as a group. Zone 1 was the only region which showed little disparity between knowledge of services for farmers in general and for female farmers. Again, this may be due to the higher education level in this area and its proximity to the university. Still, almost 87% of the total respondents had never received extension advice, and in Zone 3, as many as 98% had never received extension advice. Of those who had had information from the extension service, the majority had had it only fairly recently from the Ministry of Agriculture and the Adaptive Crop Research and Extension (ACRE).

In the section of the survey concerning extension training, which involves lectures and demonstrations for farming techniques in villages, farms and training centres, knowledge of availability to women is even lower than in the case of advice and information. Although 68% knew that this type of extension service was available, only half that number knew that it was available to women as well. Only 3% of the entire sample, or 7 out of 200 respondents, had ever received extension training. The time and financial commitment required to attend training sessions may account for this low number. For the already overworked woman, it may not seem feasible. The permission of a husband or male figure may be required and this is not easy to obtain if extension workers are males. If travelling to a training centre is involved, limited spare time, low incomes and traditional restrictions on women's behaviour may make it almost impossible. The most common type of extension training requires the purchase of new varieties and new tools; most rural women cannot afford these and therefore there is little motivation for them to attend. These factors probably help to account for the small number of women having had exposure to extension training.

Finally, in the section of the study concerning availability of loans, half as many women reported knowing about the availability of loans for female farmers as had knowledge of loans for farmers in general. Nearly all the respondents reported never having applied for a farm loan. The 3 out of 200 who had applied had approached the Credit and Thrift Society (an informal source of credit) and Integrated Development for Agriculture (IDA). Two of these three had suceeded in acquiring a loan.

Discussion

The first of the study's hypotheses predicted that women's access to agricultural extension services is related to male presence in the household. The results do not seem to support this

hypothesis.

The second hypothesis predicted that women's access to services varies according to a number of socio-economic factors: the women's age, education, income, and responsibility for family members, and also their husbands' age, education, primary and secondary occupations, number of wives and responsibility for dependents.

Chi-square results revealed a significant relationship between the women's age and the amount of both extension information and extension training received (see Table 2). However,when the age groups were collapsed into productive (under 60 years) and nonproductive (over 60 years) categories, the results show no significant relationships for either of the two services. Age is not significantly related to the number of women who had applied for farm loans. This indicates that while younger women are more likely to get information and training, the situation is different when it comes to loans, as older women are thought to be better credit risks.

Respondents' education was found to be positively associated with both extension information and training, even when age groups were collapsed into literate and illiterate categories. In applying for loans, education did not seem to make much difference, probably since literate women would still normally require the approval of a husband or male head of household to apply for loans. There was no significant relationship between secondary occupations and extension advice, extension training or loan applications.

Income showed a positive relationship with information and training, but not with applying for farm loans. The reason for this may be that high income women do not need farm loans, as most of the farms are too small to require large capital for farm inputs. Married women would still require their husbands' approval regardless of their income. Further, with the low literacy rate in the region, women may be unaware that farm loans exist or may not know the procedure for applying.

Of the husbands' characteristics, age, main occupation, number of wives and village zone are not related to extension information, training or applying for farm loans. However, husbands' education level, secondary occupation and responsibility for dependents are positvely related to women's exposure to extension information, although not to training or to application for farm loans.

To sum up, three main socio-economic factors appear to be related to women's access to extension information and extension training. These are: respondents' education and income, and their husbands' education. Only income has a really significant influence on information and training received, and this influence is negative. That is, as respondents' income increases, extension information and training received decreases. This may be because although higher incomes generally

Table 2. Relationships Between Dependent Variables and Selected Independent Variables

	Advice/Info.		Training		Farm Loan	
Item	Chi-sq.	Sig.	Chi-sq.	Sig.	Chi-sq.	Sig.
HH Head	0.863	0.35	1.132	0.28	0.475	0.49
Respondent's Age	12.252	0.05*	12.483	0.05*	2.272	0.89
Respondent's Education	26.226	0.00**	8.126	0.01**	1.070	0.58
Respondent's Sec. Occupation	2.492	0.47	5.440	0.14	4.787	0.18
Respondent's Income	17.043	0.00**	54.000	0.00**	0.357	0.99
Respondent's Dependents	1.507	0.47	3.711	0.15	2.113	0.34
Husband's Age	3.682	0.59	5.001	0.41	3.250	0.66
Husband's Education	14.506	0.00**	17.811	0.00**	0.879	0.92
Husband's Main Occupation	1.393	0.70	2.716	0.43	2.494	0.47
Husband's Sec. Occupation	20.385	0.00**	2.344	0.50	8.636	0.03*
Husband's # Wives	2.674	0.26	0.221	0.89	0.899	0.63
Husband's Dependents	2.603	0.76	12.579	0.02*	0.854	0.97
Respondent's Village Zone	6.229	0.04	5.718	0.05*	1.676	0.43

* Significant at 0.01
** Significant at 0.05

enhance access to agricultural services, farming conditions in this region may be unattractive enough to drive higher income people into other economic activities. None of the independent variables seem to be significantly related to women's applications for farm loans. The combined effect of all the selected socio-economic characteristics is strongest on extension training, i.e. much of the difference in women's access to training is explained by these selected factors. Other unidentified socio-economic factors may be more important in explaining women's limited access to other agricultural services in this region of Sierra Leone.

The third hypothesis, that differences in access to agricultural extension services would be related to distance from Njala where the University is located, was not supported by the data. Accessibility did not differ significantly in the three zones. One might conclude from this that the influence of Njala, as a source of extension activities for the area, has been reduced due to the

deteriorating economic situation and other factors.

Barriers and Constraints Reported by Women

The results of the survey show a bleak picture of women farmers' access to agricultural extension services in the region. The problems of access reported by women fell into three categories: socio-cultural factors, discrimination for reasons of sex, illiteracy or poverty, and factors related to the extension service itself and/or government. (See table 3.) Two major socio-cultural factors stand out as problems in women's access to extension information: cultural restrictions on communication between men and women, and heavy work load. Respondents reported that 95% of the few extension workers they encounter are male. By tradition, men cannot talk freely to women, and married women in particular. Nor can women talk freely to men: only 9% of the respondents had ever asked for extension advice. Respondents also stated that when extension workers visited their homes or farms, the women were excluded from discussions. Similar factors restrict husbands from sharing extension knowledge with their wives. A number of women, 14.5% of the sample, also reported that jealous husbands were a problem. In this cultural climate, women's heavy workload can make extension visits appear to be "idle talk."

Forty per cent of the women indicated problems relating to sex discrimination. They perceive that extension workers ignore them because as women they are not important in farming. Fourteen per cent of the respondents were unaware that the service even existed.

When it comes to extension training, socio-cultural factors are less important than discriminatory or extension and government-related factors. About 42% of the women specifically mentioned that the service is for male farmers only, and 33% felt discriminated against them because of poverty or illiteracy. Two new problems emerged in the extension/government area: lack of interest in the service and the service not seen as an immediate need. With the kind of top-down extension systems that operate in most African countries, it is not uncommon for the priorities of farmers, especially the poor, illiterate and female, to be poles apart from those of the system. Such differences in outlook could account for lack of interest. While socio-cultural factors posed the fewest problems for training, the two setbacks that appeared here, with 22% reporting jealous husbands and 17% heavy workloads, may result from the amount of time that training requires. It seems that the approval of husbands and the time factor become more critical to the availability of extension training than to advice/information.

Table 3. Categorized Problems Women Farmers Face in Getting Agricultural Extension Services

Problem	Adv./Info. % Response	Training % Response	Farm Loan % Response
Socio-Cultural			
Communication	40.5	--	--
Heavy Work Load	18.0	17.0	--
Jealous Husband	14.5	22.0	--
Unsupportive Husband	--	--	20.0
Not Allowed	--	--	13.0
Discrimination			
Sex	40.0	42.0	20.0
Illiteracy	12.5	20.5	7.5
Poverty	10.0	12.5	10.5
Ext./Gov't. Related			
Unaware of Service	14.0	19.5	37.0
Travel Difficult	12.0	12.0	--
Extension Negligent	12.0	--	--
Few Ext. Workers	8.5	10.0	--
Lack of Interest	--	17.0	--
Not Immediate Need	--	11.0	--
Loan Conditions	--	--	35.0
Need High Contact	--	--	17.5
Procedure Unknown	--	--	11.5
Loans Unmonitored	--	--	10.0
High Interest Rates	--	--	7.5

Barriers to getting agricultural loans appear to centre around the extension system and the government. The level of unawareness (37%) was more than double that for extension information/advice. Most problems related directly to the acquisition of loans. Twelve per cent reported that not knowing the procedures for applying was a problem, and 35% believed that loan conditions would be too difficult for them to meet. Another problem that emerged was the need for a

contact in the system, or "knowing the right person", in order to get a loan from a bank or other lending institution. Loans were also reported not to be monitored, and respondents complained that under these conditions, loans were not likely to go to those who needed them most.

Socio-cultural factors seem to exacerbate the institutional access problems. About 20% thought that husbands demonstrate disinterest or disapproval or are otherwise unsupportive, and as the most common forms of collateral are largely male-owned, women cannot easily meet loan conditions on their own. Even if they had collateral, traditional thinking would disapprove of them making "such bold decisions" without their husbands' approval.

Suggestions for Improvement of Women's Access

As the financial value of services increases, on a continuum from advice to training to loans, the reported source of problems shifts from socio-cultural factors to the government and/or extension system. So, while both discrimination and culture may limit women's access to agricultural services, the government and the kind of extension system that it operates largely seem to determine the availability of these services to women.

The women surveyed had suggestions for improving their access to extension. They recommended that government and the extension system plan and implement extension programs specifically for women farmers, recognizing them as a group and not merely as part of the farm family. Female agricultural extension workers are a necessity given the cultural constraints on male/female communication, and extension efforts should be organized around groups of women farmers. Groups are a more efficient use of scarce resources, and groups are also less likely to arouse opposition from males in the community. Groups formed by family members and friends could share extension knowledge and help promote it to other women, and at the same time support each other in their farming activities. This would be a non-controversial way of communicating knowledge. Groups or associations would also be in a better position to put pressure on policy makers to recognize and address their problems.

Extension information must be accompanied by subsidized farm inputs so that the poorer farmers, those who most need to improve their yields, can put the information or training to use. Subsidized inputs would also induce women to take an interest in extension. Farm loans could be given in the form of inputs such a fertilizers or new seed varieties, and the technical knowledge could be provided along with the loan.

Lack of encouragement and support from their husbands, and unfavourable attitudes towards

women farmers are a problem for the respondents. However, they felt that if male planners, policy makers and extensionists themselves displayed positive attitudes towards women, this would help change the thinking of husbands.

Concluding Statement

This survey sought to determine the factors that constrain women farmers' access to extension. It is hoped that its findings can be used to re-evaluate the roles of the extension sources in the region. Women are responsible for a large part of the food production process, and the benefits to be gained from providing equitable access to resources for female farmers can be considerable. Increased food production, improved diets and alleviation of rural poverty, as surpluses are marketed, all benefit women, their families and communities. Women farmers deserve to be assisted in their efforts to feed and support themselves and their dependents.

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