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The role of women in agricultural production and household decision making: a cross-cultural comparison between India and Cameroon

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Iowa State University, 1990

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The role of women in agricultural production and household decision making: A cross-cultural comparison between India and Cameroon

by

Astair Gebremariam Mengesha

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INTRODUCTION

Since the first United Nations Conference of the International Women's Year in Mexico city in 1975, there has been a considerable increase of interest in the roles of women in the third World and the effect of rural transformation on these roles. Studies have generally addressed the wider issues of women's integration into the development process. The "trickle down" theories of development have illustrated how modernization has had different effects on men and women (Rogers, 1980). Modernization has often contributed to a deterioration in status and increased work loads for women (Boserup, 1970; Rogers, 1980; Tinker and Bramsen, 1976; Palmer, 1977; Nelson, 1981; Loutfi, 1980; Ahmed, 1980; Chaney and Schmink, 1976; and Bossen, 1975). If the position of women in the farm household is not correctly analyzed and understood, development policies will continue to have unintended, negative outcomes. Greater clarity is needed, both on the extent of women's involvement in production in rural areas and on economic and cultural factors determining the specific forms that their involvement takes. The process of intra-household decision making is vital and should be understood clearly in order to plan for women's integration into the development process. This study will contribute to our knowledge of the role of women in agricultural production and household decision making at the village level by dealing with the vital issues mentioned previously.

Problem to be Studied and Its Importance

This study Involves an in-depth analysis of women's role in agricultural production in five villages in the semi-arid tropics. Two villages in South India and three villages in the northern part of Cameroon Republic are studied for the purpose of cross-cultural comparison of women's roles in agriculture and decision making in the household. The following are reasons why the study is considered important.

While three-quarters of humanity is faced with urgent and pressing economic problems, the women among them are even more affected by such problems (Huston, 1979). Women face a number of problems in their position concerning food production, income generation, and education. They are not only wives and mothers, but women are food producers in many countries of the Third World. For example, in Africa women perform 60 to 80 percent of the agricultural work, more than any other continent (UN, Nairobi, 1985:6).

In the United Nations Conference on Women in 1985, a picture emerged of the importance and magnitude of the multiple roles women play in society. Research findings reveal that women do almost all the domestic work. They grow about half the world's food, but own hardly any land, find it difficult to find loans, and are still overlooked by agricultural advisors and projects (UN, 1985). This is not only ignoring women but a bulk of the potential producing force.

Studies have also shown that distributional issues are involved in under-evaluation of subsistence agriculture and domestic labor performed by women rather than men. Methodological and conceptual biases in accounting for women's work are also specified (Beneria, 1981; Agarwal, 1985; Dixon, 1982). The fact remains that development policies will continue to have negative

outcomes if the position of women in farm households is not correctly analyzed and taken into account (Palmer, 1978; Abdullah and Zeidenstein, 1982; Dauber and Cain, 1981; D'Onofrio-Flores and Pfafflin, 1982; and Lewis, 1981).

Although there is sufficient support for recognition of women as important partners in development on paper (UN, 1978), clear explanations of cultural constraints preventing women from full involvement in development are not sufficiently researched to give clear guidelines for a meaningful plan. Statistical data on women are still scanty. Particularly on the village level, our knowledge is still very limited. Therefore, basic research on the role of women in agriculture and intra-family decision making can contribute substantially to our knowledge and help avoid mistakes in planning for the future.

The objectives of the study

The objectives of this study can be summarized as follows:

1. To determine the kinds of tasks performed by women in agricultural production and the time spent by women in these tasks in the villages.
2. To examine the relationship between women's participation in task performance and their role in intra-family decision making.
3. To examine the relationship of women's income and their role in decision making.
4. To determine other factors that influence the process of intra-family decision making.
5. To make a cross-cultural comparison between the two regions concerning the following for the purpose of understanding similarities and differences in the two areas:

a) the kinds of tasks performed by women;

b) the time women spend in each task; and

c) the role played by women in family decision making.

Justification

This study is considered important and beneficial for the following reasons:

1. Investigation of culture and value orientation as it pertains to women's involvement in farming is vital so that the significant contribution of women farmers to this economy is not overlooked in planning projects.
2. The study complements ongoing research in the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in sorghum and millet growing regions by focusing on the area of household economics and in generating information on individual's activities in intra-household decision making.
3. Knowledge about who contributed to which decisions within the family and household will enable us to better establish the type of technologies and related characteristics that are more acceptable than others.
4. Statistical data on the role of women in farming are still scanty. The study contributes to this by providing information about women in these villages.
5. The study may shed some light on how family structure, family dynamics, skills and resources may affect women's participation in decision making.

BACKGROUND OF THE STUDY

Introduction

The research background is a brief review of works on women in agriculture in general and a review of specific concepts relevant to understanding the problem to be studied. Specifically: self-identity, role and status; family and household task allocation and decision making; and agricultural and market conditions will be considered.

Research Background

There have been a number of studies on the role of women as producers and reproducers (Faragher, 1980, 1981; Jensen, 1981; Stratton, 1981; and McNall and McNall, 1983). The discourses in many of the literatures concerned with women's role in agricultural production rest heavily upon the assumption made about the nature and social organization of subsistence systems. A number of studies approach the subject from the perspective of gender relations (Friedl, 1975; Blumberg, 1981; Mullings, 1976; Edhold et al., 1978; Ortner, 1974; Rosaldo, 1974). Still others concentrate on the factors related to women's status, such as topology of subsistence cultivation, as it relates to women's status (Boserup, 1970); women's position as ecologically determined (Whyte and Whyte, 1978); women's position as related to kinship system and with mode of transmitting property (Goody, 1976). The relationship of means of production to kinship system as it affects the status of women has continued to be the subject of many analyses (Siskind, 1978; Molyneux, 1978; Sacks, 1979; Michaelson and Goldschmidt, 1971). Beneria and Sen (1981) propose that the difference

between women's farming systems are not in the tools they use, but in the appropriation of land, of surplus, and of women's productive capacity.

Though these studies and others on the role of women as producers and reproducers are available, almost all the current research on women in agriculture fails to adequately address several key issues. Agricultural enterprises require different types of farm tasks, depending upon commodity, farm structure and season. These factors affect the nature and amount of women's participation to an unspecified degree (Bokemeier and Gorkovich, 1987). Family structure, family dynamics, skills and resources may affect women's participation in decision making to unknown degrees. The relationship of women's participation in farm tasks and their decision making is not adequately specified in previous research. Except in a few cases (Buttel and Gillespie, 1984; Flora, 1981), very little research on the role of women in agriculture exists to provide a theoretical framework that allows the interpretation of how work and family roles are integrated into the household condition within the context of agricultural activities.

Literature Review of Concepts

In what follows, a modest objective of discussing approaches specifically relevant to the analysis of status of the Third World women in agricultural enterprises will be attempted, with special focus on West Africa and India. The aim of this focused review will be to generate an agenda of conceptual issues in the light of which the case study material presented later may be considered.

In order to fully comprehend the role of farm women, one needs to take into account the multidimensional aspect of women's involvement within the specific

context of the agricultural setting. Both the individual and structural perspectives are crucial for understanding this complex phenomenon. An integrative conceptualization of the division of labor and authority in farm households, based on microsocial (self-identity, role and status), household (family and farm structure), and macrosocial level concepts (economic structure of the community and the agricultural system), assumes that the household links the macrosocial and the microsocial environments. This is because the individual perspective seeks to explain women's involvement in the family household and community interactions and the structural perspectives provide an explanation of the nature and organization of the agricultural systems and the conditions of the labor market. We will first consider the individual and then the structural perspective.

Self-Identity, Role, and Status

Studies of sex roles and gender identity include investigations concerning beliefs about what men or women should be like, or do, and perceptions of oneself as feminine, masculine, or androgynous in relation to behavior or attitude. Overall, findings indicate that women in Asia and Africa hold traditional views of what women's role ideally should be (Barnes, 1981, 1986; Safa, 1977; Essien, 1982). Recent studies have explored the extent to which sex-role attitudes and gender identify are related to specific types of behaviors and to women's expectations (Brown, 1982).

The discussion of the rural women's status brings us to the inevitable question of status. Status is defined as the social standing or prestige of a person in his/her group (Fairchild, 1984). Economic status is determined by the size or source of income. Though economic status may not insure social prestige, it is a

very important factor. Status is considered here as the degree to which women have the authority or power in the domestic or public domain (Sanday, 1974). Authority generally implies the right to control the use of joint resources and the lives of others,.while power (interpersonal power) is defined as the ability to influence decisions made by others with authority. The status of women in Asia is more closely related to their exercise of authority. While this is also true in Africa, there are situations where women exercise comparatively greater interpersonal assertiveness (Savane, 1980). In what follows, an attempt will be made to demonstrate the difference in women's status between the two regions.

In the context of rural India, the agrarian settlements are characterized by highly evolving systems of social differentiation and stratification in which rural producers are entangled in ties of obligation going beyond their kinship group (Whyte and Whyte, 1982). It is, therefore, not surprising to find that women's status is quite consistently related to their position in the patrilocal extended household. For this reason, the analysis of women's status must also base itself on mode of control implied in this type of household.

Religious values have strengthened patriarchy. According to Kane (1941), Hinduism provides a concept of the nature of women as both powerful and dangerous. Man puts women under his control because he is not constrained by the task of reproduction. Simon de Beauvoir (1953) explained this as an effort to transcend the limitation of nature by and through culture. These nature and culture dichotomies are further demonstrated by the fact that man celebrates a woman at the same time he endeavors to control her (Wadley, 1977). Most women accept, and continue to accept, the role and status of a dutiful wife. Still

more important, a woman, as a mother of a son, controls others and herself and provides alternative roles and status to that of a dutiful wife.

It has been claimed that the status of a woman in any society is understood by the form of negotiation involved in her marriage. The institution of bride prices, with its assumption of the value of the girl and her labor, reflects a higher conception of her position than dowry which is the contrary (Whyte and Whyte, 1982). The anticipation of a dowry payment makes the birth of several girls a family disaster. For example, in the villages studied in India the burden of daughters' dowries affects the family significantly. The different systems are considered a function of the division of labor. Bride price is common in shifting forms of cultivation where women are active in production. Dowries are more common where women's roles are confined to the "unproductive household tasks and child raising."

In early times, bride price was the norm in India until dowries gained influence gradually. Dowries can be interpreted economically as a premortum inheritance for the bride (Woodley, 1986), or as a response to shortage of marriageable men. In India, dowries are generally confined to movables which are paid to the groom or groom's family. The bride usually has hardly any access to it. Questions about the reaction of women to this and other norms to which they are subjected lead us to the sociopsychological aspect of the woman and her personality.

How women define themselves influences how these social identities are demonstrated in role enactments within the family farm and community (Chodorow, 1974). Chodorow concludes that while men feel "sociocultural superiority," they are also psychologically defensive and insecure. Women, on

the other hand, even though they are culturally and socially of secondary status, may in favorable circumstances, feel psychological security and a sense of worth. Admittedly, the psychoanalytical theory is based largely on western culture.

As a young bride, a woman in India has the heaviest work load and the lowest status, whereas, as a mother-in-law and a mother of a son, she is free of the strenuous routine work and takes on a more managerial role. The cyclical nature of these statuses ensures a very thorough internalization of patriarchy. Maximizing security involves gaining and keeping the protection of men, that of a husband or a son. The consideration of women's roles and status, both role behavior and expected role, lead automatically into the study of role context and related social structures including domestic groups, and economy and community.

Women in Sub-Saharan West Africa, on the other hand, have generally been associated with extensive hoe cultivation (Boserup, 1970; Goody and Buckley, 1973). As primary food producers, they expand men's work force in the polygamous household. The payment of bride price signals a recognition of the economic value of women. These women have a high degree of mobility, the ability to market their surplus, enabling them to acquire their own cash, and the responsibility for supporting themselves and their own children with a varying degree of assistance from their spouses.

However, there is a difference of opinion concerning the implications of the female farming systems and the greater autonomy women are suppose to enjoy. The evidence indicates that despite women's rights in land tenure (land use), the Sub-Saharan African system is male-dominated, since polygamy means

husbands are able to expand their labor supply, giving them leisure time (Huntington, 1975).

One needs to add here the major role that kinship systems play in defining the position of women. The relationship between kinship and production is considered a valuable and legitimate exercise (Michaelson and Goldschmidt, 1971). The effects upon women's position of their lack of a stable residence, because brides join their husbands at marriage, and the tendency of males to monopolize control of the most important decision making processes and basic productive resources such as land and crops and important professional skills is documented (Oppong, 1983). Whatever their activities within or beyond the confines of a home, women maintain basically domestic and maternal orientations, through the demands of continually repeated pregnancies and periods of lactation, in cultures in which the parental role might be designated the most highly valued and critical of all roles for adult status.

At the same time, however, there are female spheres of control and influence and female assertiveness in heterosexual encounters. Women's alacrity in taking up opportunities for entrepreneurial activities; their maintenance of autonomous female societies and rituals; and their control, management, and allocation of critical domestic resources including food and children's labor are obvious (Oppong, 1983).

Ultimately, in spite of emphasis upon separation and apparent male domination particularly among the Islamic societies, the themes of complementation, interdependence and mutual need and cooperation are evident (Guyer, 1980 and Afonja, 1981). In the activities of production and consumption, in the exercise of power and control (Arhin, 1982), in artistic, ritual,

and symbolic expression (Ottenberg, 1969), in sexual relations and procreation, female and male roles, their behaviors and expectations, are seen to be intrinsically complementary and interconnected. Neither may exist alone (Oppong, 1983).

In comparing the farming systems and the position of women, Beneria and Sen (1981) argue that the crucial distinguishing features of African and Asian farming are in "the forms of appropriation of land, of surplus and of women's reproductive capacity" (Beneria and Sen, 1981, p. 286).

However, in general, women in Third World countries identify with the existing social establishments. Women are less inclined to see themselves oppressed as women than as members of a socioeconomic group. For most Third World women, class barriers are equally, if not more, important obstacles to genuine equality than sexual oppression (Safa, 1977). For our purpose, the role of the woman in the family and household is also important, and so it will be vital to consider this context next.

Family and Household

The traditional economic functions of the family are very important in many developing countries. The advantage of the family as an institution for organizing particular activities flows from its ability to integrate those activities with preexisting, ongoing, significant personal relationships (Benedict, 1968). The family provides advantages such as incentives, monitoring, altruism and loyalty. The family's incentive advantages arise because its members have claims on family resources. Individuals in the family may value family consumption and

income beyond their own because of their concern for their children and grandchildren.

Since economic relationships are interwoven with personal ones, the family commands rewards and sanctions not open to other institutions. Ostracism or expulsion from the family is so drastic that it can be used as an effective deterrent to misconduct.

The focus on farm families, in particular, brings development work much closer to realities of poor families than is possible using country-level statistics. The concept of "household," sometimes used to denote a residential unit, sometimes synonymous with nuclear family, is useful in the field of development and in social sciences (Schmink, 1984). It provides an intermediate level of analysis (between the individual and society) and a convenient unit for collection of empirical data. The existence of such primary domestic units in virtually all societies implies an attractive universality for the concept of household that is familiar to researchers and practitioners. These perceived advantages, however, have some hidden drawbacks.

The neoclassic view of household income of the advanced industrial nations is especially inappropriate for such complex situations in which household members have access to different resources and work opportunities, and exercise different degrees of control over separate income streams that flow through the household. Household production in rural areas may also take a wide variety of forms, depending on the nature of the total system of which the household is a part. Household may denote any number of arrangements, from the single family unit to the relatively large compound where a male head presides over several related males and their families. For instance, family

provision of benefits often entails restructuring residential arrangements so the family members who had previously lived in separate households form a single household. Unemployed young adults and separated or divorced individuals and their children often move in with parents. Orphans are taken in by relatives and elderly parents move in with their children. Therefore, the interchangeable usage of the terms "household" and "family" (Laslett, 1972) is particularly misleading for developing countries. Generally, analysis of the role of kin ties in economic relationships requires maintaining the distinction between household and families. The well-established phrase "household production" may not be easily displaced by "family production" but the unit for many activities such as insurance is not the household but the family.[1]

Similarly, patterns of allocation of resources within the household may display significant differences. For example, in many parts of Sub-Saharan Africa, husband and wife may not pool resources, may not have a common housekeeping or child care fund, and may enter into economic transactions which may take the form of commodity exchange (Jackson, 1978 and Roberts, 1985).

In addition, in some parts of Sub-Saharan Africa, household members are highly specialized by age and sex in the tasks that they perform and in their sphere of economic responsibility. In fact, households are themselves sometimes considered systems of resource allocation (Guyer, 1981). This makes the study of household agricultural decision making a very complex phenomenon.

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[1]R. A. Polk (1986) suggested a study of the transaction costs approach to family governance as a most effective method analysis intra-family relationships and resource allocation in an occasion paper presented in ICRISAT.

On the other hand, the patrilocal extended family household in India is a type of domestic arrangement that is overwhelmingly associated with the reproduction of the landed peasantry household (Whyte and Whyte, 1982). The control of economic resources is vested in the hand of a male head of the family who may allocate resources from the common fund differentially to household members according to the positions they occupy, in terms of age and sex (Goody, 1976, 1983). The husband/father role is also reinforced by supports generated outside the household (Wolf, 1966).

Household decision making is neither necessarily unitary nor harmonious. Different members may decide about production strategies, contribute labor to specific tasks, or bear responsibility for the use of commodities produced. The complexity of intra-household dynamic implies that the possibility of competing goals or priorities may require negotiation among household members. Households are also fluid or flexible. Variability stems from responses to exogenous changes (such as male out-migration), from internal differentiation based on class, income, ethnicity, and culture, and from demographic variables within the household unit (such as the pattern of family formation or the life cycle of the family).

Considering the discussion above, the individual approach (Guyer, 1986) can be considered appropriate for the purpose of cross-cultural comparison of intra-household processes between the villages in Northern Cameroon and South India. How individuals draw on resources and lay claim to income is also very important. It brings out the constraints under which different categories of the population function. Used within the unit of interdependency and distribution,

widely referred to as "household" or "family," it helps us understand the function of the intra-household relationships.

Task Allocation and Decision Making

A number of theories consider the interpretation of the family roles and decision making within households and division of labor at different levels of abstraction. These levels may involve distinct and possibly contradictory sorts of internal logic. They are the capitalists' interest in low wages, the survival strategy adopted by the individual household as a social unit, and the allocation system within households. These conditions result in the distribution of tasks and prerogatives according to the positions members occupy in power terms, i.e., their degree of access to an control over family resources.

In the patrilocally extended family in India, the women's subordination is consistently related to their position in the patrilocally extended household and their participation in decision making depends on this position. Under this system, girls marry young into households headed by their husbands/fathers and where they are subordinate not only to all the men but also to more senior women, especially their mothers-in-law. They have usually no claim on their father's patrimony. When they are given a dowry, this hardly qualifies as a form of inheritance since it is directly transferred to the bridegroom and does not take the form of productive property, i.e., land (Sharma, 1980).

The places women occupy both in the labor process and the status hierarchy of the household are intimately linked to the stage in their life cycle and the domestic cycle of the households. As brides they have the heaviest work load

and the lowest status, whereas as mothers-in-law they are free of routine work and take on a marginal role.

In her study of agricultural development in two Indian villages, Omvedt (1981) discusses the relevance of caste in determining sex role ideology. The ideology performs the function both of counseling and invalidating women's productive activities which also diminishes their involvement in decision making.

Major decisions in the household are generally made by the male head of the extended family. The extra effort required in farm work is met by more intensive use of female labor. Women's intensified work input does not improve their personal standing in the household or their access to budget (Agarwal, 1981 and Palmer, 1978).

In Sub-Saharan Africa, women's access to land through customary rights, the separateness of the mother-child unit in polygamous unions, and the association of food production with the feeding and nurturing role of motherhood have also been mentioned as cultural factors reinforcing the division of labor (Bryson, 1981). Despite some variations there is a clear cut division of labor between the sexes in subsistence traditional agriculture (Pala, 1976). The amount and type of cooperation between the sexes would vary according to cropping patterns and the time allocated to activities other than farming. For instance, the traditional food cultivation among the Beti of Southern Cameroon, illustrates the linkages between male and female labor and their allocation to different points of the crop cycle (Guyer, 1980).

The complementarity of women's and men's work and how they were organized according to the different field type traditionally cultivated is further described. The responsibilities of family members complemented each other (in

the pre-capitalist period), which encouraged cooperation for family lineage survival rather than competition between the sexes (Afonja, 1981). The complementarity of male and female tasks has led some to de-emphasize the character of the inequality inherent in lineage-based subsistence systems in Africa. The fact remains that the transformation from lineage-based subsistence mode of production (through colonial expansion) demonstrates the different form that women's subordination may take in each instance.

As for decisions made by women in West Africa, women have access to their own plots for cultivation and sale of food stuffs and have their own trading activities. Nonetheless, women in general have limited rights to major public (political) decision making that can make a significant difference in policy decisions for development.

Agriculture and Market Conditions

The issue of the relationship between economic systems and household or family types has previously been discussed but what concerns us here are the shifts in the basis of the production in agrarian households. Even though the household may continue to produce/use values for its direct consumption, commodity production has become an economic necessity. "Commoditization" refers to the process whereby households come to depend increasingly on commodity relations for their production (Bernstein, 1979, pp 5-6).

One possible, but by no means the only, accompanying factor of the intensification of commodity relations is the differentiation of peasant households. Poor households who have no access to land or labor become unable to reproduce themselves through household production, but have to rely

increasingly on the sale of the labor power of their members. The position that each household occupies in the total nexus of the relation of commodity production and exchange becomes a salient feature of the conditions for its reproduction, as well as its relationships with other households (Bernstein, 1979).

Changes in the conditions of the household reproduction also have direct implications both for the labor deployment of its members and for the sexual division of labor within it. A substantial portion of the global labor force is involved in intermittent wage work, and enters and leaves the paid work force sporadically which makes it a non-permanent waged work force. There are also vast differentials in the rates of pay of wage workers, so that only a minority are actually sustained by their wages alone throughout the whole of their adult working life. So members of the household depend on sharing resources drawn from a multiplicity of labor forms for existence and stability. One needs to mention here the differentials in wage between men and women. Usually men obtain higher wages than women for the same type of task and time spent on the job.

The agricultural and market conditions affect land, labor and capital requirements of the farm enterprises (Pearson, 1979). These conditions also affect the working relationship in the household. How the relationship affects women is part of the international system based on dependency. Urban and rural elites constrain the rural sector by making national plans towards investment in export crops, heavy industry and urban growth (Elliott, 1977). In addition, the import substitution model of industrialization espoused by many developing countries resulted in important balance of payment deficits as the prices of imported technology and capital goods necessary for the establishment of an industrial base arose. This encouraged further reliance on export-oriented

agriculture as a source of hard currency. As a result the burden of heavy work load falls on the farmers in general and on farm women in particular. The stagnation or even the declining levels of food production in many Third World countries which have now become net importers of basic food stuffs must be understood within this context.

An understanding of these concepts will form a sound background to the analysis of the role of women in agriculture in the villages in each particular country. The following chapter on the theoretical perspective will draw upon the concepts discussed.

THEORETICAL CONSIDERATIONS

Introduction

Any attempt to make sense of the world by means of systematic description and explanation begins with theory. Certain theoretical ideas can guide our attempt to provide a sociological answer to some questions related to men and women (gender). First, we will consider functional theory and its contributions. This will be followed by the theory of symbolic interaction, the conflict perspective, exchange theory and role theory. A theoretical synthesis and theoretical propositions are also included.

Functional Theory

Functional theory is useful in particular for understanding the organization and persistence of the gender institution. Three aspects are relevant: the concept of social system, social control and the latent ideology of sexism (Parsons, 1951).

The social system model provides us with a number of useful guidelines. Society is conceptualized as a system of interlocking status roles. Status and roles are derived from the shared expectations of a group. Social life (family, economy, religion, education, etc.) is depicted as an arrangement of status roles, an institution, and society as a system of institutions. What is central to the social system model is the natural complementarity between status roles in an institution and between institutions in a society. This explains the enduring quality of an institution-like gender.

The social control model provides us with a second explanation. Social arrangements are anchored in consensual social support so broad and basic that those who reject the arrangement in action or thought are subjected to society's control pressures. This control can be external or internal.

The concept of latent sexism, the belief that the separate and inferior status of women is natural and right, is evident. This comes from the fundamental importance of the family for overall well-being. For socialization, for internalized and external social control, the family is considered the primary source of social order. Men's instrumental role and women's expressive role are necessary for society's well-being. The theory gives us useful tools for analyzing the persistence of sex roles but it leaves us with some crucial problems.

First of all, functional theory does not explain how normative consensus anchored in socialization and social control provides us with complete explanation of the institution of gender, even with the dynamics of male-female inequality. It fails to provide us with the meaning of normative consensus apart from agreement on rules of behavior by avoiding conflict, a very crucial social process in gender relations and social change. These two problems can be solved partially by the theory of symbolic interaction.

Symbolic Interaction

In symbolic interaction sociologists view human societies as unique. This uniqueness comes from the species' distinctive capacity for complex communication by creating and using symbols. Their actions are guided by ideas or meanings. Without the capacity to create symbols and to use them in human affairs, patterns of social organization among humans could not be created,

maintained, or changed. To explain human actions, one needs to understand the meanings that motivate the particular subjects under study by putting oneself in their positions. The theory of symbolic interaction has many proponents (Blumer, 1969; Goffman, 1959; Garfinkel, 1967; and Kuhn, 1964) and comes in many varieties. For our purpose, we shall consider the two themes from the theory: everyday reality as socially constructed knowledge, and the view of the individual as active.

The central proposition is the assertion that the individual acts on the basis of taken-for-granted knowledge about reality. This knowledge arises primarily from social processes that create and sustain meaning. What constructs the taken-for granted knowledge is the circular dynamic between individual and collective life. The individual's understanding of experience has been created by the individual or learned from other individuals. The internalization of social meanings (socialization) is a basic social process.

In addition, symbolic interactionists analyze social life in terms of structural arrangements and the dynamics of interpersonal relationships. Symbolic interactionists argue that social organization does not determine interaction patterns; social organization emerges from interactional processes. Social structural or cultural variables influence the interaction processes only as they affect the situation in which individuals act or are taken into account by individuals in their subjective interpretation or definition of the situation (Thomas and Znaniecki, 1918). According to Blumer (1962), people do not act toward culture, social structure, etc., but they act towards situations. Social organization shapes situations in which people act or it is a framework inside which acting units develop their actions. Structural features such as culture, social systems,

social stratification, or social roles set conditions for people's action but do not determine their action.

It follows that social institutions cannot persist on their own, independent of individuals' subjective definitions. When individuals' subjective definitions and interpretations change on a broad scale, this creates change in social institutions. Although traditional definitions and institutional patterns may persist with minimum change for a long period of time, the emphasis in the symbolic interactionist image of society is on the fluid, changing nature of social reality. Let us next consider the conflict perspective and how it explains change in institutions.

The Conflict Perspective

Society is assumed as self-perpetuative and transformative. The key to this view is that the individual is active. Individuals pursue goals, related to each other, operate, negotiate and get into conflict. They reflect on their experiences, define situations and act on the basis of these situations. There is a dialectical tension between systems of societal knowledge and the situationally grounded knowledge in process.

For Marx, people are active beings whose lives involve basic needs of eating, drinking, housing, clothing, and other material things. To meet these needs of life, production is necessary. Production activities create division of labor. As people work in this process, they are exploited in ways that generate private property and profit for those who control the means of production. Those who control the means of production also control the values, beliefs, and norms of the society. They also influence class structure and institutional arrangements.

Control over the mode of production is the primary source of power. Every society is characterized by stratification or class systems in which some control by forming a ruling class while others exist as laborers. A basic source of social conflict ad antagonism is the gap between powerful and powerless. The dominant class will use its resources to buy some forms of power: political, legal, coercive, and ideological. All these means of control are used to protect its own position and keep the powerless class docile and productive.

Marx (1964), Engels (1984/1972), and Habermas (1975) are not primarily interested in gender inequality but their focus is on the class stratification of men. Yet the sex roles in the family are not seen as reconciliation of man and woman. On the contrary, it appears as a subjugation of one sex by the other. Marx and Engels argue that, *The first division of labor is that between man and woman and the first class oppression was that of the female sex by male* (Engels, 1884/1972).

This gives us a model of society that focuses on inequality, a theme largely missing from the other perspectives. Next, it argues that each historically concrete society will be in many ways unique in its dynamics of inequality, a position that helps us justify our focus on one society in one time frame and thus the need to address India and Cameroon separately. It further explains that a system of inequality is really a system of differential power and the primary source of power, economic resources, can buy all kinds of power including the ability to define a situation (Dahrendorf, 1958). Therefore, we can propose that women have an inferior social position because they are powerless, because as poorly paid wage-sector workers or an unpaid domestic homemaker they can be dominated, manipulated, and rendered docile through the application of law, coercion, politics, and ideology. One of the crucial changes from Marx made by

Dahrendorf is that he stresses authority structure of organization instead of property ownership as the fundamental basis in class formation. He also discusses how people become aware of their interests and form class conflict groups to attempt to change the authority structure. He states that the effect of class conflict is structural change. *One important point in this regard is the suggestion that the explicit acknowledgment of conflict issues, and establishment of mechanisms to regulate it, reduce its violence.*

The importance of conflict regulation mechanisms is also dealt with in Coser's (1956) conflict theory. Coser's major goal is to demonstrate the positive function of conflict in promoting social integration. Coser based his function of conflict on Simmel (Wolff, 1950). Simmel suggests that conflict is one of the basic forms of social interaction and that the process of conflict is linked in innumerable and complex ways with alternative forms such as cooperation. According to Coser, conflict between groups promotes internal solidarity within conflicting groups while conflict within groups prevents antagonism that may threaten the relationship. Coser also demonstrates that realistic conflict may be a stimulus to social change.

Collins' (1975) theoretical synthesis between the micro and macro level explains social structure including stratification systems as subjective definitions developed through the interaction process. Persons who control resources are able to assume a domineering demeanor in interpersonal encounters and those who lack control of resources may be obliged to assume a submissive demeanor, even though such a demeanor does not necessarily indicate sincerity in accepting an inferior position. This assumption directly ties in with the condition of women as observed in the studied villages.

On the other hand, Habermas (1975) gives socially constructed meanings equal weight with material and power factors. To him society is both the material production of life and the social construction of reality. Ideas arise from people's experience in life and from communication with others. At one level, a society is idea systems anchored in the different life experience of groups. At another level, a society is characterized most of the time by a dominant system of ideology or knowledge anchored in the interest and experiences of the dominant power group.

The critical theorists' analysis of various forms of domination draws not only from Marx but also from psychoanalytical theory. Fromm (1941, 1976) used the psychoanalytic perspective to attempt to explain people's apparent willingness to sacrifice freedom for security. Thus the material needs and impulses of individuals are repressed, and the basic energy that would otherwise be spent in spontaneous fulfillment of these needs is channeled into forms of behavior that fulfill the requirements of organized social life. What more is needed to describe women in traditional societies than this fact?

While conflict theory is concerned with the macro-level, its derivative critical theory is mostly highly philosophical and does not emphasize empirical measurement. Critical theorists regard most efforts to operationalize variables for empirical measurement as a superficial enterprise that fails to uncover the fundamental underlying structure of individuals' subjective consciousness. Therefore, other than helping to explain certain conditions of women, the critical conflict perspective fails to serve in contributing guidance for the purpose of data analysis. Another sociological perspective that can guide our study of women in

farm situations is the exchange theory. The approach is useful in adding another dimension to the understanding of human behavior.

Exchange Theory

The major principles of exchange theory can be traced from Homan's (1950) emphasis on primary exchanges in face-to-face encounters to Blau's (1964) effort to build on this elementary process by showing that such exchanges are the foundation for large, complex institutional structures characterized by complex patterns of direct exchange. Thibaut and Kelley's (1959) contrast between exchange processes in dyads and groups provides an intermediate step in the transition from micro processes to macro-structures.

Homans' exchange theory is built on a foundation of individualistic assumptions derived from behavioral psychology and elementary economics. An individual's behavior is seen as shaped by positive and negative reinforcement; individuals' choices from alternative behaviors reflect their expectations of a favorable reward-cost ratio. These expectations are influenced by past experience and by observation of the reward/cost outcomes of others who are familiar. Homans insists that individual-level propositions are essential for explaining social behavior as opposed to merely describing it. The concepts and propositions that form the foundation of Homans' theory are used to explain face-to-face interaction and group dynamics. Homans' propositions provide the foundation for analysis of numerous standard sociological concepts such as social rank, normative conformity and innovation, influence, esteem, status and authority. However, in many cases experimental studies are cited to provide empirical support for the basic propositions.

Although Homans' analysis discusses mainly face-to-face behavior involving a direct exchange of costs and rewards, he ultimately launches into a discussion of the contrast between elementary social behavior as subinstitutionai behavior versus institutional behavior. According to Homans the difference between the two is that the institutional behavior is much more complex, with many exchanges being indirect instead of direct. Also, to Homans, institutional behavior involves greater usage of general reinforcers (such as money) that are subsequently exchanged for primary reinforcers to meet individuals basic needs. He insists that such social institutions do not persist of their own built-in dynamics independently of elementary social processes. They are continually dependent on elementary social behavior whereby individuals attempt to satisfy their needs as human beings. It follows that if conformity to institutional norms should become less rewarding or more costly, the rates of social deviance should be expected to increase and, ultimately, the institutional patterns themselves may be expected to change.

According to other sociologists there are two crucial weaknesses to Homans' exchange theory (e.g., Abrahamsson, 1970; Ekeh, 1974; Micheals and Green, 1978; and Molm, 1981). The key problems are Homan's failure to deal adequately with cultural and societal levels and his failure to deal with internal mental processes. Homans focuses solely on two person, or dyadic, exchange while ignoring more large scale patterns of exchange (Parsons, 1964, p. 216). He is also criticized for ignoring the norms and values that symbolically shape exchange relations (Ekeh, 1974).

The exchange perspective of Levi-Strauss (1949) is significant here to explain another aspect of exchange theory. Levi-Strauss constructed his

exchange theory based on two assumptions. First, he believed that social exchange is a distinctive human process of which lower animals are incapable. This implies that humans are capable of culturally directed action and are also capable of creative, dynamic actions. Homans, on the other hand, rejected all ideas about the distinctiveness of human behavior in relation to other animals.

Second, Levi-Strauss rejected the idea that human exchange can be explained in terms of individual self-interest. To him the individual self-interest is insufficient to sustain a social relationship based on exchange. He argued that social exchange is sustained by collective forces or cultural forces.

It is also important to recognize that society plays a variety of roles in the exchange process. Where there is scarcity, society must intervene to provide rules of appropriate conduct in order to prevent negative destructive human conduct. To prevent the development of disruptive negative feelings in certain situations, a social exchange is justified in terms of social expectations rather than the benefits the exchange brings to those involved. Custom may also develop in which one feels obliged to reciprocate another's action not by repaying him or her but by rewarding a third party.

Blau (1964) focused on the process of exchange which, in his view, directs much of human behavior and underlies relationships among individuals as well as among groups. Therefore, his intention was to go beyond Homans' concern with elementary forms of social life and not analysis of complex structure. In effect, he envisioned a four stage sequence leading from interpersonal exchange to social structure to social change. The stages identified by Blau are personal exchange (transactions between people), differentiation of status and power, legitimation and organization, and finally, opposition and change.

On the individual level Blau and Homans were interested in similar processes. However, Blau's concept of social exchange is limited to actions that are contingent, that depend on rewarding reactions from others, that is, actions that cease when expected reactions are not forthcoming. As much as people are attracted to each other for a variety of reasons that induce them to establish social associations, the rewards they provide to each other serve to maintain and enhance the bonds. The opposite is also possible with insufficiency of rewards. According to Blau, rewards that are exchanged can be either intrinsic (e.g., love, respect, affection) or extrinsic (e.g., labor, money). The parties cannot always reward each other equally; when there is inequality in the exchange a difference of power will emerge within an association.

However, exchange theory has been open to criticism for its proposition on rationality leveled at utilitarianism. Do people calculate the costs and rewards to be made by engaging in a line of conduct? There is also another implicit assumption which leaves the exchange schemes open to criticism. Do all human actions involve calculations? Most fundamental to the exchange perspective is the problem of tautology. If one examines the definition of key concepts--value, reward, and action--they appear to be defined in terms of each other. The problem of tautology points to a problem of prediction. Its typically difficult to measure value until after the action to be explained has been emitted. As long as it is difficult to measure value, prediction will also prove difficult. On the macro-level, Blau was criticized for transforming exchange theory so that it is no longer identifiable as a behavioristic orientation and also for his inattention to mental processes.

Therefore, this short summary of the functional, symbolic interaction, conflict and exchange theories is made in an effort to show how each one contributes to the different aspects of looking at women's condition in society. Yet, none of the above perspectives alone can sufficiently cover all the aspects of the women's involvement in domestic and production transactions. Let us next consider role theory and how it can satisfactorily serve to explain women's role in agriculture.

The Role Theory

The structural role perspective as a result of a mixture of insights (Linton, 1936; Davis, 1949; Moreno, 1953; Park, 1955; Simmel, 1950; and Mead, 1934), has often been captured by quoting a famous passage from William Shakespeare's *As You Like It.*[1] But even though role theory owes much to the theater, its perspective and language allow for more than a metaphorical characterization of human behavior. The role analyst is concerned with describing and understanding many complex aspects of human behavior. The role analyst focuses on the behavior of a given individual, on specific aggregate of individuals, or may study particular grouping of individuals who display given behaviors. Many aspects of real life such as the individual's appraisal of self and others, a person's performance and how this performance affects others, how people learn to perform, and how performance of some groups are related to those of other groups are studied. In addition, role theory deals with the

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[1]Act II, Scene vii: *All the world is a stage, all the men and women merely players: They have their exits and their entrances; and one man in his time plays many parts.*

examination of patterned forms of complex real life behavior, which includes the types and varieties of differentiated aggregates, social positions, specializations and division of labor. Communication, learning and socialization, sanction, conformity, and interdependence are some among many more processes examined (Biddle and Thomas, 1966).

For the structural role theorists, the social world is viewed as a network of variously interrelated positions, or statuses, within which individuals enact roles (Biddle and Thomas, 1966). For each position, groups and classes of positions, various kinds of expectations about how incumbents are to behave can be perceived. Therefore, social organization is composed of various networks of statuses and expectations (Moreno, 1947).

Statuses are analyzed in terms of how they are interrelated to one another to form various types of social units. In terms of variables such as size, degree of differentiation, and complexity of interrelatedness, status networks are classified into forms ranging from various types of groups to larger forms of collective organization. There is a close relationship between form and content because the type of expectations that typify particular networks of positions represent one of their defining characteristics. The assumption is that behavior of individuals is a function of the structure as well as the kinds of expectations that are inherent in these positions. The range of expectations denoted by role theory is diverse and can be classified as expectations from the "script;" expectations from other "players;" and expectations from the "audience" (Moreno, 1960).

The individual is conceptualized in terms of two basic attributes: self-related characteristics and role playing capacities and skills. Individuals in society occupy positions, and their role performance in these positions is

determined by social norms, demands, and rules; by the role performance of others in their perspective positions; by those who observe and react to the performance; by individuals' particular capabilities and personality.

The point of articulation between the individual and society is denoted by the concept of role. This involves individuals in their respective statuses who employ self and role playing capacities to adjust to various types of expectations when conceptual emphasis is placed upon the expectations of individuals in status positions. Then the social world is assumed to be composed of relatively clear cut prescriptions as in a prescribed role. The individuals self and role playing skills are seen as operating to meet such prescriptions. In subjective roles, the implication is that all expectations are mediated through the prism of self, and they are subject to interpretation by the individuals in statuses. There is emphasis upon perception and interpretation of expectation, and the social world is seen as structured in terms of individuals' subjective assessment of the interaction situation. Ultimately, expectations and subjective assessment of expectations by individuals are manifested in behavior as enacted roles. When conceptual emphasis is given to overt behavior, the social world is viewed as a network of interrelated behaviors.

Role theory is useful because it provides a set of concepts for categorizing items of behavior and expectations which link the individual actor into the social and cultural system. The concept of role focuses attention on the one hand on activities and one the other on expectations, which are characteristics of particular categories of people and relevant to certain contexts. In the present case, it facilitates our special aim of looking at individual women's varied positions, in particular those of workers and mother and associated activities and

resources and expectations about them, and serves to link them with specific socioeconomic contexts and differential levels of employment and socio-demographic data. It provides modes of measurement for role related phenomena and assists in description and understanding of social role systems and social change as well as individual role playing.

However, role theory is criticized for presenting an overly structured vision of the social world, with its emphasis upon norms, status positions, and the enactment of normative expectations (Turner, 1962). Turner believes that roles involving normative conformity are, in reality, exceptional cases that occur when a repressive structure limits opportunities, when people receive few rewards from their roles, and when people are insecure about their capabilities. But Turner believes that in these rare situations, people negotiate their respective roles in social contexts.

The theory is also criticized for ignoring the determinative consequences of role enactments for changes and alterations in social structure (Turner, 1986). In focusing on how changes of behavior affect self-conceptions, role theory has underemphasized the fact that behavior can also force changes in the organization of status networks, norms, reference groups, the responses of others, and other features of social structure. Until structural role theory stresses the consequences of role enactment, not only for the self-related variables but also for the properties of structure, it will continue to conceptualize the social world as excessively ordered.

As a result of the limitations of each of the theories discussed, a synthesis of theoretical perspectives is suggested. It is hoped that this approach can

provide a comprehensive guideline that captures the various aspects of women's involvement in agriculture. To this effort, we shall next turn our attention.

A Theoretical Synthesis

The social system model provides the guidelines to how society is conceptualized as a system of interlocking status and roles and patterns of social interaction linking individuals to a larger component of society (Figure 1). The linking factors are common values, loyalties and interest. Individuals actions, interaction and social structure are all implicated in each other (Giddens, 1979). The central norm dictates how individuals ought to behave in each specific context. For example, the society in South India and the society in Northern Cameroon can be considered as social systems.

Individuals in a society have capacity for thought which allows them to learn meanings and symbols which enables them to examine possible courses of action, assess their relative advantages and make choices (Parsons, 1951). The choices reflect their expectation of a favorable reward-cost ratio (Homans, 1950). In this process, individuals participate in a constant negotiation with others who control resources trying to strike a bargain with each other. The interaction between men and women in the study villages can be taken as examples of such transactions.

The relative resources that individuals bring into relationships are also assessed. Those with resources press their advantage; those without seek the best deal they can get under the circumstances. Considering this, Simmel (1907/1978) proposed that the nature of the resources as well as their respective value determines the pattern of social differentiation among actors. As more

generalized media, such as money, are used in a variety of ways in exchange, there is more possibility of micro-level exchanges changing an existing structural pattern.

The respective resources of individuals are critical. Power is a resource. It is the capacity to influence others. "Material resources" are wealth and property and the capacity to control settings and people's places in them. Interaction is affected by participants relative resources, density and number of individuals co-present. As a result of unequal distribution of resources, conflict of interest may develop creating a possibility for social change (conflict perspective).

Thus, social structures do exist, they do reveal normative expectations, they do order people's options and self-evaluations and they also change. The dynamic relationship between society and individuals gives social phenomena a sense of character and purpose (Berger, 1963). The behavior of individuals (roles of individuals) can be understood within a structural network of interacting relationship.

Thus, within each respective society of South India and Northern Cameroon males and females can be conceptualized as actors whose encounters are organized into the system (Figure 1). The various roles of the actors are interdependent and are affected by resources. The interest here is to analyze some of the roles and also find out how the roles are affected by these resources.

Summary:

1. The goals of individuals in a society are directly or indirectly constrained by the structural conditions in which the individuals find themselves (Figure 1).

2. Individuals perceptions, attitudes and knowledge are influenced by the socioeconomic conditions (Figure 1).
3. The various roles of individuals are inter dependent and different in different societies.

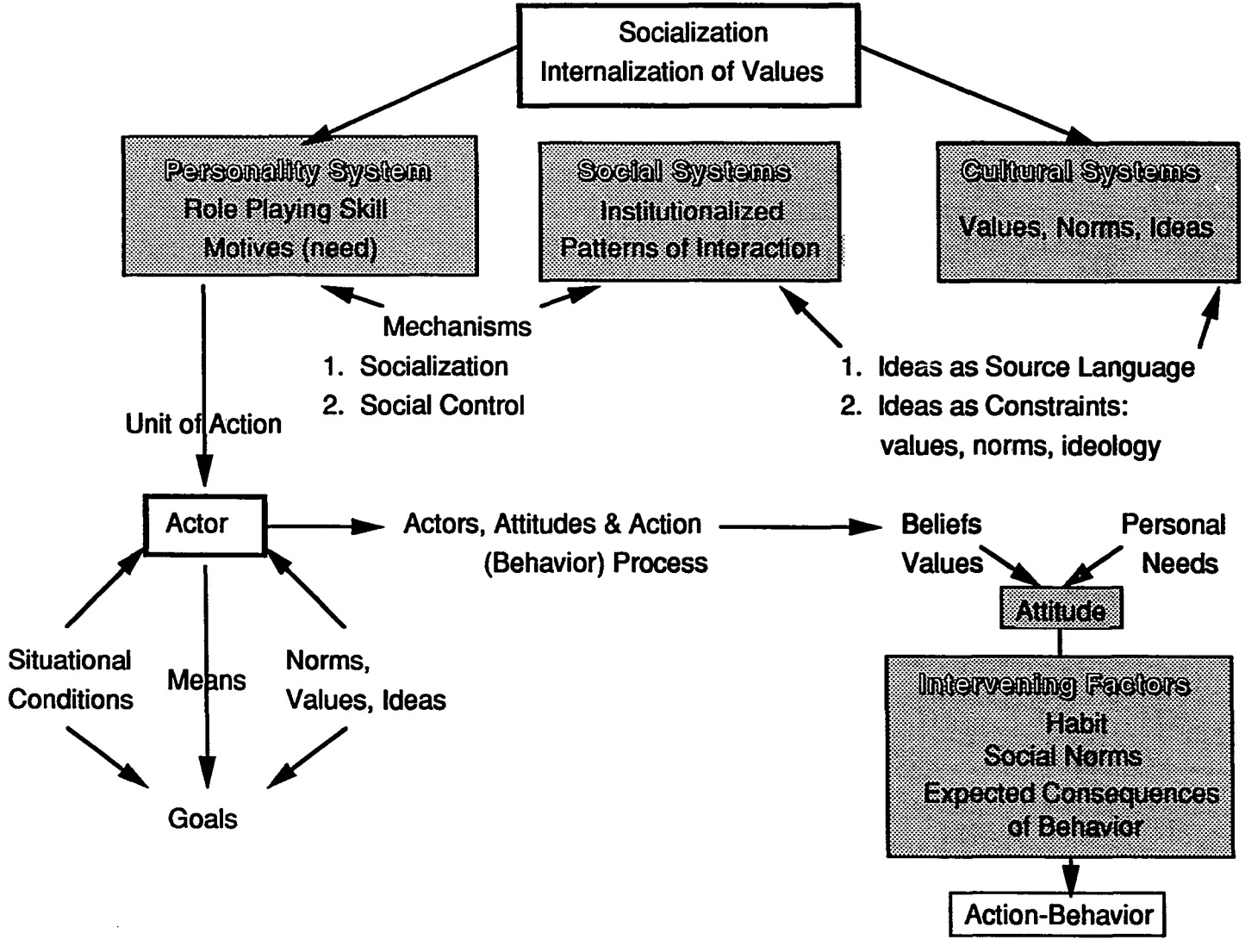


Figure 1. Theoretical conceptualization of integration among systems of action

A CONCEPTUAL AND EMPIRICAL MODEL FOR INTRA-HOUSEHOLD PARTICIPATION AND DECISION MAKING

Introduction

In what follows, we shall analyze the conceptual model for intra-household participation as it relates to the empirical situation in the villages of the two regions. The conceptual model (Figure 2) is related to the unit of action and actor in the theoretical model (Figure 1). The model will serve as a guideline in an attempt to explain the participation of women in the household and in the decision making processes. Various concepts are selected as relevant to this purpose and will be discussed next.

Role Prescription

Prescription refers to behaviors that ought to or should be performed. Role expectations pertain to standards, norms and rules. The term role is sometimes used prescriptively. Sometimes the term norm is used for a covertly held prescription and demand for the overtly held expression of a prescription.

Much of social behavior is affected by prescription, and many social situations are dominated by the expression of overt demand. Prescriptive behaviors may be designated as moral, religious, aesthetic, scientific, legal, and economic. They may be associated with home, school, church, factory, farm or other institutions. Like performance, prescriptive behavior cannot be said to consist of fixed, nonarbitrary subclasses. There are only plausible and convenient distinctions to be made for subvarieties of norms and demands. The case of the roles of women in rural setting to which we are referring pertains to

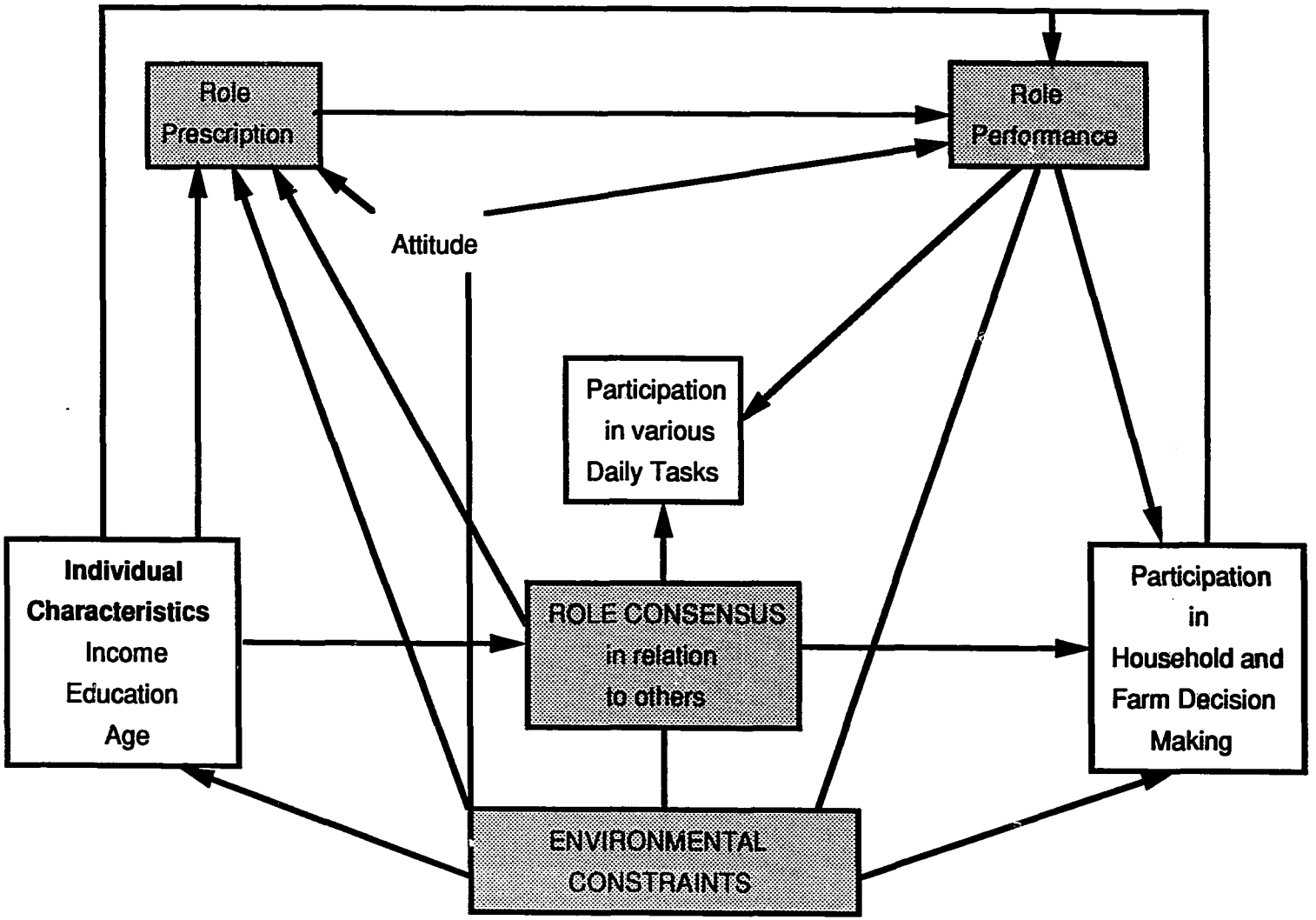


Figure 2. Conceptual and empirical model of intrahousehold participation

prescribed roles. This implies that in a traditional rural society, such as the village situation in India and Cameroon, women's roles are performed in response to society's demands or to normative prescriptions of each respective society.

Behavior is then evaluated as it relates primarily to approval and disapproval. Rewards, punishments, and sanctions are used to enforce prescribed behavior. Individuals assess these reinforcements covertly in terms of value before an overt behavior is manifested. The resultant behavior may be conformity or in rare cases deviance. In highly structured "traditional" society, more conformity rather than deviance is anticipated. It is worthwhile to consider next the process proceeding the manifestation of overt behavior.

Before an individual acts or behaves, he or she forms an attitude toward the function to be performed. Understanding the complexity of attitudes helps us to grasp fully the reason for conformity or deviance and, in this case, why women choose to comply with or reject normative prescriptions for behavior in rural settings.

Attitudes

Individuals also consider how they feel about an idea, a person or an object before they decide to take an action. This feeling or predisposition to act is an attitude. The relationship between the way one feels and what one does is the relationship between attitude and behavior. There are intervening factors between attitude and behavior. These include a person's habits, social norms and the expected consequences of behavior.

To fully understand attitudes and how they affect action, one needs to know the factors that influence attitude. Attitudes are not isolated but reflect the

beliefs and values which a person holds. They are in turn influenced by personal needs. Attitudes are held because they meet such personal needs as: the need for rewards, defending the ego and understanding the environment. Only after evaluating all these conditions does a person decide to behave or to act. This implies that a person weighs the pros and cons of prescribed roles before performing the required roles. Individuals also interact with others in playing a given role. The degree of agreement (consensus) with others facilitates task performance.

Role Consensus

Consensus is referred to as the degree of agreement of individuals on a given topic (Biddle and Thomas, 1966). In this context, the term is used to show the agreement of individuals on the routine daily role performance.

Consensus is referred to as the agreement of individuals on a given topic. Role consensus may be the outcome of negotiation on the basis of costs and benefits the decision to act may bring. Both consensus and conflict which are prerequisites of each other should exist (Dahrendorf, 1958). As much as society is held together by voluntary cooperation or general consensus at different levels, it can also be held together by "enforced constraint." This means that some positions in society are delegated power and authority over others. This differential distribution of authority invariably becomes the determining factor of systemic social conflict and change. Our concern is with consensus or agreement of individuals on the routine daily role performance or daily performance of domestic and farm activities. In the case in question, decision

making as a category or role performance is related to consensus. Under different circumstances, decision making may be related to conflict.

Role Performance

In intra-household participation, individuals are involved in overt activities or goal-oriented behavior known as role performance. With regard to the conception of role itself, one of the categories Moreno (1960) distinguished is the social role (the mother, the son, the daughter, the teacher, etc.). However, it was Linton (1936) who defined the role concept as the dynamic aspect of a status. Therefore, role can be referred to in terms of the shared behavior expectations for persons occupying the various roles. A status, as distinct from the individual who may occupy it, is simply a collection of rights and duties. Every individual has a series of roles deriving from the various patterns in which he or she participates and in this case roles form patterns of interaction in the household or family. At the same time, a general role represents the sum total of these roles and determines what the individual does for her or his society and what is expected from the society (Biddle and Thomas, 1966). The close relationship between roles and positions as elements of society suggests possibilities for analyzing social structure. The idea that individual behavior could be constructed as role performance implies that role is one linkage between individual behavior and social structure.

Participation implies action which is behavior distinguished by having been learned previously and being goal directed and voluntary. The concept of role performance is commonly used to partition behavior. But "role enactment," "role behavior" and "behavior pattern" are also employed in this sense. Thus, the

term performance is used for overt behavior classified as action, while the term motive (attitude, need disposition) is used for covert tendencies to engage in behavior that, if made overt, would be designated as action (Parsons, 1951; Eisenstadt, 1956; and Zetterberg, 1957). In the case at hand, role performance can be considered women's domestic work performance, field labor, market transactions, etc. on one hand, and participation in decision making on the other.

Complexes of activities have in many cases been divided. For instance, agriculture is subdivided into clearing of land, soil preparation and planting, cropping and harvesting; pastoral activities into the herding of large animals, and dairy operations; house building, erecting and dismantling of transportable shelters; weaving of textiles, etc. Such economic activities are separated according to sex. Certain occupations are found to be universally masculine (Murdock, 1949). While the division of labor according to sex is supported, the idea of the universality of certain occupations pertaining to one sex only is debatable.

Other factors that bear on role performance (behavior) are environmental constraints. Since the effect of the environment is very important, we will discuss the environmental constraints next.

Environmental Constraints

The physical environment, including the human and non-human components, may exercise immense control over behavior. Environmental constraints such as the numbers and contiguity of other humans, the rivers, mountains, lakes, oceans and forests and the ecological context in general can have an effect on behavior. In the case in question, the ecological characteristics

of the semi-arid tropics have a definite effect on the farming transactions of individuals in the villages.

The environment may simply preclude engagement in activities; it may permit but not fully determine engagement in the activities, or in extreme cases literally force the behavior into being. The concept of "means control" is applicable to the "precluding" and "permitting" effects (Biddle and Thomas, 1966). An element of the environment may be said to exercise "mean control" when its presence permits, but does not fully determine, given behavior. Its presence may preclude the possibility of engaging in particular behavior. The behavior of others may exercise means control over individuals as in division of labor. The natural resources of an area exercise means control over people's sustenance, occupational structure, and much of the entire division of labor.

Under the effect of such constraints, women continue to participate in the agricultural and domestic activities. A few individual characteristics are selected to demonstrate the relationships between these characteristics and decision making of a woman. The income, education and age of a person tend to affect the decision making role of the individual in the household. Let us next consider each of these factors.

Income

Power, the probability of having one's will done despite opposition, is a complex phenomenon. One of the visible means of power is economic power. Income represents an economic resource. According to Simmel (1907/1978), the nature of resources as well as their respective values determines the pattern of social differentiation among actors. As more generalized media, such as income

(money), are used in exchanges, actors can have more options in their exchanges. As generalized media can be used in a variety of ways, there is a possibility of micro-level exchanges changing an existing structural pattern.

In addition, the relative resources that people bring to, use in, or extract from an encounter is vital to interaction. Those with resources, press their advantage; those without resources, seek the best deal they can get under the circumstances. The assumption here is that cultural symbols, ideas, beliefs, norms and values are used to represent the interest of the parties who have the resources to make their views prevail (Collins, 1975). Therefore, it is anticipated that there are relationships between the individual's income, role prescription, role consensus and role performance (participation in farm tasks and participation in decision making).

Education

Education refers to formal knowledge acquisition or schooling. The level of educational attainment is frequently represented by the number of years of formal education. Educational attainment is an individual characteristic which is associated with the individual orientation, knowledge, and skill presumably appropriate for job responsibilities. It is anticipated that a person's education has a bearing on role prescription, consensus, task performance and decision making.

Age

The age of an individual is indicated in years. In many societies, age is associated with status and role (Linton, 1936, and Parsons, 1961). Age statuses

of individuals are frequently associated with their orientation and behavior. Certain activities are designated to older persons in a society. Age is also associated with position and status in some societies. As a result, older men and women are involved in crucial decision makings. Therefore, relationships between individual's age and role prescription, role consensus and role performance are anticipated.

Decision Making

To speak about power, is to speak about the ability to influence others so that they do what we want them to do whether they want to do it or not. Like many other relationships, in marriage and the family, there is a power interaction. Generally we look at decision making in the family and household to determine which individual has more power (Blood and Wolfe, 1960). Generally, men have more power than women. There are conditions, however, under which men's power in the family changes. The spouse who brings more "resources" (income, social status, education) is likely to be more powerful. Blood and Wolfe (1960) discovered that as a wife's resources increased, she gained leverage relative to her husband.

More recently, in their study of 12,000 American couples, Blumstein and Schwartz (1983) found that in most cases, the partner who earns more money tends to be the more powerful as measured by decision making. It was reported by the researchers that the more women earn relative to their partners, the more power they acquire in the relationship.

There is more to power relations than asking questions about family decision making. Some decisions must be made fairly regularly, whereas, others

may be made only once or twice in a lifetime (Allan, 1985). Such decisions have different consequences (Renzetti and Curran, 1989).

Decision making centers around the nature of power itself, Power includes the right to delegate responsibility for certain decisions to others. In some cases husbands delegate the power to wives to make certain decisions. This implies that the wives make decisions on behalf of their husbands and are not, therefore, the actual ultimate decision makers.

There are also some practices that are taken for granted because they are deeply embedded in ideology and family structure that decisions do not have to be made about them. They are automatically carried on without question (Allan, 1985). From this perspective, more can be learned about marital power by observing the division of labor in the household and who benefits from it.

From the above discussion we can anticipate that there are relationships between income, education, age, task performance and decision making.

Summary

So far we have discussed how various variables interplay to give meaning to our understanding of women's participation in agriculture and decision making in the household. The individual's income, education and age have a relationship with the individual's task performance. These individual characteristics may also influence the individual's involvement in family and household decision making. The operation of the variables has to be understood bearing in mind the environmental constraints that affect the lives of the villagers and the different cultures in which the two regions exist. Based on the above assumptions, the following hypotheses are stated.

Statement of Hypotheses

It can generally be hypothesized that a farm woman performs a significant amount of farm tasks but her decision making power in the family increases only when her resources (income, property, etc.) increase. In addition the following specific propositions are tested.

1.0.0 Hypothesis comparing the time allocated to farm activities between men and women

1.1.0 Respondent's time

1.1.1 Women spend more time in farm activities than men

2.0.0 Hypothesis comparing men's and women's income (salary and income)

2.1.0 Respondent's income (salary and income)

2.1.1 Women earn less income than men

3.0.0 Hypothesis comparing the agricultural decisions made by men and women

3.1.0 Respondent's agricultural decisions

3.1.1 Women make less agricultural decisions than men

4.0.0 Hypothesis comparing men and women's rights of disposal

4.1.0 Respondent's right of disposal

4.1.1 Women have less rights of disposal than men

5.0.0 Hypotheses involving individual characteristics and decision making (economic decisions)

5.1.0 Respondent's income

5.1.1 The higher the woman's income the more she is involved in economic decision making

5.2.0 Respondent's education

5.2.1 The higher the level of a woman's education the more she is involved in economic decision making

5.3.0 Respondent's age

5.3.1 The older the woman the more she is involved in economic decision making

6.0.0 Hypotheses comparing variables of daily task performance (daily production activities, daily domestic and reproductive activities, daily social activities)

6.1.0 Respondent's daily production activities

6.1.1 Women are more occupied in daily production activities than in domestic and reproductive activities

6.2.0 Respondents daily domestic activities

6.2.1 Women are more occupied in daily domestic activities than reproductive activities

6.3.0 Respondent's daily social activities

6.3.1 Women are more occupied in daily social activities than daily production, daily domestic and daily reproductive activities

7.0.0 Hypotheses comparing age (young, middle-age, old) and activities (production, domestic, reproduction and social)

7.1.0 Respondent's age and production activities

7.1.1 Old women perform less production activities than middle-age and young women

7.1.2 Middle-age women perform more production activities than old women

8.0.0 Hypotheses comparing education and daily activities

8.1.0 Respondent's education (literacy), production, domestic, reproductive, and social activities

8.1.1 Literate women perform more production activities than illiterate women

8.2.1 Literate women perform more domestic activities than illiterate women

9.0.0 Hypotheses comparing variables of women's decisions concerning farm activities (production decisions, domestic and reproductive decisions, social decisions) in the villages

9.1.0 Respondent's production, domestic, reproductive, and social decisions

9.1.1 The production decisions of women are greater than their domestic and reproductive decisions

9.2.1 Women's domestic decisions are greater than women's reproductive decisions

9.3.1 The social decisions made by women are less than the women's production, reproduction and domestic decisions

10.0.0 Hypotheses comparing women's age and decisions

10.1.0 Respondent's age, production, domestic, reproductive, and social decisions

10.1.1 Old women make more production decisions than domestic and reproductive decisions

10.1.2 Young women make more production decisions compared to middle-age women

10.2.1 Old women make more domestic and reproductive decisions compared to middle-age and young women

10.2.2 Young women make more domestic and reproductive decisions compared to middle-age women

10.3.1 Old women make less social decisions than the other decisions compared to middle-age and young women

11.0.0 Hypotheses comparing women's education (literacy) and decisions

11.1.0 Respondent's education (literacy) and production, domestic, reproductive, and social decisions

11.1.1 Literate women make more production decisions than illiterate women

11.2.1 Literate women make more domestic decisions than illiterate women

11.3.1 Illiterate women make more social decisions than other decisions compared to illiterate women

12.0.0 Hypotheses comparing women's activities between the Indian villages (Aurepalle vs. Shirapur)

12.1.0 Respondent's production, domestic, reproductive, and social activities

12.1.1 Women in Aurepalle perform more production activities than those in Shirapur

12.2.1 Women in Aurepalle perform more domestic and reproductive functions than those in Shirapur

12.3.1 Women in Aurepalle perform more social activities than those in Shirapur

13.0.0 Hypotheses comparing the age of women and activities between Aurepalle and Shirapur

13.1.0 Respondent's age and activities

13.1.1 Old women in Aurepalle perform more activities than old women in Shirapur

13.1.2 Middle-age women in Aurepalle perform more activities than in Shirapur

14.0.0 Hypothesis comparing women's education and activities between Aurepalle and Shirapur

14.1.0 Respondent's education and activities

14.1.1 Literate women in Aurepalle perform more activities than illiterate women in Shirapur

15.0.0 Hypotheses comparing decision making between the Indian villages

15.1.0 Respondent's production, domestic, reproductive, and social decisions

15.1.1 Women in Aurepalle make more production decisions than those in Shirapur

15.2.1 Women in Aurepalle make more domestic and reproductive decisions than women in Shirapur

15.3.1 Women in Aurepalle make more social decisions than women in Shirapur

16.0.0 Hypotheses comparing women's age and decisions between Aurepalle and Shirapur

16.1.0 Respondent's age and decisions

16.1.1 Old women in Aurepalle make more decisions than old women in Shirapur

16.1.2 Middle-age women in Aurepalle make more decisions than middle-age women in Shirapur

17.0.0 Hypotheses comparing women's activities between the Northern Cameroon Villages (Doubane, Ldamtsai, Yoldeo)

17.1.0 Respondent's production, domestic, reproductive, and social activities

17.1.1 Women in Doubane perform more production activities than women in Ldamtsai and Yoldeo

17.1.2 Women in Ldamtsai perform more production activities than women in Yoldeo

17.2.1 Women in Doubane perform more domestic and reproductive activities than women in Ldamtsai and Yoldeo

17.2.2 Women in Ldamtsai perform more domestic and reproductive activities than women in Yoldeo

17.3.1 Women in Doubane perform more social activities than women in Ldamtsai and Yoldeo

17.3.2 Women in Ldamtsai perform more social activities than women in Yoldeo

18.0.0 Hypotheses comparing age and activities of women between the Northern Cameroon villages

18.1.0 Respondent's age and production, domestic, reproductive, and social activities

18.1.1 Old women in Doubane perform more activities than old women in Ldamtsai and Yoldeo

18.1.2 Young women in Doubane perform more activities than middle-age women in Ldamtsai and Yoldeo

18.2.1 Middle-age women in Ldamtsai perform more activities than middle-age women in Yoldeo

18.2.2 Old women in Ldamtsai perform more activities than old women in Yoldeo

19.0.0 Hypotheses comparing education and activities of women between the Northern Cameroon villages

19.1.0 Respondent's education (literacy)

19.1.1 Illiterate women in Doubane perform more activities than literate women in Ldamtsai and Yoldeo

19.1.2 Illiterate women in Ldamtsai perform more activities than literate women in Yoldeo

20.0.0 Hypotheses comparing decisions of women between the Northern Cameroon villages

20.1.0 Respondent's production, domestic, reproductive, and social decisions

20.1.1 Women in Doubane make more production decisions than women in Ldamtsai and Yoldeo

20.1.2 Women in Ldamtsai make more production decisions than women in Yoldeo

20.2.1 Women in Doubane make more domestic and reproductive decisions than women in Ldamtsai and Yoldeo

20.2.2 Women in Ldamtsai make more domestic and reproductive decisions than women in Yoldeo.

20.3.1 Women in Doubane make more social decisions than women in Ldamtsai and Yoldeo

20.3.2 Women in Ldamtsai make more social decisions than women in in Yoldeo

21.0.0 Hypotheses comparing women's age and decisions between the Northern Cameroon villages

21.1.0 Respondent's age and production, domestic, reproduction, and social decisions

21.1.1 Old women in Doubane make more decisions than old women in Ldamtsai and Yoldeo

21.1.2 Young women in Doubane make more decisions than middle-age women in Ldamtsai and Yoldeo

21.2.1 Old women in Ldamtsai make more decisions than old women in Yoldeo

21.2.2 Middle-age women in Ldamtsai make more decisions than middle-age women in Yoldeo

22.0.0 Hypotheses comparing women's farm activities between the South Indian villages and the villages in Northern Cameroon

22.1.0 Respondents production, domestic, reproductive, and social activities

22.1.1 Women in Northern Cameroon villages (Doubane, Ldamtsai, Yoldeo) perform more production activities than women in the South Indian villages (Aurepalle and Shirapur)

22.2.1 Women in the Northern Cameroon villages perform more domestic and reproductive activities than those in the South Indian villages.

23.0.0 Hypotheses comparing women's age and decisions between the villages in Northern Cameroon and the South Indian villages

23.1.0 Respondent's age and production, domestic, reproductive, and social decisions

23.1.1 Old women in Northern Cameroon villages make more decisions than old women in the South Indian villages

23.1.2 Middle-age women in the Northern Cameroon villages make more decisions than middle-age women in the South Indian villages

24.0.0 Hypotheses comparing women's education and decision making between the Northern Cameroon villages with the South Indian villages

24.1.0 Respondent's education (literacy) and decisions

24.1.1 Illiterate women in the Northern Cameroon villages make more decisions than illiterate women in the South Indian villages

25.0.0 Hypotheses comparing women's decision making between the Northern Cameroon villages and villages in South India

25.1.0 Respondent's production, domestic, reproduction, and social decisions

25.1.1 Women in Northern Cameroon villages make more production decisions than women in South Indian villages

25.2.1 Women in Northern Cameroon villages make more domestic, reproductive decisions than women in South Indian villages

25.3.1 Women in Northern Cameroon villages make more social decisions than women in South Indian villages

METHODOLOGY

Introduction

This chapter essentially deals with (a) the overview of the research setting, to be followed by a brief description of the villages in South India and Northern Cameroon; (b) data collection and sampling procedure; (c) operationalization of the test variables; and (d) the statistical technique used in analyzing the data. The section is started by providing a general overview of the research setting.

An Overview of the Research Setting

The villages considered in this comparative study are located in the geographical zone referred to as the semi-arid tropics of southern India and Northern Cameroon. The agro-climatic condition of the region is characterized by an over abundance of rain during the wet season followed by an extended dry period for the rest of the year. As a result of this, the region is affected by three factors (Binswanger and Jodha, 1978). First is the inherent deficiencies of natural resource base. The second is the insufficient and sometimes ineffective investment in improvements of the natural resource base, such as irrigation, soil improvement, and agricultural research. The third is the inefficient utilization of existing or potential resources because of social and institutional structure and insufficient diffusion of knowledge among farmers.

This diffusion of knowledge tends to be especially insufficient among women because they are not recognized as independent farmers. Considering the amount of work the women perform in the area in general, and in food production in Cameroon, in particular, this situation creates a grave problem, due

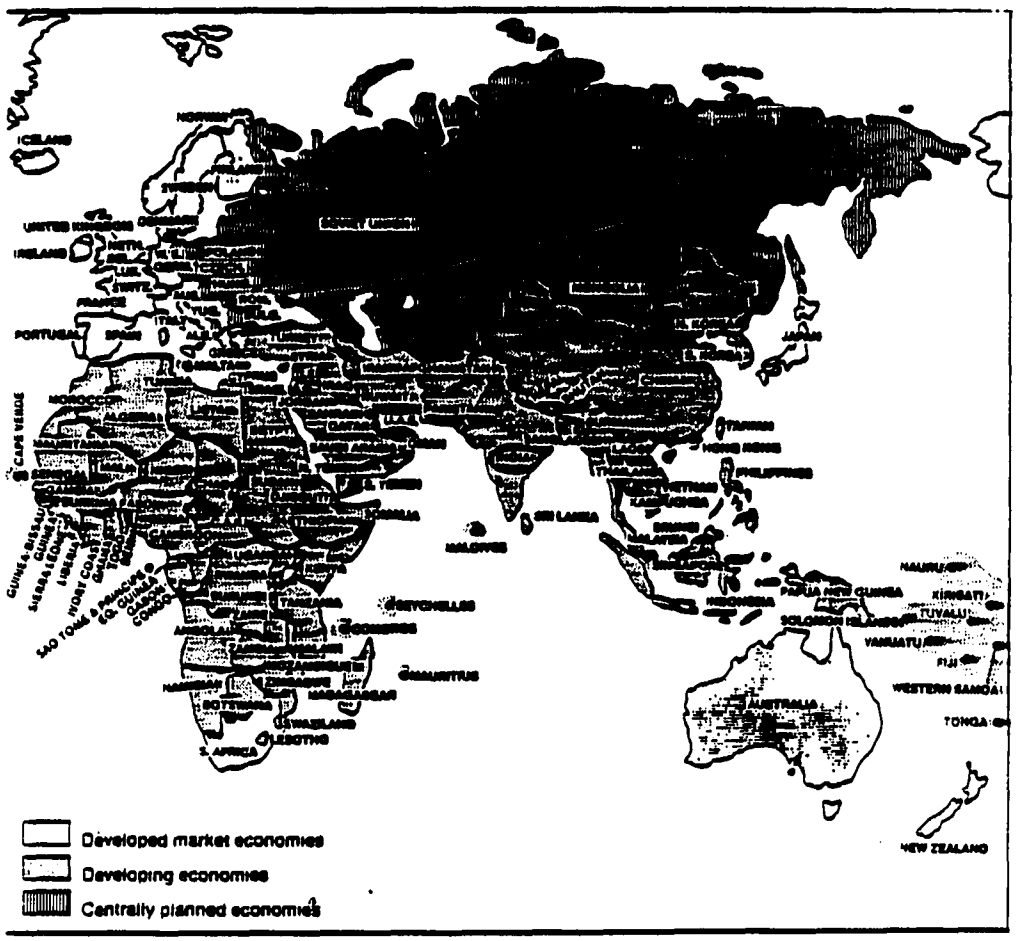


Figure 3. World map showing the areas to be studied. The areas are indicated by a black circle

to the fact that women are the food producers in the villages in Cameroon. In what follows a brief overview of each region will be given followed by a description of each village in each respective area. First we will look at the Indian villages.

The Indian Villages

The discussion about the villages will begin with the reasons for selection of the villages emphasizing interesting points about each case. This will be followed by the agro-ecological profile and then a detailed description of each village.

Reason for the selection of the villages

The two villages for this study are situated in south central India. Aurepalle is located in Andhra Pradesh state and Shirapur is in the state of Maharashtra. These villages are two out of the six villages selected by ICRISAT to conduct village level studies and approved by the Indian Government. The village level studies project was broadly governed by the assumption that one of the efficient ways to identify and indicate relevant elements, such as cultural factors, work habits and decision making, for incorporating in the prospective technology by ICRISAT was to thoroughly understand the traditional system of farming in semi-arid tropical areas. In brief, the village level studies are primarily designed to collect relevant farm-level details to assist ICRISAT's research in identifying technologies suited to the needs and means of the farmers in this region. This is achieved through observing and monitoring why farmers do what they do. The

choice of the two villages for this study is predominantly based on this objective of ICRISAT. But the emphasis in this study is the role of women farmers.

The two villages represent two different districts and they display different characteristics. One difference is language. The farmers in Aurepalle speak Telegu and those in Shirapur speak Marathi.

Another interesting aspect is the village caste norms. Because the great majority of the inhabitants of the two villages are Hindus, the norms become a very important part of village life. Caste norms are more strictly followed in Aurepalle than in Shirapur. Unlike Shirapur, the higher castes in Aurepalle do not allow the scheduled (low) castes to work in their houses but allow them to work in their fields. There are also separate drinking water wells for higher caste Hindus and scheduled castes. The wells are built by the government and maintained by local government representatives. The houses of the scheduled castes are also separated from the higher castes within the village.

In Shirapur, the upper castes and scheduled caste men mix freely in public spaces to talk and play cards. Because the low castes are considered socially inferior and economically dependent on upper caste land owners, the two parties are noncompetitive and relations are fairly friendly so long as each party respects the "status quo." As in most Maharashtra villages, the scheduled castes and tribes in Shirapur have their houses at the southern side separated from the main village. The caste norms also govern the relationships of women of higher and lower castes in similar fashion.

Women feel the social pressure of caste norms more than men of the same caste. Because caste divisions are occupational and economic divisions, women in lower castes find themselves in less advantageous positions than those in

higher castes. It is anticipated that the sexual division of labor and the distribution of resources between men and women are more rigid in Aurepalle than in Shirapur where the rigidity of caste norms are usually maintained.

Marriages are arranged within the same caste in both villages. Dowry is generally paid in all castes of Aurepalle and Shirapur. The amount of dowry normally depends on the economic conditions of both families. Dowry locks up the major portion of the families' liquid assets and often forces the household to take loans. The practice of dowry has resulted in poverty and unhappiness to a number of rural families. It has also been described by many authors (as shown in the literature review) as a major reason for lowering the economic status of women by limiting their rights to fluid economic assets. It has also been sufficiently discussed as a cause of bride burning which is a major problem of contemporary India.

After marriage women in these villages are expected to work for the welfare of their families. They are not entitled to loans without men's collateral or support. A good wife is considered to make her income or salary available to her family with very little or no decision making power to its allocation. Therefore, very little change of women's economic status is anticipated, unless they have access and control of their income. The agro-ecological profile of the two villages adds to the dimension of knowledge about the villages and also helps us understand how the environmental factors affect the economy and the social relationships of the people in the villages.

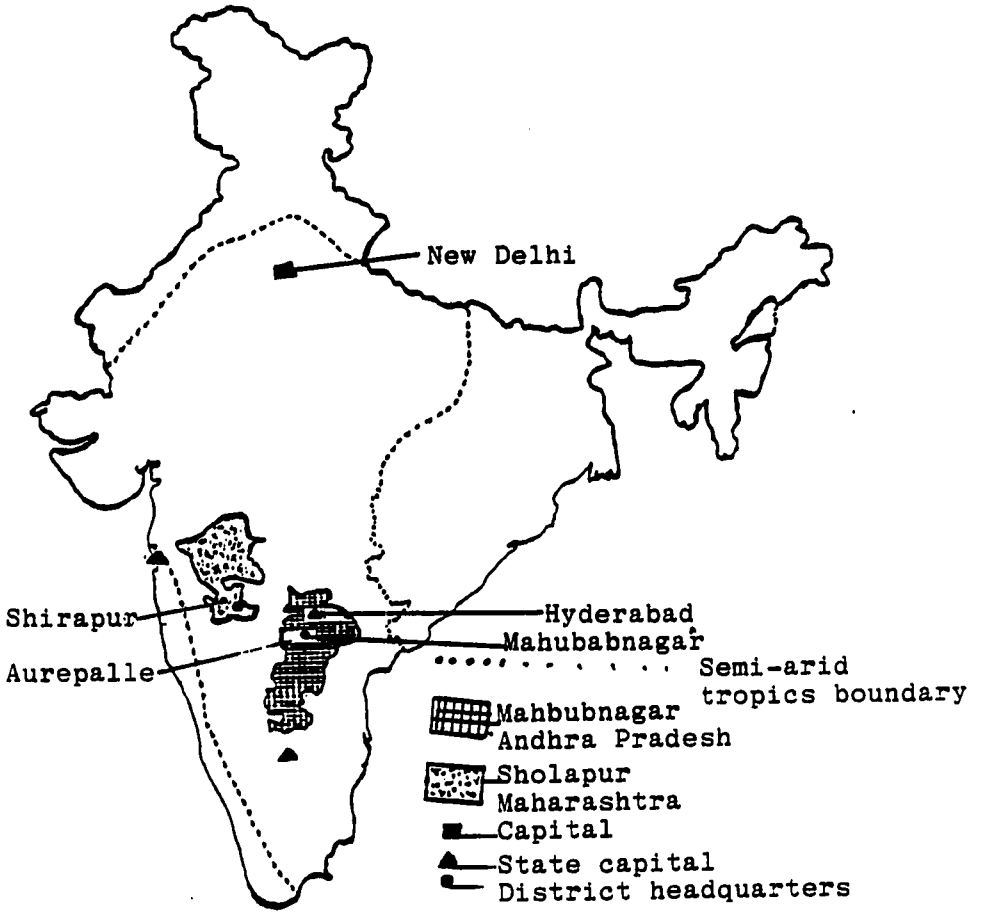
The agro-ecological profile

Aurepalle and Shirapur are selected as representative of the area in which they are located in terms of variables defining distinct agro-ecological zones in India's semi-arid tropics. Aurepalle is a representative of the medium to shallow Alfisol region where rainfall averages about 700 mm/annum and is erratically distributed. Shirapur, on the other hand, has predominantly deep black vertisols with high moisture retention capacity and receives on an average annual rainfall of 600 mm. Food crops dominate the cropping pattern. Each village has been studied by ICRISAT scientists since 1975. The findings of the studies have given us a sound background to look at each village separately.

Aurepalle

The village is located approximately 70 kms. south of Hyderabad in Mahbubnager district. The population of Aurepalle was 3,340 in 1988. The majority of the villagers are involved in agriculture and the rest divided into supporting occupations. Only 6 of the 22 castes in the village do not farm (Economics Program Staff, ICRISAT, 1984).

Traditionally, the extended patriarchal family has been dominant with sons and their wives living in the same household as their parents. This family organization is gradually changing as a result of establishment of separate nuclear families that are connected to the family of the husband by certain social and economic obligations. One of the serious economic problems in Aurepalle is the payment of a dowry for a daughter's marriage. Residence is patrilocal and generally women work on the family land.



*M. J. Bhende, Village Level Study Zones, ICRISAT, 1983.

Figure 4. Location of the two villages and the village study zones

The main sources of income are: net crop revenues (36%), labor earnings (29%), trade and handicrafts (23%), and net livestock income (11%). The income for trade is largely covered from toddy tapping (palm wine sales).[1]

Labor income is predominant in the village casual agriculture market. Men have a significantly better chance of obtaining work in the village labor market than women. ICRISAT's economists report (1984) that the probabilities of involuntary unemployment has averaged 14 percent for men and 21 percent for women. Despite this fact, women more actively participate in the labor market than men. Although women's wages are only about 60% of men's, their labor earnings are higher than men's because of the higher participation rates on the part of women. Money wage is Rs. 9[2] for men and Rs. 5 for women. Wages in kind are 6 kgs. for rice (paddy) for men and 3 kgs. for women for a day's labor.

There are four types of common cropping systems in Aurepalle. They are row intercropped sorghum/pearl millet and millet/pigeonpeas, castor, rainy season paddy (rice), and post-rainy season paddy (rice). There are also other minor cropping systems. The contrast between the two most common dry land cropping systems, the cereal/pigeonpea intercropping and castor, and the irrigated paddy crops is marked. For more information about the village please refer to the summary statistics for Aurepalle (Table 1).

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[1]Economic Program Staff, ICRISAT, 1984.

[2]Rupees (Rs) are the Indian currency. At the time of the study about 12.9 rupees were equal to $1.00 (American).

Table 1. Statistical profile of Shirapur[a,b] and Aurepalle[b,c,d]

Particulars	Shirapur	Aurepalle[c]
Total geographical area in sq. kms.	14.72	16.29
Cultivable land in ha.	1327.46	1494
Population density (population/km^2)	110	205
Number of total households	297	476
Labor households (%)	32.7	30.7
Land operating households (%)	61.60	67
Other households (%)	5.7	2
Average family size	7	6
Literacy[d] (%)	41.4	25.3
Average size of operational holdings[d] (ha)	6.77	4.04
Irrigated area to total cropped area[d] (%)	8.3	12.04
Average annual rainfall (mm) (1976-80)	597	660
Cropping intensity[e] (%)	109.92	115.5
Number of bullocks per ha[e]	0.17	0.4
Family workers per ha[f]	0.82	0.8
Soil type	Deep to medium deep vertisols	Shallow and medium deep alfisols
Major crops grown	Rabi sorghum Pigeonpea Chickpea Wheat Minor pulses	Sorghum Pearl millet Pigeonpea Castor Paddy (rice)

[a]Bhende, ICRISAT, 1983.

[b]Refers to the entire village.

[c]Economic staff, ICRISAT, 1984.

[d]N. S. Jodha; M. Asokan; and J. G. Ryan, ICRISAT, 1977.

[e]Refers to the sample households and represents 3-year averages (1975-76 to 1977-78).

[f]Refers to sample households, July 1975.

Shirapur

Shirapur is located about 27 kms.. to the west of Sholapur on the Hyderabad-Pune highway. It is a relatively small village of about 1,989 population. The majority of the people, as in Aurepalle, are involved in farming. Table 1 gives us the statistical profile of Shirapur.

Like Aurepalle, the most important social ties in Shirapur are those based on kinship. The patrilineal-patrilocal kinship system is dominant. Even though the most dominant form of family is extended form, there are some nuclear families with connecting social and economic obligation to the patriarchal household.

The average gross household income is Rs. 5,369. The average gross household income is strongly correlated with farm size. Crop production is the most important source of income (41% of gross income). Labor income contributes 42 to 43% to the total net income. Net income from livestock is 15%. Transfer of income from gifts, remittance, and gambling is evident.[1]

Family labor earnings contribute more than 40% to net household income. The share of male labor in labor income is significantly high (68 to 69%) compared to females (25 to 26%) and children (7%).

Division of labor is strictly observed. Men do not move into women's jobs, except for some old men and male children. Male wages are 80% higher than female wages. Male probabilities of employment are much higher than female (Ryan and Ghodake, 1980).

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[1]Bhende, ICRISAT, 1983.

The ideological support for male/female division of responsibilities is strong. For example, it is a taboo for a woman to touch the plow. Males who perform domestic chores or other female specific tasks are ridiculed. Low wages for women are attributed by males to the lack of physical strength and stamina of women.

The main crops grown in the village are pigeonpea, peal millet, pulses, sorghum, groundnut, maize, safflower, wheat, and paddy. Intercropping or mixed cropping is commonly practiced by the farmers. Sometimes as many as five crop mixtures are planted (Jodha, 1979). Table 2 shows important crop mixtures.

The Cameroon Villages

An overview of the region from which the villages are selected is needed to help explain the environmental conditions that affect farming. This discussion will begin with the reasons for selecting the villages, taking into account the traditional pattern of social relations. This will be followed by the review of the agro-ecological profile and the population and ethnic distribution. Finally, each village will be discussed in detail.

Reasons for selecting the villages

Like in the Indian case, one of the important reasons for selecting the villages in Northern Cameroon was the location of the village in the semi-arid tropics. The study is also guided by the objectives of ICRISAT's village level studies (Jodha et al., 1977) which have previously been discussed when we considered the Indian villages. There are also other reasons that are different and an interesting aspect of life in each village. For example, each village

Table 2. Proportion of important crops/crop mixtures in gross cropped area (GCA) in Shirapur and Aurepalle villages during 1975-76 to 1977-78[a,b]

Crops/crop mixtures	Proportion of crops/crop mixtures[c]	
	Shirapur	Aurepalle[d]
	(%)	(%)
Sorghum[e]	42.7	26.37
Sorghum mixtures[e]	11.8	*[f]
Wheat	2.4	*
Paddy	1.7	6.0
Other cereals	2.1	*
Pigeonpea	6.8	6.5
Pigeonpea mixtures	0.5	1.6
Chickpea	4.6	*
Other pulses	8.7	*
Groundnut	2.1	*
Groundnut mixtures	0.2	*
Other crops	10.3	34.8 (Castor)
Other mixtures	6.1	24.26

[a]Bhende, ICRISAT, 1983.

[b]Based on details from sample farms in two villages (Shirapur and Kalman). Village level studies have been conducted in these villages since May 1975 (Jodha, Asokan and Ryan, 1977).

[c]The crop mixtures have been named after the prominent crop of the mixtures.

[d]Estimates based on Economic Staff, ICRISAT, 1984.

[e]Sorghum crop and its mixtures in Shirapur village are postrainy season crops.

[f] * indicates not reported.

represents different tribes. Doubane in the southeastern part of the province represents the Toupouri tribe, Ldamtsai to the west represents the Mafa and Yoldeo in the center is a Fulbe village. Though Fulfulde (a Fulbe language) is widely understood, each tribal language is different from the other.

The other difference is religion. The Toupouris are predominantly Animists with some practicing Christianity. The Mafa are a mixture of Animists, Moslems and Christians. Almost all the Fulbes are Moslems. Though there are differences in religion, what prevails in the village situation are the local traditional practices. The differences in the ways women are expected to behave, perform tasks and interact with individuals in the family and society are not significant.

Almost all the villagers practice polygamy wherever it is economically feasible. Bride price is paid in all the villages at the time of marriage. Women gain access to land through their husbands. The husbands give each wife a plot of land to raise food crops for their children. A separate house is built for each wife in the husband's compound. The first wife is considered the head wife.

Men and women have separate responsibilities and income in all the three villages. However, in Yoldeo there is slightly more control of income by men than in Doubane and Ldamtsai. As a result it is expected that women have more decision making power in Doubane and Ldamtsai than in Yoldeo.

Although it is expected that basic information on women farmers in this region will help plan appropriate technologies and policy decisions, the knowledge of similarities and differences of women's conditions are useful to enable researchers and policy makers to have an accurate perspective of the situation of women farmers even within the same country. A total picture of this farm situation can be determined by capturing the geographical and

environmental factors that affect farmers' social relations and economic enterprises. We will consider these factors by starting with the geo-ecological profile to be followed by population and ethnic distribution.

The agro-ecological profile

The three villages--Doubane, Ldamtsai, and Yoldeo--are in the Northern Province of Cameroon around the city of Maroua. This region, known as the Sudano-Sahelian Belt, spreads towards the north over the plains of Mayo-Danay and of Diamare to the Mandara Mountains. The dry season lasts seven months or more and precipitation ranges between 400 mm. and 900 mm. annually.

The annual average temperature is 28° C. There are four divisions in the region with distinctive geological, geographical, climatic, and human adaptive features. They are the Mandara Mountains, the Plateau, the Plains, and the Lake Chad region.

The Mandara Mountains The western part of the Northern Province contains hills and mountains ranging from 914.35 to 1219.14 meters. The mountains are eroded as a result of rains during the wet season. Course, granular, and incohesive soils are deposited in the foot hills. Some of the soils in this area are volcanic and rainfall averages between 951 mm. and 1057 mm. annually. The peak rainy months are July and August, then the rain declines in September. Soils are managed intensively. The steep mountain slopes are cultivated, terracing is practiced by many of the local inhabitants to reduce erosion. Virtually all arable land is cultivated. Livestock is generally kept.

The Plateau The Plateau ranges between 500 and 1000 meters and it receives from 1000 mm. to 1200 mm. of rainfall annually. Ferguson and

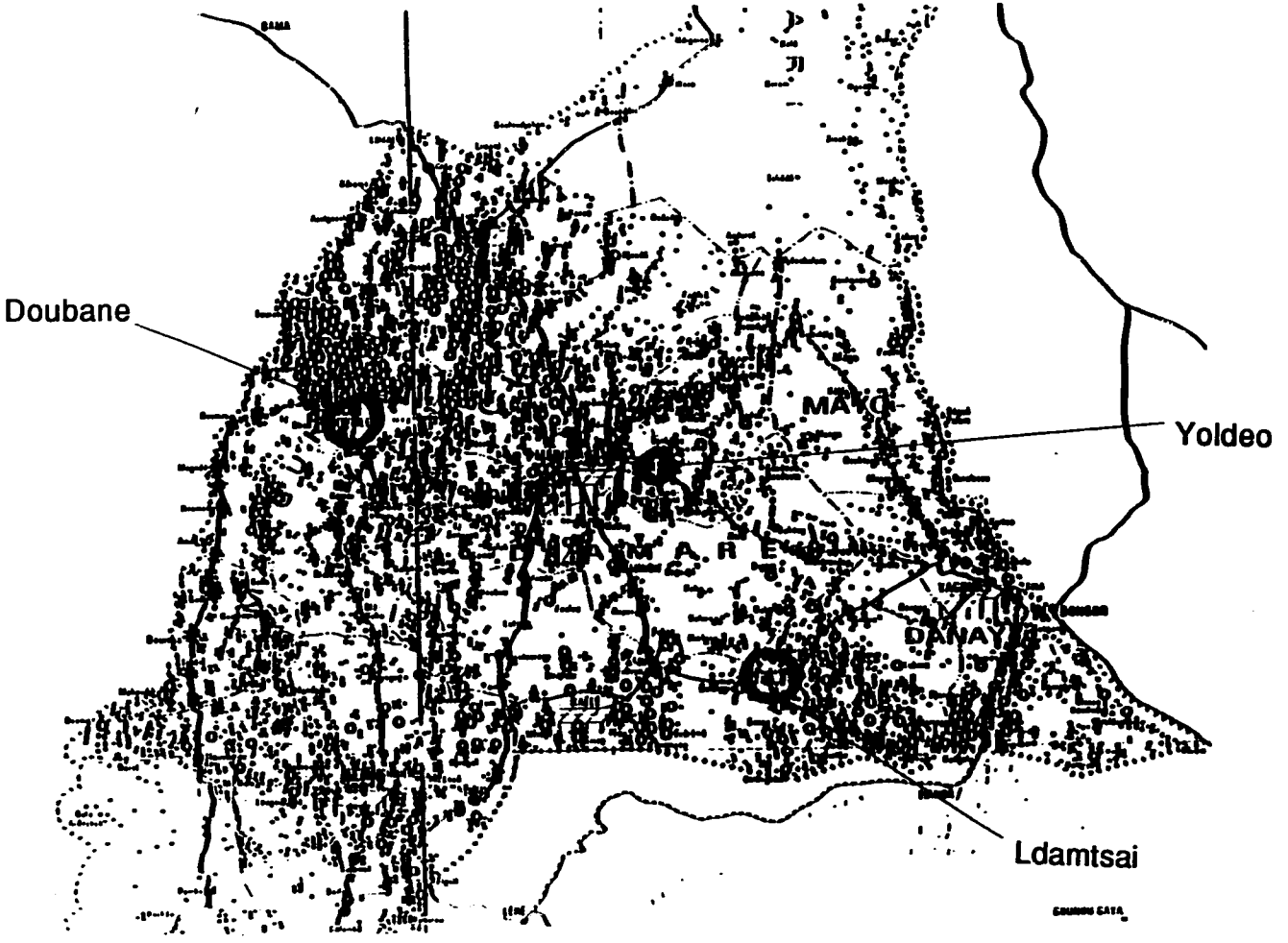


Figure 5. Location of the study villages in Northern Cameroon

Horn (1984) describes that it extends from Tcheoi and Bourrah in the south to Mokolo and Soulede in the north. The soils are not inherently fertile. As a result of government control of Fulbe raiding for cattle, the area is made safe for cultivation and the mountain people are moving to the Plateau. Cultivation and herding is practiced in this area.

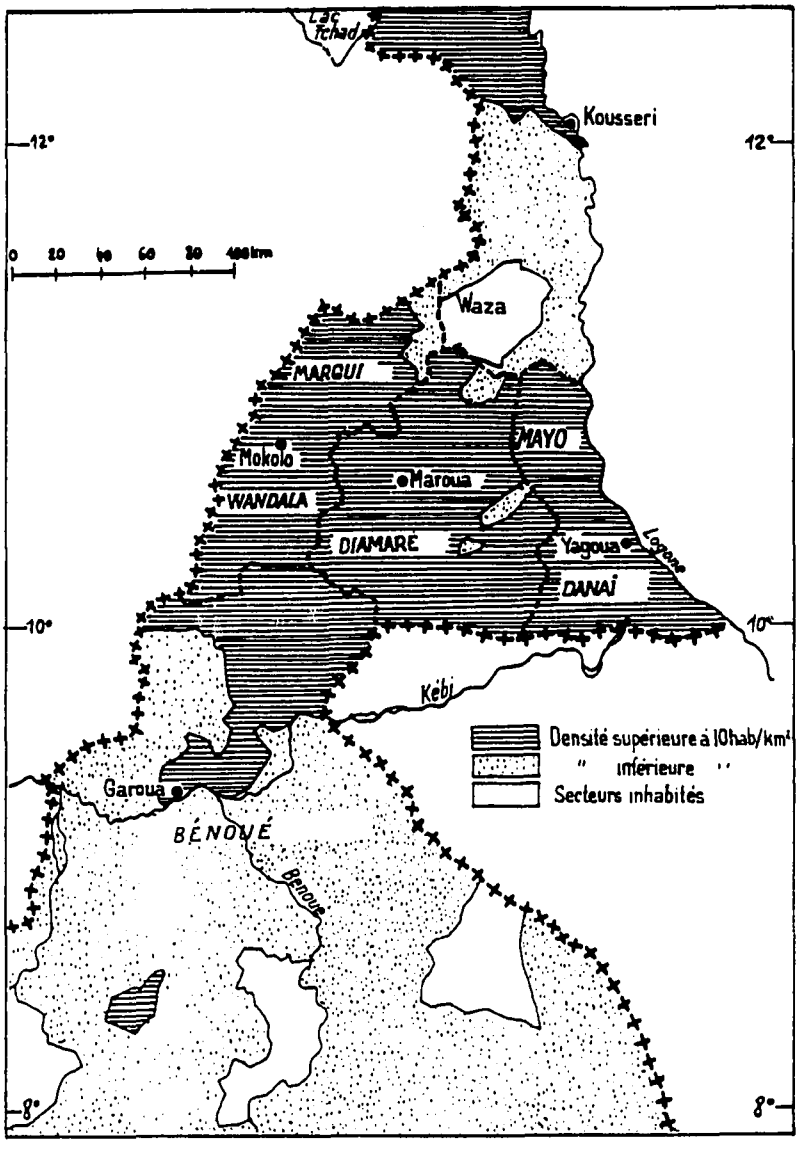
The Plains The Plains are below 500 m. high and receive between 500 mm. and 750 mm. of rain annually. The soils are generally sandy, with more fertile soil found in the valleys. The shortage of water renders cultivation difficult. In the alluvial area cotton growing takes place (Ferguson and Horn, 1984). Pastoral people are found here doing some cultivation to supplement Fulbe diets.

Lake Chad The flood water begins to rise in June and July in this area. The lowest amount of rainfall annually is 500 mm. Peak rainfall months are July (150 mm.) and August (250 mm.). The soils around the lake are alluvial and contain ferruginous and carbonate materials (Ferguson and Horn, 1984). Varying with ethnicity, both crop growing and pastoral economies exist here.

Population and ethnic distribution

In 1976, the population of the Northern Province was estimated at 2,300,000 with about 330,000 people in urban areas (67,200 live in Maroua) and the remainder in the rural areas. The population density is given on the map on the following page (Figure 6).

Ethnic distribution throughout the province is complex. For the purpose of our study, three tribes are selected in three villages to represent different regions. We will first discuss the Doubane village to be followed by Ldamtsai and Yoldeo.



*J. Boutrais et al., 1984.

Figure 6. Population density of Northern Cameroon

Doubane

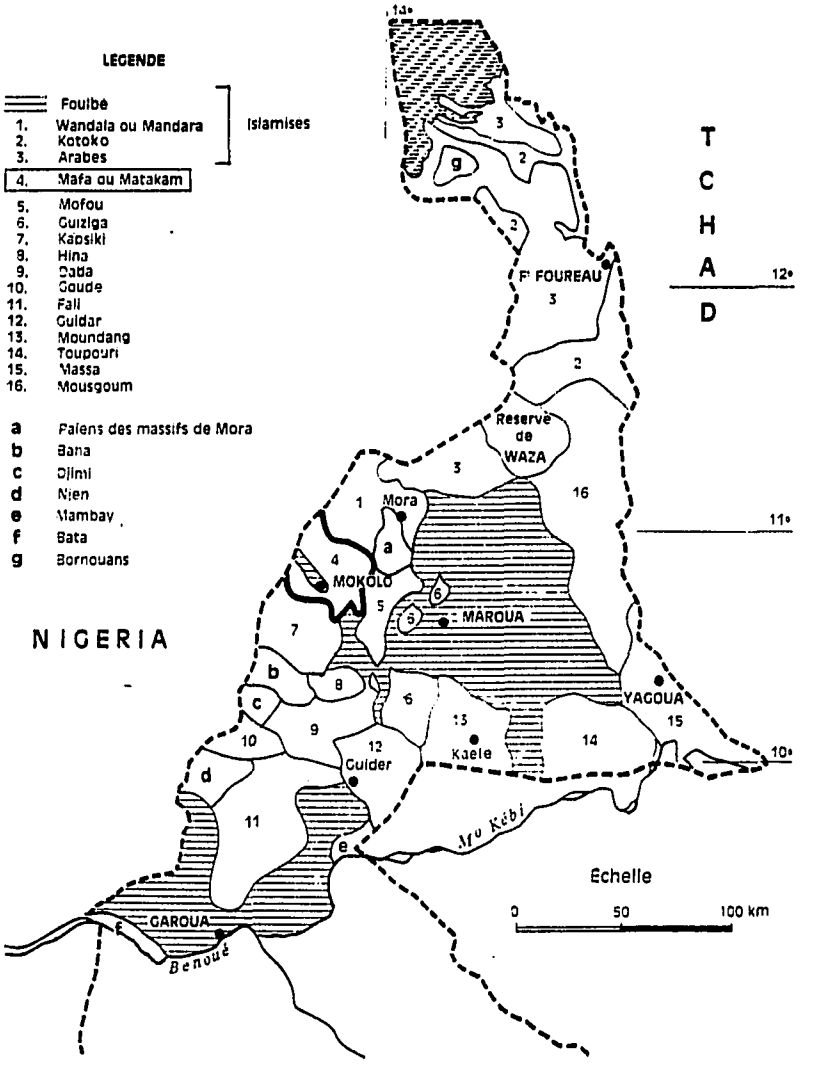
The village is situated about 95 kms. southeast of Maroua, one of the major cities in the Northern Province. It is a small village of about 3,000 people, the majority of which represent the Toupouri tribe.

The Toupouri have traditionally practiced polygamy. However, more and more of them are now monogamous due to the payment of bridewealth and other economic factors (Bryson, 1981). Women gain access to fields through their husbands. Upon the birth of children, wives are given their own house, kitchen, and granaries where they store the produce from their fields and from which they feed their children. Men and women have separate responsibilities and separate income sources (Guyer, 1980).

Among the Toupouri, authority rests with individual patrilinages. Residence after marriage tends to be patrilocal. Although women do not generally inherit land, they have well respected use rights and they play an important part in food production. Among the Toupouri the division of labor is not so much on the basis of agricultural tasks such as planting and weeding but rather on the basis of allocation of fields. Men farm millet and sorghum fields while women cultivate their own individual fields planted in sorghum and vegetable crops.

Ldamtsai

Ldamtsai is a village of about 6,023 people close to the town of Mokolo in the Mandara Mountains and about 80 kms. west of Maroua. The Mafa (sometimes referred to as Matakam) comprise the largest ethnic group in the Mandara Mountains and also in Ldamtsai village.



*Martin, 1970.

Figure 7. Major ethnic groups of North Cameroon

In general, the Mafa practice mixed cropping and livestock enterprises. Productivity is enhanced through soil conservation and crop rotation and intercropping. They grow sorghum, millet, cowpeas, fruits and vegetables. Wild foods are also gathered where it is available. They also cultivate sorghum, millet, and groundnuts on terraced slopes. While cereals and beans are grown for subsistence, groundnuts are cultivated for cash. In addition, sweet and Irish potatoes, tobacco, manioc, and sugarcane are grown by the Mafas.

Like the Toupouris, the Mafas traditionally practiced polygamy. Residence after marriage is patrilocal. Women have access to land upon marriage. Mafa women work with their husbands on sorghum and groundnuts. In addition, they maintain their own fields of secondary crops. Women who have moved to the plains are reported to have diminished rights to land (Boulet, 1975).

Yoldeo

Yoldeo is a Fulbe village about 24 kms. east of Maroua. Almost all the 6,800 population of the village is of Fulbe tribe. In general, the Fulbe are politically and economically powerful. The Fulbe practice a form of shifting agriculture. Farmers live close to subsistence and do not take risks. Food crops are favored over cash crops.

The Fulbe practice polygamy. Authority is patrilineal and residence is patrilocal. Women are usually responsible for growing crops for their own domestic consumption. The crops grown in the village are sorghum, millet, groundnuts, and some cotton. Farm activities of younger women are more confined to the ones near and around their homes than the women in Doubane and Ldamtsai. The Fulbe men generally marry more than one wife and are proud

Table 3. Summary profile of northern Cameroon villages[a]

Characteristics	Villages		
	Doubane	Ldamtsai	Yoldeo
Natural Resources			
Ave. annual rainfall (mm)	860	974	815
Ave. annual temp. (°C.)	28	28	28
Ave. cultivated family land holding	1.7 hectares	1.7 hectares	1.7 hectares
Soil type	alluvial sandy vertisol	volcanic	alluvial sandy
Human Resources			
Population	3000	6023	6800
Population density (persons/km^2)	25	245	25
Literacy (% of adults)	15	17	10
Social Structure			
Ave. family (household) size	12	15	10
Major ethnic group	Toupouri	Mafa	Fulbe
Farming	mixed inter-cropping crop rotation	mixed inter-cropping crop rotation soil conservation terracing	mixed inter-cropping
Crops	millet, sorghum, cotton, cowpeas, groundnut, yams, gombo, fonio	millet, sorghum, cotton, cowpeas, groundnut, yams, plantation veg.	millet, sorghum, cotton, cowpeas, groundnut, yams, gombo, fonio
Animal Husbandry	oxen, cows, sheep, goats, chickens, horses	oxen, cows, sheep, goats, chicken, horses	oxen, cows, sheep, goats, chickens, horses

[a]Atlas of the United Republic of Cameroon.

to head a large household. (The farm household in Northern Cameroon is called Saree).

It is from these two villages in India and three in Cameroon that the data for the study were collected. We will next turn our attention to data collection and sampling procedure.

Data Collection and Sampling Procedure

The techniques for data collection included interview and participative observation for the primary data. For secondary data, government documents, studies by ORSTOM (L'Office De La Recherche Scientifique et Technique Outre-Mer) were found very useful. The UNESCO library has also been a useful source. For the Indian villages the information from the ICRISAT village studies was found valuable.

From each of the Indian villages a sample of eighty women, 30 from labor households, 30 from small households, 10 from medium and 10 from large households are selected in the proportion given in Table 4. The same sampling procedure was also used in the Cameroon villages.

Table 4. Data collection: Sample for the villages in India and Cameroon

Households	No. of Women	Land Holdings (in hectares)
labor	30	landless
small	30	0.20 - 2.02 ha
medium	10	1.22 - 5.26 ha
large	10	> 5.26 ha

These women were interviewed and their activities observed during three seasons. Notes were taken on cultural factors that could not be captured by the questionnaire by discussion with older men and women in the villages. Activities were timed to determine accuracy of the reports made by the respondents. The two interviewers stayed in the villages from two to three weeks and then returned home for a short break. The collected data were computerized in the ICRISAT Center. They were also proofread and updated.

The data collection in the Cameroon were limited to one season due to financial constraints. The peak season (October-December) was selected. Eighty women were randomly selected from each of three villages representing a household. Eight interviewers were selected and trained to work in each village. The questionnaire was translated into French for use in the villages in Cameroon. The investigators stayed in the villages during the entire period of the interview and collection of data. The procedure followed in gathering data is the same as in the case of the Indian villages.

Secondary Data: Documents and Historical Sources

Supporting information for the data collected by interview and observation on women's roles both for South India and Northern Cameroon was gathered from various governmental and non-governmental sources. In India, the staff of the Center for Women's Development Studies has provided historical and current information on women in rural India. The Indian Council of Social Science Research has supplied useful resource materials for the study. Old women, old men, and community leaders in both Aurepalle and Shirapur villages readily answered our questions on cultural and other aspects of a rural woman's life.

The data and resource materials obtained from the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) have proven informative and helpful. Historical and cultural data in the Cameroon have been obtained from community elders of both sexes. This process has been a unique learning experience. The staff of IRA (Institute de la Recherche Agronomique) and the library at the center in Maroua have been important sources of information. Other sources that have to be mentioned here are the library of ORSTOM (L'Office de la Recherche Scientifique, et Technique Outre-Mer) and the UNESCO library in Paris.

Operationalization of Variables

Income

The variable is defined as the total earnings from all economic activities, salary is included separately as a specific earning for a periodic activity from an employee. The total income (salary and other income) for one year was collected. The earnings in kind were converted to cash. In the case of India, rupees were used and in Cameroon the earnings were reported in Cameroon francs.[1] For the purpose of cross-cultural perspective both currencies were converted to American dollars.

Education

The variable refers to number of years of formal education completed by the respondent at the time of the interview. Respondents were asked the question: "How many years of formal education have you completed?"

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[1]One Cameroonian franc was about $3 (American) at the time of the study.

Age

Age is defined as the chronological age of the respondent, the variable was measured by a single indicator, i.e., the number of years reported by the respondent concerning how old she was up to and including her last birthday.

Performance

Performance (of task) is defined as the percentage of time spent in activities (as shown in the list of activities in the Appendix), i.e., domestic activities, reproductive activities, etc. These activities are prescribed roles of women because women are expected to perform these tasks or activities.

Decision making

This is measured by the number of decisions made in different areas of responsibility, for example, domestic decision making, farm decision making, rights of disposal, etc. Each decision is given a value of 1. The decision made by the respondent (woman) is presented by the relationship code 1 and decisions made by the husband is indicated by the relationship code 2. When both spouses are involved in the decision made, the one that has the final say is considered as the decider. Decisions made by others in the household are indicated by the respective relationship code (see Appendix for codes).

Statistical Techniques/Analysis

Because one of the basic objectives of the study is to provide information on time allocation and on the nature of women's tasks, the descriptive techniques are used to demonstrate women's activities on the farm from a cross-cultural

perspective. Summary descriptive tables are used to show regional and inter-regional involvement of women in farm tasks and activities.

The other objective is to determine how the individual characteristics could influence decision making. The effort in this case is to find the influence of women's income, women's education, and women's age on women's decision making. For this purpose, the hypotheses given in the previous chapter were tested by means of regression equations.

The third objective is to look at women's roles in a cross-cultural perspective. For this purpose orthogonal contrasts were used to compare within village activities, e.g., time spent in production activities with time spent in domestic and reproductive activities, as when the Indian villages (Aurepalle and Shirapur) are compared with each other. Likewise, Doubane, Ldamtsai and Yoldeo (the Northern Cameroon villages) are compared with each other. Finally cross-cultural comparisons of women's farm activities, age, literacy, and decision making are made between South India and Northern Cameroon.

ANALYSIS AND FINDINGS

Introduction

The results of data analysis are presented in this chapter. These are organized into two sections. The first section deals with the description of time allocation, salary/income, agricultural decisions and rights of disposal. In the second section the results of the regression equation with decision making as dependent variable and with income, education and age as independent variable are presented. Orthogonal contrasts of variables and inter-village contrasts are given. A cross-regional contrast is also made.

Time allocation (Hypothesis 1.1.1)

Here the number of hours spent in each activity are considered. A list of the activities that are taken into account are given in categories in the Appendix. Table 5 shows the percentage of time spent in activities for men and women for the villages in South India and Northern Cameroon.

The percentages of the daily (24 hours) time allocation are calculated for all seven days of the week. The percentage of daily time allocation for women compared to men varies to a great extent. In Aurepalle (South India) the percentages of women's daily time allocation (68.73) is higher than that of the men (31.27). In Shirapur, the percentages of women's daily time allocation (73.55) are twice that of the men (26.45). In the villages of Northern Cameroon, the situation is also the same. The percentages of daily time allocation for women are higher than for men in Doubane (62.56/37.44), Ldamtsai

Table 5. Time allocation: Percentage[a] of time spent in farm activities

Villages	% time/day		% time/week		% time/month		% time/season		% time/year	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
South India										
Aurepalle	68.73	31.27	68.48	31.53	61.79	30.38	66.97	33.03	21.58	78.42
Shirapur	73.55	26.45	59.07	40.93	30.71	69.29	62.80	37.20	17.72	82.28
Northern Cameroon										
Doubane	62.56	37.44	67.26	32.74	77.94	22.20	97.96	2.04	83.74	16.26
Ldamtsai	54.89	45.11	70.40	29.60	83.98	16.02	96.88	3.12	62.45	37.55
Yoldeo	59.88	40.12	68.37	31.63	82.66	17.34	97.80	2.20	60.19	39.81

[a]The percentage is calculated from the sum of time spent in activities on their own farm and on farms of others.

(54.89/45.11) and in Yoldeo (59.88/40.12). This is an evidence of the intensive participation of women in daily farm activities.

In the weekly time allocation, the percentages for women are higher than men's in all the villages. Calculated for a month and for a season, except for Shirapur (30.71/69.29), the percentages for women far exceed those of men in both regions. The percentages for the yearly time allocation for men are more than those of the women in the Indian villages. This is due to comparatively more yearly duties required from men in South Indian villages. In the three Cameroonian villages the percentages are more for women than the ones for men. This implies that women there are more involved in yearly activities than the Indian women farmers. In addition, Table 27 in the Appendix gives the participation profile of the villagers in each category of activities. The other important aspects are salary and income which we will discuss next.

Salary and income (Hypothesis 2.1.1)

The earnings of men and women in terms of salary and income are very important aspects of rural life. Salary is generally considered as a fixed earning from an employee for a regular time period (weekly, monthly, etc.) of service. Income is money received during a period as wages, interests, etc. One can also obtain an income by market transactions or as a gift from family members or relations. For this study earnings in kind are converted into cash.

Men and women in the villages differ in the salary and wage they earn. Table 6 shows that women earn relatively lower percentages of salary compared to men in the Indian villages. This is due to low employment opportunities for women in the labor force and also due to lower pay for women compared to men

when the employment opportunities become available. Though slightly higher than percentages of salary, the percentages of income for women are also less than men's.

In the Cameroon villages the percentages of salary for women are much less than men's and less than women's Aurepalle. Employment opportunities for women in Northern Cameroon are less than for men, accounting for the comparatively lower salary percentages. Women in Cameroon villages are also constantly occupied either in food production on their plots or on the family plot which leaves them hardly any time to be involved in employment after performing their household chores. The percentages of the income of women in Cameroon villages are much higher than men's and also higher than those of the Indian women's. This is because women in Cameroon are involved in independent food production and market transaction more than the women in rural India. As a result of this the percentages of their income appear more than the ones in India. Another area of women's involvement in agriculture is decision making which we will consider next.

Agriculture decisions (Hypothesis 3.1.0)

From the results presented on Table 7, it is evident that women in Aurepalle make fewer decisions than men concerning agriculture. In Shirapur, the numbers and percentages of agricultural decisions for women are slightly higher than those of women in Aurepalle. In both villages numbers and percentages of decisions on agriculture are higher for men than for women.

In all three villages in Northern Cameroon, the results show that women make more decisions than men. This can be accounted for by the relative

Table 6. Percentage of salary/income[a] earned by women and men

		% of Salary		% of Income	
Regions	Villages	Women	Men	Women	Men
South India	Aurepalle	32.28	67.72	30.76	69.24
	Shirapur	11.15	88.85	40.26	58.03
Northern Cameroon	Doubane	17.99	82.01	96.17	3.83
	Ldamtsai	*[b]	*	83.23	16.77
	Yoldeo	21.56	78.44	54.38	45.62

[a]Salary and Income are converted to American dollars at the rate of 12.9 rupees (Indian) to $1.00 and 300 Cameroon francs to $1.00.

[b]Salary was not reported either for men or women.

Table 7. Agricultural decisions

		No. of Decisions		% of Decisions	
Regions	Villages	Women	Men	Women	Men
South India	Aurepalle	514.00	1677.00	22.01	74.77
	Shirapur	487.00	1002.00	31.69	65.20
Northern Cameroon	Doubane	1876.00	1299.00	59.09	40.91
	Ldamtsai	1285.00	874.00	59.05	40.16
	Yoldeo	1336.00	1031.00	53.81	41.52

Table 8. Rights of disposal[a]

Regions	Villages	No. of Decisions		% of Decisions	
		Women	Men	Women	Men
South India	Aurepalle	104.00	277.00	27.30	72.70
	Shirapur	64.00	178.00	26.45	73.55
Northern Cameroon	Doubane	109.00	223.00	32.83	67.17
	Ldamtsai	134.00	145.00	48.03	51.97
	Yoldeo	120.00	130.00	48.00	52.00

[a]Rights of disposal is considered as decisions to dispose of or acquire major farm animals, equipment or property.

independence of women's farming roles in Cameroon. This relative independence implies that they have to make choices and make decisions particularly in food production and market transactions concerning agricultural products. Yet, the decisions in major areas that transform the condition of life for the family are not left to women. Decisions concerning the right of disposal are usually left to men as shown in Table 8.

Rights of Disposal (Hypothesis 4.1.1)

Rights of disposal are major decision makings on the farm. They cover decisions ranging from disposal of important farm animals (e.g., oxen, horses), farm equipment, to the selling and purchasing of land. These are decisions that

belong to the public domain and, therefore, are rights that are generally reserved for men. There are cases, however, where women are allowed to make such major decisions in the absence of an adult male. Table 8 shows our findings on the rights of disposal.

In rights of disposal the numbers and percentages of decisions made by women are much lower than those of men in the Indian villages. In the villages in Cameroon the numbers and percentages of decision making for women are also less than those of men but higher than women's in the villages in India. As explained earlier, the relative degree of independence in farming enterprises on the part of the Cameroonian women farmers may be one of the reasons for the differences between India and Cameroon. The five tables in the Appendix present further explanations of the variables for all the five villages.

It is evident from the findings and discussions above, that women are involved in a considerable amount of agricultural production. Participation in production, by itself, is not directly related to control of certain life options. There are other factors such as women's income, education, and age that are believed to affect the economic decision making of women in the family. This comprises our next discussion.

Income, education, age and economic decision making (Hypotheses 5.1.1, 5.2.1, 5.3.1)

To determine the effect of women's income, education and age on her economic decision making, multiple regression analyses are used. The results for Aurepalle are given in Table 9 and those of Shirapur are found in Table 10. The findings for Doubane, Ldamtsai and Yoldeo are presented in Tables 11, 12, and 13, respectively.

Table 9. The effect on Y (economic decision making) of X_1 (female income), X_2 (female school), X_3 (female age)

AUREPALLE

Dep Variable: Ecodec

Analysis of Variance

Source	Df	Sum of Squares	Mean Squares	F Value	Prob > F
Model	3	1.45304785	0.48434928	0.020	0.9919
Error	60	1451.53133	24.19218879		
C Total	63	1452.98438			
Root MSE		4.918556	R-Square	0.0010	
DEP Mean		16.01563	ADJ R-SQ	- 0.0489	

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for HO: Parameter = 0	Prob > T
Intercep	1	16.13054172	2.38487083	6.764	0.0001
FEM INC	1	- .0000525015	0.0002181904	- 0.241	0.8107
FEM SCH	1	0.02572975	0.76592116	0.034	0.9733
FEM AGE	1	- .000569135	0.05211092	- 0.011	0.9913

Table 10. The effect on Y (economic decision making) of X_1 (female income), X_2 (female school), X_3 (female age)

SHIRAPUR

Dep Variable: Ecodec

Analysis of Variance

Source	Df	Sum of Squares	Mean Squares	F Value	Prob > F
Model	3	156.76119889	52.25373296	1.901	0.1423
Error	47	1291.74861	27.48401287		
C Total	50	1448.50980			
Root MSE		5.24242	R-Square	0.1082	
DEP Mean		16.56863	ADJ R-SQ	0.0513	
C.V.		31.64124			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for HO: Parameter = 0	Prob > T
Intercep	1	21.53843755	3.04563990	7.072	0.0001
FEM INC	1	0.0003795045	0.0002291069	1.0656	0.1043
FEM SCH	1	- 0.459845	1.21967498	- 0.377	0.7079
FEM AGE	1	- 0.123927	0.06049313	- 2.049	0.0461

Table 11. The effect on Y (economic decision making) of X_1 (female income), X_2 (female school), X_3 (female age)

DOUBANE

Dep Variable: Ecodec

Analysis of Variance

Source	Df	Sum of Squares	Mean Squares	F Value	Prob > F
Model	3	265.10736917	88.36912306	2.625	0.0562
Error	71	2390.57263	33.67003705		
C Total	74	2655.68000			
Root MSE		5.802589	R-Square	0.0998	
DEP Mean		14.24	ADJ R-SQ	0.0618	
C.V.		40.74852			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for HO: Parameter = 0	Prob > T
Intercep	1	21.12801361	3.30378142	6.395	0.0001
FEM INC	1	- 2.03846E-07	9.36499E-07	- 0.218	0.8283
FEM SCH	1	- 2.3501	2.98470503	- 0.787	0.4337
FEM AGE	1	- 0.110901	0.04346652	- 2.551	0.0129

Table 12. The effect on Y (economic decision making) of X_1 (female income), X_2 (female school), X_3 (female age)

LDAMSTAI

Dep Variable: Ecodec

Analysis of Variance

Source	Df	Sum of Squares	Mean Squares	F Value	Prob > F
Model	3	74.93345712	24.97781904	0.541	0.6601
Error	72	3327.10602	46.20980579		
C Total	75	3402.03947			
Root MSE		6.79779	R-Square	0.0220	
DEP Mean		12.80263	ADJ R-SQ	- 0.0187	
C.V.		53.09674			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for HO: Parameter = 0	Prob > T
Intercep	1	11.54182223	3.02007377	3.822	0.003
FEM INC	1	.00000154051	.00000170298	0.905	0.3687
FEM SCH	1	- 0.358058	0.63135311	- 0.567	0.5724
FEM AGE	1	0.04861417	0.08156891	0.596	0.5531

Table 13. The effect on Y (economic decision making) of X_1 (female income), X_2 (female school), X_3 (female age)

YOLDEO

Dep Variable: Ecodec

Analysis of Variance

Source	Df	Sum of Squares	Mean Squares	F Value	Prob > F
Model	3	90.26124502	30.08708167	1.232	0.3042
Error	71	1733.65875	24.41772894		
C Total	74	1823.92000			
Root MSE		4.94143	R-Square	0.0495	
DEP Mean		16.88	ADJ R-SQ	0.0093	
C.V.		29.27387			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for HO: Parameter = 0	Prob > T
Intercep	1	19.87982007	3.25539124	6.107	0.0001
FEM INC	1	8.34461E-07	5.43626E-07	1.535	0.1292
FEM SCH	1	- 1.31758	2.51548267	- 0.524	0.6021
FEM AGE	1	- 0.0427848	0.03701295	- 1.156	0.2516

Table 14. Effects of female income, education and age on decision making

Villages	Regression Parameter Estimates (Slopes)		
	Female income (FEM INC)	Female schooling (FEM SCH)	Female age (FEM AGE)
Aurepalle	-0.0000525015	0.02572975	-0.000569135
Shirapur	0.00003795045	-0.459845	-0.123927
Doubane	-2.03846E-07	-2.3501	-0.110901
Ldamtsai	0.00000154051	-0.358058	0.04861417
Yoldeo	8.34461E-07	-1.31758	-0.0427848

The following formula is used for the analysis of variance of each village: $Y = B_0 + B_1 X_1 + B_2 X_2 + B_3 X_3$. In the formula Y stands for the dependent variable female economic decision making. X_1 stands for the independent variable income, X_2 stands for the independent variable female schooling (education), and X_3 for the independent variable female age.

According to the analysis of variance used to determine the effects of income (X_1), education (X_2), and age (X_3) on economic decision making (Y), the results vary from village to village (Table 14).

In the case of the Indian villages, in Aurepalle female's income has a weak negative relationship with economic decision making. On the other hand, female's school has a positive relationship with economic decision making. Female's age shows negative relationship with economic decision making. For Shirapur village, female's income has a positive relationship with economic decision making. Both female's education and age show negative relationships with economic decision makings.

In the Northern Cameroon villages, in Doubane, there is a negative relationship between female's income and economic decision making. Female's education and female's age are also negatively related to economic decision making. For Ldamtsai, female's income and female's age show positive relationship to decision making. While female's income shows a positive relationship with economic decision making in Yoldeo, female's education and female's age have negative relationships with economic decision making.

Out of the three independent variables (female income, female schooling, female age), female income affects decisions more than the other even if at a minimum level. The hypothesis that a woman's income affects her decisions is supported. This implies that income is an important factor for women's decision making.

Comparison of women's daily (24 hours) activities (Hypotheses 6.0.0). Productive vs. domestic and reproductive activities (Hypothesis 6.1.1)

The mean average of production activities (6.29) is more than the mean average of domestic and reproductive activities (4.08). The hypothesis is supported. Women perform more production than domestic and reproductive activities. The hypothesis is supported (Table 15).

In tables 15 through 26 the following variables are used:

Activities refers to activities per day (24 hours):

Age: Young refers to below the age of 30 and is indicated by (1).
Middle-age refers to the ages of 30 to 49 and is indicated by (2).
Old refers to the ages of 50 and above and is indicated by (3).

Education (literacy): Illiterate refers to 0 years of schooling, indicated by (0).
Literate refers to more than 0 years of schooling, indicated by (1).

Table 15. Women's daily task performance for all villages

Activities	Means of hours work done (daily)
Production (1)	6.29
Domestic (2)	5.46
Reproductive (3)	2.68
Social (4)	9.08

Domestic vs. reproductive activities (Hypothesis 6.2.1)

The mean average of domestic activities (5.46) is more than the mean average of reproductive activities (2.68). Women perform more domestic than reproductive activities. The hypothesis is supported.

Social vs. production, domestic and reproduction (Hypothesis 6.3.1)

The mean average of social activities (9.11) is more than the mean average of production, domestic and reproduction activities (4.81). Women perform more social than production, domestic and reproductive activities. The hypothesis is supported.

Table 16. Women's daily activities (means) and age

Age	Production (1)	Domestic (2)	Reproductive (3)	Social (4)
Young (1)	5.95	5.43	3.22	9.03
Middle-age (2)	6.48	5.50	2.48	9.07
Old (3)	6.58	5.46	1.99	9.45

Comparison of women's age and daily activities (Hypothesis 7.0.0). Old vs. young and middle-age women, production vs. domestic and reproductive activities (Hypothesis 7.1.1)

Old women perform less production activities than domestic and reproductive activities compared to middle-age and young women (by .49). The hypothesis is supported (Table 16).

Middle-age women vs. young, social vs. production, domestic and reproductive activities (Hypothesis 7.1.2)

There is no difference between performance of social activities between middle-age and young women (.04 - .04 = 0). the hypothesis is not supported.

Comparison of women's education (literacy) and daily activities (Hypothesis 8.0.0). Literate vs. illiterate, production vs. domestic and reproductive activities (Hypothesis 8.1.1)

Illiterate women perform more production activities than domestic and reproductive activities compared to literate women (by 2.14). The hypothesis is not supported (Table 17).

Literate women vs. illiterate, social vs. production, domestic, and reproductive activities (Hypothesis 8.2.1)

Literate women perform more social activities than production, domestic and reproductive activities compared to illiterate women (by .62). The hypothesis is supported.

Comparison of variables of women's decision making (Hypothesis 9.0.0). Production decisions vs. domestic and reproduction decisions (Hypothesis 9.1.1)

Women make fewer production decisions than domestic and reproductive decisions (by .8). The hypothesis is not supported (Table 18). Domestic vs.

Table 17. Women's daily activities and literacy in all the villages

	Women's Activities		
Literacy	Production	Domestic	Reproductive	Social
Illiterate (0)	6.44	5.41	2.67	9.09
Literate (1)	4.75	6.10	2.89	9.45

reproductive decisions (Hypothesis 9.2.1), women make more domestic decisions than reproductive decisions (by 1.5). The hypothesis is supported. Social vs. production, domestic and reproductive decisions (Hypothesis 9.3.1), women make fewer social decisions than production, domestic and reproductive decisions (by 9.1). The hypothesis is supported.

Comparison of women's age and decisions (Hypothesis 10.0.0). Old vs. middle-age and young, production vs. domestic and reproductive decisions (Hypothesis 10.1.1)

Old women make fewer production decisions compared to middle-age and young women (by .7). The hypothesis is not supported (Table 19).

Table 18. Women's decisions in farm activities for all villages

Categories of Decisions	Percentages of Decisions		
Production decisions (1)		38.2	
Domestic decisions (2)	38.7	39.8	39.0
Reproductive decisions (3)		38.3	
Social decisions (4)		29.6	

Table 19. Percentage of decisions, nature of activity and age

Age	Production	Domestic	Reproduction	Social
Young (1)	27.8	30.6	29.0	17.0
Middle-age (2)	41.9	42.5	41.8	30.9
Old (3)	52.0	53.9	49.0	52.3

Young vs. middle-age, production vs. domestic and reproductive decisions (Hypothesis 10.1.2)

Young women make more production decisions compared to middle-age women (by 1.25). The hypothesis is supported.

Old vs. middle-age and young, domestic and reproductive decisions (Hypothesis 10.2.1)

Old women make more domestic and reproductive decisions compared to middle-age and young women (by 3.8). The hypothesis is supported.

Young vs. middle-age, domestic vs. reproductive decisions (Hypothesis 10.2.2)

Young women make more domestic decisions than reproductive decisions compared to middle-age women (by .9). The hypothesis is supported.

Old vs. middle-age and young, social vs. production, domestic and reproductive decisions (Hypothesis 10.3.1)

Old women make fewer social decisions than production, domestic and reproductive decisions compared to middle-age and young women (by 10.9). The hypothesis is not supported.

Comparison of education (literacy) and women's decisions (Hypothesis 11.0.0)
Literate vs. illiterate, production vs. domestic and reproductive decisions (Hypothesis 11.1.1)

Illiterate women make fewer production decisions than domestic and reproductive decisions compared to literate women (by 2.6). The hypothesis is supported (Table 20).

Literate vs. illiterate, domestic vs. reproductive decisions (Hypothesis 11.2.1)

Illiterate women make fewer domestic decisions than reproductive decisions compared to literate women (by 4.7). The hypothesis is supported.

Literate vs. illiterate, social vs. production, domestic and reproductive decisions (Hypothesis 11.3.1)

Illiterate women make more production, domestic and reproductive decisions than social decisions compared to literate women (by 8.2). The hypothesis is not supported.

Table 20. Women's literacy and decision making for all villages

	Percentage of Women's Decisions			
Literacy	Production	Domestic	Reproductive	Social
Illiterate (0)	38.2	40.5	38.5	29.2
Literate (1)	38.5	32.3	37.0	33.3

Comparison of daily activities between the Indian villages. (Hypothesis 12.0.0)
Aurepalle vs. Shirapur, production vs. domestic and reproduction activities (Hypothesis 12.1.1)

Women in Aurepalle perform more production activities than domestic and reproductive activities compared to women in Shirapur (by .32). The hypothesis is supported (Table 21).

Aurepalle vs. Shirapur, domestic vs. reproductive activities (Hypothesis 12.2.1)

Women in Aurepalle perform more domestic activities than reproductive activities compared to women in Shirapur (by .87). The hypothesis is supported.

Aurepalle vs. Shirapur, social vs. production, domestic and reproductive activities (Hypothesis 12.3.1)

Women in Aurepalle perform fewer social activities than production, domestic and reproductive activities compared to women in Shirapur (by .88). The hypothesis is not supported.

Table 21. Women's dally activities (means) by village (activities per day)

	Nature of Activities			
Villages	Production (1)	Domestic (2)	Reproductive (3)	Social (4)
Aurepalle	6.26	5.00	2.16	10.7
Shirapur	6.18	4.17	2.20	11.3
Doubane	7.32	5.10	3.50	7.69
Ldamtsai	3.93	6.80	3.10	9.23
Yoldeo	7.76	6.24	2.45	6.51

Comparison of age and daily activities between Aurepalle and Shirapur (Hypothesis 13.0.0). Aurepalle vs. Shirapur, age and daily activities (Hypothesis 13.1.1)

Old women in Aurepalle perform fewer activities compared to old women in Shirapur (by .14). The hypothesis is not supported (Table 22).

Aurepalle vs. Shirapur, middle-age vs. young, daily activities (Hypothesis 13.1.2)

Middle-age women in Aurepalle perform fewer activities compared to Shirapur (by .07). The hypothesis is not supported.

Comparison of women's education (literacy), daily activities between Aurepalle and Shirapur (Hypothesis 14.0.0). Aurepalle vs. Shirapur, illiterate vs. literate, activities (Hypothesis 14.1.1)

Illiterate women in Aurepalle perform fewer activities than literate women in Shirapur (by .21). The hypothesis is not supported (Table 23).

Table 22. Women's ages and daily activities for all villages

Villages	Young (1)	Middle-age (2)	Old (3)
Aurepalle	6.16	6.21	6.00
Shirapur	6.00	5.94	6.01
Doubane	5.96	5.83	5.90
Ldamtsai	5.80	5.76	5.42
Yoldeo	5.82	5.72	5.67

Comparison of decisions, Aurepalle vs. Shirapur (Hypothesis 15.0.0). Aurepalle vs. Shirapur, production decisions vs. domestic and reproductive (Hypothesis 15.1.1)

Women in Aurepalle make more production decisions than domestic and reproductive decisions compared to women in Shirapur (by 1.9). The hypothesis is supported (Table 24).

Table 23. Women's daily activities (means) and literacy by village

Villages	illiterate	Literate
Aurepalle	6.17	5.96
Shirapur	6.00	5.74
Doubane	5.90	6.00
Ldamtsai	5.78	5.73
Yoldeo	5.73	6.00

Table 24. Percentage of women's decision making in different villages

	Areas of Decision Making			
Villages	Production (1)	Domestic (2)	Reproductive (3)	Social (4)
Aurepalle	76.1	67.1	76.8	81.8
Shirapur	23.3	23.0	19.1	24.3
Doubane	30.9	40.0	26.0	25.5
Ldamtsai	33.3	32.4	31.6	30.6
Yoldeo	37.7	36.7	35.6	19.5

Aurepalle vs. Shirapur, domestic vs. reproductive decisions (Hypothesis 15.2.1)

Women in Aurepalle make fewer domestic decisions compared to women in Shirapur (by 5.8). The hypothesis is not supported.

Aurepalle vs. Shirapur, social vs. production, domestic and reproductive decisions (Hypothesis 15.3.1)

Women in Aurepalle make more social decisions compared to women in Shirapur (by 6.0). The hypothesis is supported.

Comparison of women's age and decisions, Aurepalle vs. Shirapur (Hypothesis 16.0.0). Aurepalle vs. Shirapur, old vs. middle-age and young decisions (Hypothesis 16.1.1)

Old women in Aurepalle make fewer decisions compared to old women in Shirapur (by 1.3). The hypothesis is not supported (Table 25).

Table 25. Percentage of women's decisions and ages by village

Villages	Young (1)	Middle-age (2)	Old (3)
Aurepalle	60.6	79.8	79.4
Shirapur	5.7	23.6	40.3
Doubane	29.1	25.9	46.7
Ldamtsai	20.6	44.8	70.0
Yoldeo	25.0	31.4	45.1

Aurepalle vs. Shirapur, middle-age vs. young decisions (Hypothesis 16.1.2)

Middle-age women in Aurepalle make more decisions compared to middle-age women in Shirapur (by 9.2). The hypothesis is supported.

Comparison of women's daily activities between Cameroon villages (Hypotheses 17.0.0). Doubane vs. Ldamtsai and Yoldeo, production vs. domestic and reproductive (hypothesis 17.1.1)

Women in Doubane perform more production activities compared to women in Ldamtsai and Yoldeo (by 1.41). The hypothesis is supported (Table 21).

Ldamtsai vs. Yoldeo, production vs. domestic and reproductive (Hypothesis 17.1.2)

Women in Ldamtsai perform fewer production activities compared to women in Yoldeo (by .25). The hypothesis is not supported.

Doubane vs. Ldamtsai and Yoldeo, domestic vs. reproductive activities (Hypothesis 17.2.1)

Women in Doubane perform more domestic and reproductive activities compared to Ldamtsai and Yoldeo (by .69). The hypothesis is supported.

Ldamtsai vs. Yoldeo, domestic and reproductive activities (Hypothesis 17.2.2)

Women in Ldamtsai perform fewer domestic and reproductive activities than women in Yoldeo (by .09). The hypothesis is not supported.

Doubane vs. Ldamtsai and Yoldeo, social vs. production, domestic and reproductive activities (Hypothesis 17.3.1)

Women in Doubane perform fewer social activities than women in Ldamtsai and Yoldeo (by. 23). The hypothesis is not supported.

Ldamtsai vs. Yoldeo, social vs. production, domestic, and reproductive activities (Hypothesis 17.3.2)

Women in Ldamtsai perform more social activities than women in Yoldeo (by. 3.02). The hypothesis is supported.

Comparison of age and daily activities, Cameroon villages (Hypothesis 18.0.0). Doubane vs. Ldamtsai and Yoldeo, old vs. middle-age and young (Hypothesis 18.1.1)

Old women in Doubane perform more activities compared to old women in Ldamtsai and Yoldeo (by .22). The hypothesis is supported (Table 22).

Doubane vs. Ldamtsai and Yoldeo, young vs. middle-age (Hypothesis 18.1.2)

Young women in Doubane perform more activities compared to middle-age women in Ldamtsai and Yoldeo (by .06). The hypothesis is supported.

Ldamtsai vs. Yoldeo, middle-age vs. young activities (Hypothesis 18.2.1)

Middle-age women in Ldamtsai perform fewer activities compared to middle-age women in Yoldeo (.06). The hypothesis is not supported.

Ldamtsai vs. Yoldeo, old vs. middle-age and young activities (Hypothesis 18.2.2)

Old women in Ldamtsai perform fewer activities compared to old women in Yoldeo (by .27). The hypothesis is not supported.

Comparison of education (literacy) and daily activities between the Cameroon villages (Hypothesis 19.0.0). Doubane vs. Ldamtsai and Yoldeo, literate vs. illiterate activities (Hypothesis 19.1.1)

Illiterate women in Doubane perform fewer activities than literate women in Ldamtsai and Yoldeo (by .01). The hypothesis is not supported (Table 23).

Ldamtsai vs. Yoldeo, illiterate vs. literate activities (Hypothesis 19.1.2)

Illiterate women in Ldamtsai perform fewer activities than literate women in Yoldeo (by .22). The hypothesis is supported.

Comparison of decisions between the Cameroon villages (Hypothesis 20.0.0). Doubane vs. Ldamtsai and Yoldeo, production vs. domestic and reproductive decisions (Hypothesis 20.1.1)

Women in Doubane make fewer production decisions than women in Ldamtsai and Yoldeo (by 1.43). The hypothesis is not supported (Table 24).

Ldamtsai vs. Yoldeo, production vs. domestic and reproductive decisions (Hypothesis 20.1.2)

Women in Ldamtsai make fewer production decisions than women in Yoldeo (by .25). The hypothesis is not supported.

Doubane vs. Ldamtsai and Yoldeo, domestic vs. reproductive decisions (Hypothesis 20.2.2)

Women in Doubane make more domestic and reproductive decisions than women in Ldamtsai and Yoldeo (by 13.1). The hypothesis is supported.

Doubane vs. Ldamtsai and Yoldeo, social vs. production, domestic and reproductive decisions (Hypothesis 20.3.1)

Women in Doubane make fewer social decisions compared to women in Ldamtsai and Yoldeo (by 2.2). The hypothesis is not supported.

Ldamtsai vs. Yoldeo, social vs. production, domestic and reproduction decisions (Hypothesis 20.3.2)

Women in Ldamtsai make fewer social decisions than women in Yoldeo (by 17.1). The hypothesis is not supported.

Comparison of age and decisions between the Cameroon villages. Doubane vs. Ldamtsai and Yoldeo, old vs. middle-age and young (Hypothesis 21.1.1)

Old women in Doubane make fewer decisions than old women in Ldamtsai and Yoldeo (by 7.9). The hypothesis is not supported (Table 25).

Doubane vs. Ldamtsai and Yoldeo, middle-age vs. young decisions (Hypothesis 21.1.2)

Young women in Doubane make fewer decisions than middle-age women in Ldamtsai and Yoldeo (by 12.1). The hypothesis is not supported.

Ldamtsai vs. Yoldeo, old vs. middle-age and young decisions (Hypothesis 21.2.1)

Old women in Ldamtsai make more decisions than old women in Yoldeo (by 20.4). The hypothesis is supported.

Ldamtsai vs. Yoldeo, middle-age vs. young decisions (Hypothesis 21.2.2)

Middle-age women in Ldamtsai make more decisions than middle-age women in Yoldeo (by 17.8). The hypothesis is supported.

Comparison of women's daily farm activities between Cameroon and India (Hypothesis 22.0.0). Cameroon vs. India, daily production vs. domestic and reproductive activities (Hypothesis 22.1.1)

Women in Cameroon perform more production activities compared to women in India (by 1.68). The hypothesis is supported (Table 21).

Cameroon vs. India, domestic vs. reproductive activities (Hypothesis 22.2.1)

Women in Cameroon villages perform more domestic and reproductive activities than women in Indian villages (by .63). The hypothesis is supported.

Comparison of age and decisions between Cameroon and India (Hypothesis 23.0.0). Cameroon vs. India, old vs. middle-age and young (Hypothesis 23.1.1)

Old women in Cameroon villages make more decisions than old women in Indian villages (by 7.1). The hypothesis is supported.

Cameroon vs. India, middle-age vs. young decisions (Hypothesis 23.1.2)

Middle-age women in Cameroon make fewer decisions than middle-age women in Indian villages (by 9.4). The hypothesis is not supported.

Comparison of women's education (literacy) and decisions between Cameroon and India (Hypothesis 24.0.0). Cameroon vs. India, illiterate vs. literate decisions (Hypothesis 24.1.1)

Illiterate women in Cameroon make fewer decisions than literate women in India (by 13.2). The hypothesis is not supported (Table 26).

Table 26. Women's daily activities (means) and age

Age	Production (1)	Domestic (2)	Reproductive (3)	Social (4)
Young (1)	5.95	5.43	3.22	9.03
Middle-age (2)	6.48	5.50	2.48	9.07
Old (3)	6.58	5.46	1.99	9.45

Comparison of decisions in different areas between Cameroon and India (Hypothesis 25.0.0). Cameroon vs. India, production vs. domestic and reproductive decisions (Hypothesis 25.1.1)

Women in Cameroon make fewer production decisions than domestic and reproductive decisions compared to women in India (by 3.0). The hypothesis is not supported.

Cameroon vs. India, domestic vs. reproductive decisions (Hypothesis 25.2.1)

Women in Cameroon make more domestic and reproductive decisions than women in Indian villages (by 2.4). The hypothesis is supported.

Cameroon vs. India, social vs. production, domestic and reproductive decisions (Hypothesis 25.3.1)

Women in Cameroon make fewer social decisions compared to women in India (by 3.0). The hypothesis is not supported.

Summary

The time allocated to activities by men and women varies from village to village and from one region to the other. In general, the time allocated to

activities by women is comparably more than that of men. The time spent in domestic and reproductive activities is also taken into account in this finding.

Earnings and income are different for men and women. Due to more employment opportunities, men earn more and are also paid higher wages than women when they occupy the same jobs. In general, the income of men is more than the income of women in both regions. women's income is comparably higher in Cameroon villages where they are engaged in independent food production and market enterprises.

In agricultural decisions, women in Cameroon villages make more decisions compared to men and to the women in the indian villages. This can be accounted for by the relative independence of women's farming roles in Cameroon. Yet the decisions in major areas that transform the conditions of life for the family are usually left to men. The rights of disposal are such decisions that belong to the public domain and are rights generally reserved for men.

The differences of inter-village and cross-cultural comparisons concerning women's daily farm activities (production, domestic, reproductive and social), age, literacy and decision-making (production decisions, domestic decisions, reproductive decisions, and social decisions) are previously given in detail. In general, women perform more production than domestic and reproductive activities and more domestic than reproductive activities. Old women perform fewer activities compared to middle-age and young women. Literacy does not significantly affect participation in farm activities.

Women make fewer production decisions than domestic and reproductive decisions. Compared to middle-age and young women, old women make fewer

production decisions but more social decisions. Literacy affects decision making to a very small extent.

Inter-regional comparisons show that women in Cameroon villages perform more production, domestic and reproductive activities than women in the Indian villages. Old women in the Cameroon villages make more decisions than old women in the Indian villages. Literate women in Indian villages make more decisions than illiterate women in Cameroon villages. Comparing specific areas of decisions, women in Cameroon make fewer production than domestic and reproduction decisions, fewer social decisions and more domestic and reproductive decisions than the women in the Indian villages.

According to the analysis of variance in the regressions used to determine the effects of income, education, and age on economic decision making, the results vary from village to village. Out of all the three variables, female income affects decisions more than the others. This implies that income is an important factor for women's decision making or empowerment.

In the next section we will deal with conclusions and recommendations in relation to these findings.

CONCLUSIONS, POLICY ISSUES, AND RECOMMENDATIONS

Introduction

In this chapter some of the conclusions drawn from the study will be presented. This is followed by evaluation of projects and issues concerning women in agriculture. Some recommendations are also made as suggested guidelines for policy makers.

Conclusions

The most general conclusion reached from the study is that women spend more time than men in activities and agriculture tasks. Obviously this is not a new discovery. Sufficient literature and studies have been produced about this fact. What makes this study unique is that as the result of this effort, one can speak about specific places and avoid the fallacies of over generalization (such as women in the Third World countries). From what is presented earlier it can be concluded that the time allocated to tasks on a daily basis varies in the two areas, with the time spent by women in villages in Northern Cameroon having an edge over the time spent by women in South Indian villages.

Women in the villages in South India draw more salaries and wages than those in the Cameroon village. This is due to greater involvement of village women in labor in India compared to Northern Cameroon villages. The wages and salaries earned by women in both groups of villages are lower than men. The reasons for the differences are two. First of all, labor opportunities are less for women than men. Secondly, if opportunities for women employment arise, the

wages/salaries for women are considerably less. Cameroon and India are not the only places in the world that gender inequality in salary exists.

The percentages of income that the women in Northern Cameroon villages obtain exceed those of the women in Indian villages. The situation presented here is different from the condition of wages/salaries. The capacity to generate income is not always restricted to dependency on an employee. The Cameroon village women prove this point. They are active and enterprising. Their activities include brewing and selling local beer, raising small animals and carrying produce to markets, selling fuels, hair styling, pottery making, marketing of vegetables, etc. Due to their active involvement in such income generating activities, the percentages of their income are greater than the Indian village women's.

In day to day agricultural transactions, the village women in Northern Cameroon make more decisions than women in South Indian villages. This should not be surprising because women in Cameroon participate in farming activities with a relative degree of independence. They are the sole food producers. To accomplish this purpose and enhance her capacity for more production, a woman is assigned a plot of land after marriage. Each woman is expected to feed her children and her husband when it is her turn to provide her husband's meal. As a result, many of the village women have acquired some degree of freedom to decide on farming and marketing of their farm products.

On the other hand, women in Indian villages work on the family farm. Division of labor by gender in farming exists. Women perform their duties on the common plot and prepare food from what is designated for consumption from the farm products. Thus, the relative degree of freedom to decide in agriculture is

hindered and the number of their decisions appear fewer than those in Cameroon.

Women's education has negative effect on their economic decision making in all the villages, except in Aurepalle. The implication is that education alone may not always affect decision making power. Only when the education enables one to earn an income can it make a significant difference.

The positive relationship of female's age and economic decision making is demonstrated only in Ldamtsai. In all the other villages female's age affected economic decision making negatively. The effect of female's age on economic decision making is generally indirect. An old woman may have power over her sons (children) and the power here is in a form of influence on the person or persons to make major decisions.

The effect of a female's income, education (schooling) and age on economic decision making varies from village to village and from region to region. In South Indian villages the relationship of females' income and economic decision making is negative, but weak in Aurepalle. While in Shirapur, there is a positive relationship between females' income and economic decision making. The difference is due to greater employment opportunities for women (sometimes outside the village) which shows an increase in the result of the relationship between females' income and economic decision making in Shirapur.

In Northern Cameroon villages, except Doubane, women's incomes effect their decision making positively. Therefore, it can be concluded that the incomes that women earn influence their decision making to some extent. It is not only the capacity for earning but the control over the income that has been earned that

can effect decision making (Blood and Wolfe, 1960). Blumstein and Schwart (1983) also reported that the more women earn relative to their husbands, the more decisions they make and the more power they acquire in the relationship. In the villages, greater decision making power is demonstrated by a person's ability to purchase or sell major farm assets such as major farming equipment, important animals, property, or land. These abilities are referred to here as rights of disposal.

The crucial area in terms of decision are presented as the rights of disposal. Such major decisions are left to men. Despite the amount of work women perform, the amount of salaries and incomes they bring to the family, they are culturally deprived from making such important decisions. It is here that power lies in the farms and it is in this area that the voices of the rural women are not heard. The right to purchase or sell land, the right to dispose of major property should be the right of the farming woman as much as it is the right of men. As long as this fact is not recognized and implemented, women farmers will be subservient to men. How can we enable women to acquire such rights? The question can be answered partly as follows.

Other than equal rights legislation and implementation of the law, women can be empowered to negotiate with men for major rights. The study shows income as a source of power that influences decisions of economic nature to some extent. Therefore, the empowerment of women can be determined by increasing their income and also control over the income. A number of projects have been launched with the objective of raising the economic standards of rural women both in Africa and Asia. In what follows, issues related to development projects are presented.

Policy Issues

Policy interest in rural women started to appear in the headlines in the early 1970s at the time when disenchantment with the effects of development policies on the agrarian sectors of Third World countries was being felt. The involvement of women in food production is generally documented with extensive materials from Africa. Clearly, though, the extent of women's involvement in subsistence farming is a function of their access to resources. The women in Asia are dependent on wage earnings from varied sources. The policies relating to women reflect these differences. Those in Africa stress the need to aid subsistence farming while those in Asia emphasize the need for employment creation programs. However, involvement in household tasks as a factor setting a limit to women's earning ability is uniformly stressed (Jain, 1975).

Time allocation studies indicate the incredible time spent on each task. In relation to these policies, time saving appropriate technologies have been suggested (Carr, 1978). Yet, technologies have different consequences for different classes of women.

Another area considered is freeing of labor time from household tasks. Non-farm income-generating activities such as cottage industries, fruit canning, textiles and soap making depending on the local resources have also been considered. Education and training, as well as setting up of women's organization, such as cooperatives to facilitate credit obtaining are advocated as desirable and realistic objectives. While considered appropriate, such practices may not be possible in male geared development projects.

The urgency and need of income generating tasks to free women from unpaid labor must be felt. Increasing their autonomy within the household can create undeniable advantages for rural women. Such ambitious plans can only succeed with allocation of significant resources which are scarce in the Third World.

An increase in women's rights of appropriation of resources and their own labor has emerged as an important policy objective for which a variety of measures have been advocated (FAO, 1979). The measures are summarized as follows (Kandiyoti, 1985).

1. The protection of women's existing sources of livelihood.
2. The elimination of discriminatory legislation in the ownership and control of productive assets.
3. The promotion of equitable access to agricultural inputs, credits, extension services and education.
4. The support of extra-household forms of organization of women's labor.
5. The encouragement of an increased capacity for political empowerment and organization.

These measures have presented problems of an insurmountable nature for women in a number of ways. Policy proposals for the Third World rural women emanating from international developing agencies, as well as governments are often full of ambiguities and contradictions. This may be because of efforts to solve only the most visible outcomes of underdevelopment. The less visible outcomes of underdevelopment can only be understood by grass roots, village-level studies. The recommendations to be made in what follows are less ambitious and, we hope, more realistic.

Recommendations

There are extensive presence of women's organizations and solidarity networks outside the home in many cultures. Such are the cases in the villages of Northern Cameroon. These organizations can be used to benefit women in a variety of ways. The condition is different in the South Indian villages where women's interdependence is based on family and kinship system. The kinship networking can be developed into women's organizations for the objective of improving the conditions of rural women. Through these organizations changes can be introduced.

Such organizations can be used and developed as mediums of instruction, units of mutual help and cooperatives to be used as self-help associations. The strategies need to be acutely sensitive to the culturally and historically specific terms of reference for each case. The greatest wisdom is to listen to the women concerned who can and have in many instances articulated their needs and their hopes.

Future research on the village level is a must. Without the understanding of the intricacies of culture and human behavior, one cannot plan and launch successful development projects. Perhaps it is easy to speak of the problems of the Third World women in general terms but specific places within the general area are different and need to be treated as such.

Statistical data on women are still scanty. More research on women in the Third World is still needed and is to be encouraged. Valuable information can be obtained to serve the plan of development agencies and assist governments in policy decisions. The information can also help scholars conducting research in gender relations.

REFERENCES

Abdullah, T. A. and S. A. Zeidenstein
1982 Village Women of Bangladesh. Prospects for Change. Oxford: Pergamon Press.

Abrahamsson, B.
1970 "Homans on Exchange." American Journal of Sociology 76:273-285.

Afonja, S.
1981 "Changing Modes of Reproduction and the Sexual Division of Labor Among the Yoruba." Signs 7 (No. 2):299-313.

Agarwal, B.
1981 Agricultural Modernization and Third World Women: Pointers from Literature and an Empirical Analysis. Geneva: ILO.
1985 "Work Participation of Rural Women in the Third World: Some Data and Conceptual Biases." Pp. 60-75 in K. Young (ed.), Serving Two Masters. London/Delhi: Routledge A. Kegan Paul/Macmillan.

Ahmed, Z.
1980 The Plight of Rural women; Alternatives for Action. International Labour Review 119 (No. 4):425-438.

Allan, G.
1985 Family Life. New York: Basil Blackwell.

Arhin, K.
1982 Traditional Rule in Ghana: Past and Present. Accra: Sedco.

Barbier, Jean-Claude
1985 Femmes Du Cameroun, Mere Pacifiques, Femmes Rebelles. Karthala, France: O.R.S.T.O.M.

Barnes, A. S.
1986 Black Women: Interpersonal Relationships in Profile, A Sociological Study of Work, Home and the Community. Indiana: Wyndham Hall Press.

Barnes, E. J.
1981 "The Black Community as a Source of Positive Self-Concept for Black Children: A Theoretical Perspective." Pp. 166-192 in Jones L. Reginald (ed.), Black Psychology. New York: Harper and Row.

Benedict, B.
1968 "Family Firms and Economic Development." Southwestern Journal of Anthropology 24 (No. 1):1-19.

Beneria, L.
1981 "Conceptualizing the Labor Force: The Underestimation of Women's Economic Activities." Pp. 20-28 in N. Nelson (ed.), African Women in Development Process. London: Frank Cass & Co.

Beneria, L. and G. Sen
1981 "Accumulation, Reproduction and Women's Role in Economic Development: Boserup Revisited." Signs 7 (No. 2):279-298.

Berger, P. L.
1963 Invitation to Sociology. Garden City, New York: Anchor Books.

Bernstein, H.
1979 "Concepts for the Analysis of Contemporary Peasantries." The Journal of Peasant Studies 6 (No. 4):421-444.

Biddle, B. J. and E. J. Thomas (eds.)
1966 Role Theory; Concepts and Research. New York: Wiley.

Binswanger, H. P. and N. S. Jodha
1978 Manual of Instructions for Economic Investigators in ICRISAT'S Village Level Studies, Vol. II. Hyderabad, India: ICRISAT Economics Program Village Level Studies Series.

Blau, P. M.
1964 Exchange and Power in Social Life. New York: Wiley.

Blood, R. O. and D. M. Wolfe
1960 Husbands and Wives, the Dynamics of Married Living. New York: The Free Press.

Blumberg, R. L.
1977 "Women and Work Around the World: A Cross-Cultural Examination of Sex Division of Labor and Sex Status." Pp. 412-433 in A. Sargent (ed.), Beyond Sex Roles. St. Paul, MN: West.
1979 "A Paradigm for Predicting the Position of Women: Policy Implications and Problems." Pp. 113-142 in M. J. Lipman-Blumen and J. Bernard (eds.), Sex Roles and Social Policy: A Complex Social Science Equation. Beverly Hills, CA: Sage.
1981 "Females, Farming and Food: Rural Development and Women's Participation in Agricultural Production Systems. Pp. 15-20 in B. Lewis (ed.), Invisible Farmers. Washington, D.C.: AID.

Blumer, H.
1962 "Society as Symbolic Interaction." Pp 50-60 in Arnold Rose (ed.), Human Behavior and Social Processes: An Interactionist Approach. Boston: Houghton Mifflin.

Blumstein, P. and P. Schwartz
1983 American Couples. New York: William Morrow.

Bokemeier, J. and L. Gorkovich
1987 "Assessing the Influence of Farm Women's Self-Identity on Task Allocation and Decision Making." Rural Sociology 52 (No. 1):12-36.

Boserup, E.
1970 Women's Role in Economic Development. London: George Allen & Unwen.

Bossen, L.
1975 "Women in Modernizing Societies." American Ethnologist 2 (No. 4):587-601.

Boulet, J.
1975 Etude d'un Terroir de Montagne en Pays Mafa. Yaounde, Cameroun: O.R.S.T.O.M.

Boutrais, J. et al.
1984 Le Nord du Cameroun, Des Hommes, Une Region. Paris, France: L'Office de la Recherche Scientifigue et Technique Outre-Mer.

Bryson, J. C.
1981 "Women and Agriculture in Sub-Saharan Africa: Implications for Development." Pp. 29-47 in N. Nelson (ed.), African Women in Development Process. London: Frank Cass and Co.

Buttel, F. H. and G. W. Gillespie Jr.
1984 "The Sexual Division of Farm Household Labor: An Exploratory Study of the Structure of On-Farm and Off-Farm Labor Allocation Among Farm Men and Women." Rural Sociology 49 (No. 2):183-209.

Carr, M.
1978 "Appropriate Technology for African Women." African Training and Research Center for Women of Economic Commision for Africa. Addis Ababa, Ethiopia: United Nations.

Chaney, E. and M. Schmink
1976 "Women and Modernization: Access to Tools. Pp. 160-182 in J. Nash and H. Safa (eds.), Sex and Class in Latin America. New York: Praeger.

Chodorow, N.
1974 "Family Structure and Feminine Personality." Pp. 43-66 in M. Rosaldo and L. Lamphere (eds.), Women, Culture and Society. Stanford, CA: Stanford University Press.

Collins, R.
1985 Sociology of Marriage and the Family: Gender, Love, and Property. Chicago: Nelson Hall.

Coser, L.
1956 The Function of Social Conflict. New York: Free Press.

Dahrendorf, R.
1958 "Toward a Theory of Social Conflict." Journal of Conflict Resolution 2 (June):170-83.

Dauber, R. and M. W. Cain (eds.)
1981 Women and Technological Change in Developing Countries. Boulder, CO: Westview Press.

Davis, K.
1949 Human Society. New York: Macmillan

de Beauvoir, Simon
1953 The Second Sex. New York: Knopf.

Dey, Jennie
1984 Women in Food Production and Food Security in Africa. Rome: F.A.O., Human Resources Institutions and Agrarian Reform Division.

Dixon, R. B.
1982 "Women in Agriculture: Counting the Labor Force in Developing Countries." Population and Development Review 8 (No. 3):539-566.

D'Onofrio-Flores and S. M. Pfafflin
1982 Scientific Technological Change and the Role of Women in Development. Boulder, CO: Westview Press.

Economic Program Staff
1984 A Profile of Aurepalle. Patancheru, India: ICRISAT.

Edholm, F., O. Harris, and K. Young
1978 "Conceptualizing Women." Critique of Anthropology 3 (No. 9/10):101-130.

Eisen, A.
1978 "The Meanings and Confusions of Weberian Rationality." British Journal of Sociology 29:57-70.

Eisenstadt, S. N.
1956 From Generation to Generation. Glencoe, IL: Free Press.

Ekeh, P. P.
1974 Social Exchange Theory: The Two Traditions. Cambridge, MA: Harvard University Press.

Elliott, C.
1977 "Theories of Development: An Assessment." Pp. 5-15 in Wellesley Editorial Committee (ed.), Women and National Development: The Complexities of Change. Chicago: University of Chicago Press.

Engels, F.
1884/ The Origin of the Family, Private Property, and the State. New York:
1972 Pathfinder Press.

Fairchild, H. P. (ed.)
1984 Dictionary of Sociology and Related Sciences. New Jersey: Rowman and Allanheld Publishers.

Faragher, J. M.
1980 Women and Men on the Overland Trail. New Haven, CT: Yale University Press.
1981 "History from the Inside-Out: Writing the History of Women in Rural America." American Quarterly 33 (Winter):537-57.

Ferguson, A. and R. Horn (eds.)
1984 Resource Guide, Women in Agriculture, Cameroon. East Lansing, MI: Michigan State University.

Flora, C. B.
1981 "Farm Women, Farming Systems and Agricultural Structure: Suggestion for Scholarship." The Rural Sociologist I (November):383-386.

Food and Agriculture Organization
1979 Integration of Women in Rural Development. Rome: FAO.

Friedl, E.
1975 Women and Men: An Anthropologist's View. New York: Holt, Rinehart & Winston.

Fromm, E.
1941 Escape from Freedom. New York: Holt, Rinehart & Winston.
1976 To Have or to Be. New York: Harper & Row.

Garfinkel, H.
1967 Studies in Ethnomethodology. Englewood Cliffs, NJ: Prentice-Hall.

Giddens, A.
1979 Central Problems in Social Theory. London: Macmillan Press Ltd.

Goffman, E.
1959 Presentation of Self in Everyday Life. Garden City, NY: Anchor.

Goody, J.
1976 Production and Reproduction. Cambridge: Cambridge University Press.
1983 The Development of Family and Marriage in Europe. Cambridge: Cambridge University Press.

Goody, J. and J. Buckley
1973 "Inheritance and Women's Labor in Africa." Africa 43:108-121.

Guyer, J. I.
1980 "Female Farming and the Evolution of Food Production Pattern Among the Beti of South Central Cameroon." Africa 50 (No. 4):341-56.
1981 "Household and Community in African Studies." African Studies Review 24 (No. 213):87-138.
1986 "Intra-Household Processes and Farming Systems Research: Perspectives from Anthropology." Pp. 92 in J. L. Moock, Understanding Africa's Rural Households and Farming Systems. Boulder: Westview Press.

Habermas, J.
1975 Legitimation Crisis. Boston: Beacon Press.

Homans, G. C.
1950 The Human Group. New York: Harcourt, Bruce and Company.
1961 Social Behavior: Its Elementary Forms. New York: Harcourt, Bruce and World.

Huntington, S.
1975 "Issues in Women's Role in Economic Development: Critique and Alternatives." Journal of Marriage and the Family (November):1001-1012.

Huston, P.
1979 Third World Women Speak Out. New York: Praeger Publishers.

Jackson, S.
1978 "Hausa Women on Strike." Review of African Political Economy 13 (May/August):21-36.

Jain, D.
1979 Impact on Women Workers, Maharashtra Employment Guarantee Scheme. Geneva: ILO.

Jensen, J.
1981 With These Hands. Old Westbury, NY: The Feminist Press.

Jodha, N. S.
1979 Some Dimensions of Traditional Farming in Semi-Arid Tropical India. Patancheru, India: ICRISAT Economics Program Progress Report 17.

Jodha, N. S., M. Asokan, and J. G. Ryan
1977 Village Study Methodology and Resource Endowments of the Selected Villages. Patancheru, A. P., India: ICRISAT Economics Program Occasional Paper 16.

Kandiyoti, D.
1985 Women in Rural Production Systems: Problems and Policies. Paris: UNESCO.

Kane, P. V.
1941 History of Darmasastra, Vol. 2. Poona, India: Dhandarkar Oriental Research Institute.

Kuhn, M.
1964 "Major Trends in Symbolic Interaction Theory in the Past Twenty-Five Years." The Sociological Quarterly 5:61-84.

Laslett, P.
1972 Household and Family in Past-Time. Cambridge, MA: Cambridge University Press.

Levi-Strauss, C.
1949 Les Structures Elementaires de la Parente. Paris: Presses Universitaires de France.
1969 The Elementary Structures of Kinship. Boston: Beacon Press.

Lewis, B. (ed.)
1981 Invisible Farmers: Women and the Crises in Agriculture. Washington, D.C.: Office of Women in Development, Agency for International Development.

Linton, R.
1936 The Study of Man. New York: Appleton-Century-Crafts.

Loutifi, M.
1980 Rural Women: Unequal Partners in Development. Geneva: ILO.

Martin, J. Y.
1970 Les Matakam Du Cameroun,, Essai sur La Dynamique D'Une Societe Pre-Industrielle. Paris, France: O.R.S.T.O.M.

Marx, K.
1964 Selected Writings in Sociology and Political Philosophy. Tom Bottomore and Maximilian Rubel, eds. Baltimore: Penguin.

McNall, S. G. and S. A. McNall
1983 Plains Families: Exploring Sociology Through Social History. New York: St. Martin's Press.

Mead, G. H.
1934/ Mind, Self and Society: From the Standpoint of a Social Behaviorist.
1962 Chicago: University of Chicago Press.

Michaelson, E. J. and W. Goldschmidt
1971 "Female Roles and Male Dominance Among Peasants." Southwestern Journal of Anthropology 27:330-351.

Micheals, J. W. and D. S. Green
1978 "Behavioral Sociology: Emergent Forms and Issues." The American Sociologist 13:23-29.

Molm, L. D.
1981 "The Legitimacy of Behavoral Theory as a Sociological Perspective." The American Sociologist 16:153-166.

Molyneux, M.
1978 "Androcentrism in Marxist Anthropology." Critique of Anthropology 3:1-10.

Moreno, J. L.
1947 "Contributions of Sociometry to Research Methodology in Sociology." American Sociological Review 12:287-292.

Moreno, J. L. (ed.)
1960 The Sociometry Reader. Glencoe, IL: Free Press.

Mullings, L.
1976 "Women and Economic Change in Africa." Pp. 239-264 in N. Hafkin and E. G. Bay (eds.), Women in Africa. Stanford: Stanford University Press.

Murdock, G. P.
1937 "Comparative Data on Division of Labor By Sex." Social Sources 15:551-553.
1959 Africa Its Peoples and Their Culture History. New York: McGraw-Hill Book Company.

Nelson, N. (ed.)
1981 African Women in Development Process. London: Frank Cass & Co.

Omvedt, G.
1981 "Effects of Agricultural Development on the Status of Women." Paper prepared for the ILO Trepartite Asian Regional Seminar, Rural Development and Women, Mahabaleshwar, India, 6-11 April, 1981.

Oppong, C. (ed.)
1983 Female and Male in West Africa. London: Allen & Umwin Publishers, Ltd.

Ortner, S. B.
1974 "Is Female to Male as Nature Is to Culture?" Pp. 67-87 in M. Rosaldo and L. Lamphere (eds.), Women, Culture and Society. Stanford: Stanford University Press.

Ottenberg, S. and P. Ottenberg (eds.)
1969 Cultures and Societies of Africa. New York: Random House.

Pala, A.
1976 African Women in Rural Development: Research Trends and Priorities. Washington, D.C.: Overseas Liaison Committee, paper No. 12.

Palmer, I.
1977 "Rural Women and the Basic Needs Approach to Development." International Labour Review 115 (January/June):97-107.
1978 "Women and Green Resolution." Paper presented to the Conference on the Continuing Subordination of Women and the Development Process, Institute of Development Studies, Sussex.

Park, R. E.
1955 Society. New York: Free Press.

Parsons, T.
1951 The Social Systems. New York: Free Press
1961 Theories of Society. New York: Free Press.
1964 Social Structure and Personality. New York: Free Press.
1966 Societies: Evolutionary and Comparative Perspectives. Englewood Cliffs, NJ: Prentice-Hall.

Pearson, J.
1979 "A Note on Female Farmers." Rural Sociology 44 (No. 1):189-200.

Podlewski, A. M.
1961 "Etude Demographique de Trois Ethnies Paienne: Matakam, Kapsiki, Goude Dans Rech et et." Cameroun: O.R.S.T.O.M.

Polk, R. A.
1986 A Transaction Costs Approach to Families and Households. Andhra Pradesh, India: ICRISAT.

Renzetti, C. M. and D. J. Curran
1989 Women, Men, and Society, the Sociology of Gender. Boston, MA: Allyn and Bacon.

Roberts, P.
1985 "Rural Women in Western Nigeria and Hausa Niger, A Comparative Analysis." Pp. 20-40 in K. Young (ed.), Serving Two Masters. London/New Delhi: Routledge & Kegan Paul/Macmillan.

Rogers, B.
1980 The Domestication of Women: Discrimination in Developing Societies. London: Kogan Page.

Rosaldo, M.
1974 "Women, Culture and Society: A Theoretical Overview." Pg. 17-42 in M. Rosaldo and L. Lamphere (eds.), Women, Culture and Society. Stanford: Stanford University Press.

Ryan, J. G. and R. D. Ghodake
1980 Labor Market Behavior in Rural Villages of South India: Effects of Season, Sex and Socioeconomic Status. Patancheru, India: ICRISAT Economics Program Progress Report 15.

Sacks, K.
1979 Sisters and Wives: The Past and Future of Sexual Equality. Westport, CT: Greenwood Press.

Safa, H. I.
1977 "Changing Modes of Production: Introduction." Signs 3:22-24.

Sanday, P.
1974 "Female Status in Public Domain." Pp. 189-206 in M. Rosaldo and L. Lamphere (eds.), Women, Culture and Society. Stanford: Stanford University Press.

Savane, M. A.
1980 Women and Rural Development in Africa. Geneva: ILO, Women in Rural Development: Critical Issues.

Schmink, M
1984 "Household Economic Strategies: Review and Research Agenda." Latin American Research Review 19 (No. 3):87-101.

Sharma, U.
1980 Women, Work and Property in North-West India. London: Tavistock Publications.

Simmel, G. E.
1907/ "The Philosophy of Money." Tom Bottomore and David Frisby
1978 (editors and translators). London: Routedge and Kegan Paul.
1950 Sociability, The Sociology of George Simmel. K. H. Wolff, ed. New York: Free Press.
1955 "Conflict and the Web of Group Affiliations." Translated by Kurt H. Wolff and Reinhard Bendix. New York: Free Press.

Siskind, J.
1978 "Kinship and Mode of Reproduction." American Anthropology 80: 860-872.

Stratton, J. L.
1981 Pioneer Women. New York: Simon and Schuster, Touchstone Books.

Thibaut, J. W. and H. H. Kelley
1959 The Social Psychology of Groups. New York: Wiley.

Thomas, W. I. and F. Znanlecki
1918 The Polish Peasant in Europe and America. Boston: Badger.

Tinker, I. and M. Bramsen (eds.)
1976 Women and World Development. Washington, D.C.: Overseas Development Council, American Association for the Advancement of Sciences.

Turner, J. H.
1986 The Structure of Sociological Theory. Chicago, IL: The Dorsey Press.

Turner, R. H.
1962 "Role-Taking: Process Versus Conformity." Pp. 20-40 in A. M. Rose (ed.), Human Behavior and Social Processes: An Interactionist Approach. Boston: Houghton Mifflin.

United Nations General Assembly
1978 Development and International Economic Cooperation, Effective Mobilization of Women in Development. New York: United Nations Report of the Secretary General (A/33/238).
1985 Conference on Year of Women in Nairobi, Kenya, Proceedings. New York: United Nations.

Wadley, S. S.
1977 "Women and the Hindu Tradition." Signs 3:113-125.

Whyte, R. O. and P. Whyte
1978 Rural Asian Women: Sttus and Environment. Singapore: Institute of South Asian Studies.
1982 The Women of Rural Asia. Boulder, CO: Westview Press.

Wolf, E.
1966 Peasants. Englewood Cliffs, NJ: Prentice Hall.

Wolff, K. (ed.)
1950 The Sociology of George Simmei. New York: Free Press.

Woodley, R.
1986 Women's Marriage and Migration in Rural South India. B. A. dissertation, Downing College, Cambridge, England.

Zetterberg, H. L.
1957 On Theory and Verification in Sociology. New York: Tressler Press.

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APPENDIX

Description of Activity

Production Activities

Agriculture and animal husbandry

Land preparation (ploughing, hoeing, harrowing, beating clods, slash and burn)

Terrace keep-on and routine repair of irrigation channels

Collecting and preparing organic fertilizer

Carrying and spreading organic/chemical fertilizer

Planting operations (seedbed preparation, sowing, transplanting)

Weeding

Irrigation

Harvesting (bundling, drying crop residue, storing or bagging grain)

Threshing and cleaning grain

Horticulture

Kitchen gardening

Seed selection and storage

Guarding/protection of crops (in field and harvested)

Herding

Care and feeding of animal in compound (medical treatment, shoeing, grooming)

Fodder collection

Castration/breeding

Shearing

Milking

Butchering

Other

Food preservation (drying of meat and vegetables, pickle making)

Other

Participation in local economy

Government service

Wage labor (agriculture, construction, animal husbandry, portering, fuel gathering, etc.)

Trade (sale of food grains, dairy products, and other food stuffs, livestock or manufactured goods)

Hotel, tea-shop, beer house, stores

Lending/borrowing

Medical service (for wages)

Religious service (for wages)

Entertainment (for wages)

Other

Domestic Activities

Cooking/serving

Cleaning dishes and pots

Cleaning house/mud plastering

Washing clothes and bedding

Fetching water

Shopping

Other

Reproductive Activities

Child bearing and child care

Child birth/recovery period

Tending

Feeding

Bathing/cleaning

Oiling and massaging

Other

Education

Academic (in-village)

Nonformal (in-village)

Grooming and personal hygiene

Sickness/treatment

Eating

Other

Social Activities

Obligations

Ritual (for self or neighbor without pay)

Voluntary labor

Political service (panchayat, etc.)

Voluntary community service (school, committees, organizations, etc.)

Other

Leisure

Drinking of alcoholic beverages

Gambling/card playing

In-village visiting

Inter-village visiting

Sleeping

Other

Out-village Activities (involving overnight stay outside the village)

Government service

Wage work

Trading

Hunting and gathering

Hunting wild animals, birds, etc.

Fishing

Gathering materials for craft production (hemp, nettles, bamboo, leaves, etc.)

Gathering of edible food (mushrooms, fruits, tobacco, nettles, etc.)

Collection of medical herbs

Fetching water

Manufacturing/construction

Textiles (includes entire process from cleaning wool or cotton, through spinning, setting up loom, dying, weaving)

Rope/basketry (grass mats, ropes, fish nets, baskets, etc.)

Making/repairing tools and utensils (ploughs, spades, khiki, pots, etc.)

Leather work

Sewing (in own home for out-village)

Building and repairing house (living quarters)

Construction and repair of compound or field

Fences, animal sheds, and shelters in the field or in the yard

Well-digging

Construction of mills, grinding stones, etc.

Other construction

Food processing

Husking/drying grains, post husking, winnowing

Roasting, grinding, chiura-making (beaten rice)

Oil processing

Liquor making

Education

Other work

Herding

Visiting parents, in-laws or grandparents

Other visits

Other activities

Table 27. Participation profile of the five study villages

OBS	Village	Code	Day-Oth	Day-Own	Mth-Oth	Mth-Own
1	Aurepalle	Dome	97.75	1216.75		164.00
2	Aurepalle	Outvill				915.00
3	Aurepalle	Prod	278.00	986.75	476.00	1284.75
4	Aurepalle	Rep	6.75	138.25		
5	Aurepalle	Repoth		334.75		72.00
6	Aurepalle	Social	8.50	2703.75	10.00	91.00
7	Doubane	Dome		406.50		476.00
8	Doubane	Outvill		23.00		939.00
9	Doubane	Prod		584.00	375.00	4592.50
10	Doubane	Rep		155.00		56.00
11	Doubane	Repoth		128.25		226.00
12	Doubane	Social		623.25	.75	1026.00
13	Ldamstai	Dom		543.75		16.00
14	Ldamstai	Outvill		73.00		1046.00
15	Ldamstai	Prod	4.50	310.50	28.00	6228.00
16	Ldamstai	Rep	2.00	164.00		
17	Ldamstai	Repoth		83.50		249.00
18	Ldamstai	Social		738.75	3.00	637.00
19	Shirapur	Dom	20.75	970.75		120.00
20	Shirapur	Outvill				2242.00
21	Shirapur	Prod	684.75	818.00	128.00	1257.50
22	Shirapur	Rep		195.75		247.00
23	Shirapur	Repoth		319.50		568.00
24	Shirapur	Social	10.00	2732.50	5.00	21.00
25	Yoldeo	Dom		494.00	63.00	39.00
26	Yoldeo	Outvill		81.25	20.00	331.00
27	Yoldeo	Prod		612.25	395.00	6302.00
28	Yoldeo	Rep		108.75		242.00
29	Yoldeo	Repoth		87.25	63.00	858.00
30	Yoldeo	Social		536.50	126.00	877.00

SSN-Oth	SSN-Own	Week-Oth	Week-Own	Year-Oth	Year-Own
	276.0	2	600.25		
384	26930.0		30.00	0.00	21040.0
38010	20904.0	134	1191.25	0.00	3402.0
	721.5		36.00		
	1426.0		80.25		52.0
50	1360.5		287.75		2312.0
	540.0	5	381.00		279.0
	880.0	4	352.00	24.00	4775.0
3041	63925.5	103	1612.75	4186.25	17976.5
	3.0	16	190.00		
	57.0		132.25		85.0
345	3599.0	7	499.50	103.00	4329.0
	270.0		143.00		
	1471.0	5	164.00		1247.0
847	51033.0	3	628.50	16.00	1065.0
			9.00		316.0
	118.5		57.00		96.0
	217.0	2	273.50		1678.0
	49.5	2	572.50		12.0
360	24323.0				14612.0
27534	15505.7	13	913.50	6.00	2472.0
	960.0		19.25		720.0
192	2242.0		74.00		604.0
100	748.0		42.25		960.0
			156.00		120.0
55	113.0		43.00		355.0
1806	25821.0	5	720.00	448.00	1638.0
	178.0		52.00		770.0
	312.0		145.50		863.0
	1573.0		132.00	249.00	852.0

Table 28. Description of variables

Variable	N	Mean	Standard Deviation	Minimum Value
HHNO	83	82.52	49.10	1.00
AGE-FEM	80	37.91	12.25	18.00
AGE-MALE	67	45.67	13.47	25.00
TAG-MAL	75	74.07	35.40	10.00
TAG-FEM	80	66.78	29.73	23.00
NMALES	75	2.83	1.69	1.00
NFEMALES	80	2.50	1.43	1.00
FEM-MS	80	2.19	0.45	2.00
TFMS1	44	1.50	0.95	1.00
TFMS2	71	1.54	0.86	1.00
TFMS3	22	1.05	0.21	1.00
TFMS4	02	1.00	0.00	1.00
SCH-FEM	80	1.26	0.82	1.00
SCH-MALE	67	2.07	1.61	1.00
CHD-FEM	16	3.31	1.01	1.00
CHB-FEM	74	4.59	2.47	1.00
CHL-FEM	72	3.33	1.72	1.00
OWNF-FEM	45	17.44	11.39	1.00
OTHF-FEM	48	19.87	13.24	2.00
OWNNF-F	24	19.79	13.83	1.00
OTHNF-F	11	15.09	11.23	2.00
OWNF-MAL	38	24.05	13.96	1.00
OTHF-MAL	25	26.00	13.17	5.00
OWNNF-M	29	19.66	14.44	1.00
OTHNF-M	12	16.42	12.92	3.00
TOT-OWNF	51	44.73	29.00	2.00
TOT-OTHF	54	39.78	32.20	2.00
TO-OWNNF	46	34.24	28.28	1.00
TO-OTHNF	25	17.04	17.90	1.00
FD-AGR	50	9.36	12.71	0.00
TD-AGR	50	47.84	39.75	1.00
FD-ECO	77	7.27	2.80	1.00
TD-ECO	77	16.32	4.92	6.00
FEM-SAL	51	46.17	31.37	3.10
FEM-INC	69	174.23	226.45	3.88
TOTSAL	83	149.18	199.40	0.00
TOTINC	83	719.42	703.83	14.34
FEM-CUR	41	137.67	279.73	0.31
TOT-CUR	81	693.78	853.66	1.16
FEM-RD	41	2.15	1.67	1.00
TOT-RD	81	4.84	2.62	1.00

Maximum Value	Std Error of Mean	Sum	Variance	C.V.
162.00	5.39	6849.00	2411.11	59.51
66.00	1.37	3033.00	150.03	32.31
72.00	1.65	3060.00	181.31	29.48
161.00	4.09	5555.25	1253.25	47.79
162.00	3.32	5342.00	883.76	44.52
9.00	0.19	212.00	2.85	59.70
7.00	0.16	200.00	2.05	57.28
4.00	0.05	175.00	0.20	20.69
6.00	0.14	66.00	0.91	63.49
4.00	0.10	109.00	0.74	55.96
2.00	0.05	23.00	0.05	20.39
1.00	0.00	2.00	0.00	0.00
5.00	0.09	101.00	0.68	65.18
7.00	0.20	139.00	2.59	77.50
5.00	0.25	53.00	1.03	30.63
11.00	0.29	340.00	6.08	53.67
8.00	0.20	240.00	2.96	51.59
46.00	1.70	785.00	129.84	65.32
50.00	1.91	954.00	175.35	66.63
55.00	2.82	475.00	191.22	69.87
31.00	3.39	166.00	126.09	74.41
56.00	2.26	914.00	194.92	58.04
55.00	2.63	650.00	173.42	50.65
50.00	2.68	570.00	208.45	73.46
40.00	3.73	197.00	166.99	78.72
111.00	4.06	2281.00	840.92	64.84
159.00	4.38	2148.00	1036.89	80.95
110.00	4.17	1575.00	799.83	82.60
70.00	3.58	426.00	320.54	105.07
60.00	1.80	468.00	161.62	135.82
151.00	5.62	2392.00	1580.30	83.10
16.00	0.32	560.00	7.83	38.48
26.00	0.56	1257.00	24.22	30.15
135.66	4.39	2354.42	983.84	67.94
1646.51	27.26	12021.63	51279.45	129.97
1116.28	21.89	12382.09	39761.19	133.66
3274.42	77.26	59711.86	495373.97	97.83
1162.79	43.69	5644.42	78250.24	203.19
4387.60	94.85	56196.36	728737.96	123.04
8.00	0.26	88.00	2.78	77.66
13.00	0.29	392.00	6.89	54.22

Table 29. Description of variables

Variable	N	Mean	Deviation	Value
HHNO	86	84.73	46.32	1.00
AGE-FEM	80	39.84	12.37	14.00
AGE-MALE	77	42.91	13.58	5.00
TAG-MAL	77	66.07	31.40	12.00
TAG-FEM	80	58.01	23.99	22.00
NMALES	77	2.56	1.36	1.00
NFEMALES	80	2.21	1.14	1.00
FEM-MS	80	2.19	0.48	1.00
TFMS1	46	1.54	0.75	1.00
TFMS2	72	1.24	0.52	1.00
TFMS3	14	1.07	0.27	1.00
TFMS4	02	1.00	0.00	1.00
SCH-FEM	80	1.23	0.69	1.00
SCH-MALE	77	2.17	1.38	1.00
CHD-FEM	18	3.22	0.88	2.00
CHB-FEM	74	4.11	2.10	1.00
CHL-FEM	74	3.43	1.56	1.00
OWNF-FEM	53	24.42	10.88	2.00
OTHF-FEM	73	18.00	9.30	1.00
OWNNF-F	14	12.64	8.39	2.00
OTHNF-F	63	5.52	5.21	1.00
OWNF-MAL	50	25.90	14.06	2.00
OTHF-MAL	60	17.87	9.93	1.00
OWNNF-M	21	17.14	12.06	2.00
OTHNF-M	68	12.53	9.31	1.00
TOT-OWNF	53	57.64	27.94	8.00
TOT-OTHF	76	37.75	21.95	1.00
TO-OWNNF	24	25.46	20.25	2.00
TO-OTHNF	76	18.61	12.94	1.00
FD-AGR	46	10.72	12.41	0.00
TD-AGR	46	34.67	29.70	1.00
FD-ECO	80	6.53	2.58	0.00
TD-ECO	80	17.12	5.14	4.00
FEM-SAL	65	27.37	26.64	0.78
FEM-INC	58	149.17	246.41	1.63
TOTSAL	86	238.79	242.57	0.00
TOTINC	86	483.55	385.17	77.52
FEM-CUR	83	440.31	954.72	0.85
TOT-CUR	83	442.18	954.16	0.85
FEM-RD	38	1.63	1.13	1.00
TOT-RD	83	3.08	19.50	1.00

Maximum Value	Std Error of Mean	Sum	Variance	C.V.
150.00	4.99	7287.00	2145.52	54.67
68.00	1.38	3187.00	153.05	31.05
73.00	1.55	3304.00	184.37	31.64
174.75	3.58	5087.77	985.92	47.52
121.00	2.68	4640.75	575.73	41.36
8.00	0.16	197.00	1.86	53.24
5.00	0.13	177.00	1.31	51.71
4.00	0.05	175.00	0.23	21.93
4.00	0.11	71.00	0.56	48.69
3.00	0.06	89.00	0.27	41/93
2.00	0.07	15.00	0.07	24.94
1.00	0.00	2.00	0.00	0.00
5.00	0.08	98.00	0.48	56.58
5.00	0.16	167.00	1.91	63.64
5.00	0.21	58.00	0.77	27.25
12.00	0.24	304.00	4.40	51.06
8.00	0.18	254.00	2.44	45.51
45.00	1.49	1294.00	118.32	44.55
40.00	1.09	1314.00	86.47	51.66
30.00	2.24	177.00	70.40	66.37
25.00	0.66	348.00	27.09	94.23
55.00	1.99	1295.00	197.68	54.29
48.00	1.28	1072.00	98.66	55.59
45.00	2.63	360.00	145.33	70.32
37.00	1.13	852.00	86.67	74.30
125.00	3.84	3055.00	780.70	48.47
118.00	2.52	2869.00	481.84	58.15
67.00	4.13	611.00	410.00	79.54
57.00	1.48	1414.00	167.47	69.56
55.00	1.83	493.00	154.12	115.83
125.00	4.38	1595.00	881.82	85.64
15.00	0.29	522.00	6.63	39.47
23.00	0.57	1370.00	26.41	30.01
120.23	3.30	1779.07	709.45	97.32
1244.96	32.35	8651.71	60716.27	165.19
1380.31	26.16	20536.28	58841.71	101.58
2051.16	41.53	41585.50	143359.73	79.66
5931.78	104.79	36545.58	911499.22	216.83
5931.78	104.73	36700.62	910425.75	215.79
6.00	0.18	62.00	1.27	68.96
10.00	0.21	256.00	3.79	63.08

Table 30. Description of variables

Variable	N	Mean	Deviation	Value
HHNO	80	340.50	23.24	301.00
AGE-FEM	80	38.50	15.09	15.00
AGE-MALE	67	46.75	15.88	20.00
TAG-MAL	77	65.84	37.58	8.00
TAG-FEM	80	75.14	51.38	12.00
NMALES	77	3.22	2.13	1.00
NFEMALES	80	3.30	2.23	1.00
FEM-MS	80	2.11	0.42	1.00
TFMS1	52	2.37	1.50	1.00
TFMS2	72	1.82	1.17	1.00
TFMS3	09	1.00	0.00	1.00
TFMS4	01	1.00		1.00
SCH-FEM	80	1.03	0.22	1.00
SCH-MALE	67	1.21	0.62	1.00
CHD-FEM	78	11.87	4.55	5.00
CHB-FEM	72	6.43	3.53	1.00
CHL-FEM	69	4.68	2.22	1.00
OWNF-FEM	78	23.04	13.29	3.00
OTHF-FEM	01	15.00		15.00
OWNNF-F	02	12.50	3.54	10.00
OTHNF-F	00			
OWNF-MAL	61	30.39	13.39	6.00
OTHF-MAL	03	16.67	2.89	15.00
OWNNF-M	02	7.00	5.66	3.00
OTHNF-M	00			
TOT-OWNF	61	63.85	39.38	8.00
TOT-OTHF	03	12.00	14.87	1.00
TO-OWNNF	02	19.17	11.70	3.00
TO-OTHNF	00	16.25	7.50	10.00
FD-AGR	80	23.36	10.52	3.00
TD-AGR	80	39.70	11.97	15.00
FD-ECO	80	6.49	3.07	1.00
TD-ECO	80	14.35	5.91	3.00
FEM-SAL	01	200.00		200.00
FEM-INC	75	1361.81	2745.30	16.67
TOTSAL	80	13.90	57.49	0.00
TOTINC	80	1341.80	2713.34	16.67
FEM-CUR	79	837.68	1599.28	16.67
TOT-CUR	79	837.68	1599.28	16.67
FEM-RD	59	1.80	1.19	1.00
TOT-RD	79	4.22	2.20	1.00

Maximum Value	Std Error of Mean	Sum	Variance	C.V.
380.00	2.60	27240.00	540.00	6.82
80.00	1.69	3080.00	227.62	39.19
90.00	1.94	3132.00	252.25	33.98
196.00	4.28	5069.75	1411.93	57.07
301.00	5.74	6011.25	2640.28	68.38
10.00	0.24	248.00	4.54	66.18
10.00	0.25	264.00	4.97	67.57
4.00	0.05	169.00	0.18	19.92
7.00	0.21	123.00	2.24	63.22
6.00	0.14	131.00	1.36	64.13
1.00	0.00	9.00	0.00	0.00
1.00		1.00		
3.00	0.03	82.00	0.05	21.82
3.00	0.08	81.00	0.38	50.98
30.00	0.52	926.00	20.74	38.36
14.00	0.42	463.00	12.47	54.92
10.00	0.27	323.00	4.93	47.41
65.00	1.50	1797.00	176.58	57.68
15.00		15.00		
15.00	2.50	25.00	12.50	28.28
68.00	1.71	1854.00	179.41	44.07
20.00	1.67	50.00	8.33	17.32
11.00	4.00	14.00	32.00	80.81
190.00	4.46	4980.00	1550.50	61.67
48.00	4.96	108.00	221.00	123.88
36.00	4.78	115.00	136.97	61.06
25.00	3.75	65.00	56.25	46.15
44.00	1.18	1869.00	100.74	45.04
66.00	1.34	3176.00	143.35	30.16
16.00	0.34	519.00	9.42	47.30
24.00	0.66	1148.00	34.89	41.16
200.00		200.00		
19650.00	317.00	102136.00	7536690.03	201.59
333.33	6.43	1111.67	3305.06	413.72
19650.00	303.36	107343.67	7362196.82	202.22
12640.00	179.93	66176.33	2557682.23	190.92
12640.00	179.93	66176.33	2557682.23	190.92
7.00	0.15	106.00	1.41	66.00
11.00	0.25	333.00	4.84	52.18

Table 31. Description of variables

Variable	N	Mean	Deviation	Value
HHNO	80	540.50	23.24	501.00
AGE-FEM	80	31.41	10.21	16.00
AGE-MALE	68	40.46	13.69	20.00
TAG-MAL	75	55.18	29.28	3.00
TAG-FEM	80	59.17	38.81	16.00
NMALES	75	2.59	1.69	1.00
NFEMALES	80	2.98	2.13	1.00
FEM-MS	80	2.03	0.32	1.00
TFMS1	56	2.23	1.61	1.00
TFMS2	76	1.36	0.71	1.00
TFMS3	05	1.60	0.55	1.00
TFMS4	02	1.00	0.00	1.00
SCH-FEM	80	1.45	1.24	1.00
SCH-MALE	68	1.47	0.92	1.00
CHD-FEM	79	9.46	4.00	1.00
CHB-FEM	74	4.45	2.51	1.00
CHL-FEM	73	3.25	1.77	1.00
OWNF-FEM	77	15.97	9.36	2.00
OTHF-FEM	04	10.00	4.08	5.00
OWNNF-F	04	12.50	8.74	6.00
OTHNF-F	01	12.00		12.00
OWNF-MAL	58	22.12	12.56	2.00
OTHF-MAL	04	16.75	4.72	10.00
OWNNF-M	01	6.00		6.00
OTHNF-M	01	12.00		12.00
TOT-OWNF	79	40.70	28.31	2.00
TOT-OTHF	09	14.00	9.77	2.00
TO-OWNNF	06	14.00	10.55	5.00
TO-OTHNF	02	27.50	28.99	7.00
FD-AGR	79	16.41	12.36	0.00
TD-AGR	79	27.75	12.95	10.00
FD-ECO	80	5.75	3.64	0.00
TD-ECO	80	12.75	6.59	2.00
FEM-SAL	00			
FEM-INC	77	554.58	1537.37	1.67
TOTSAL	80	0.00	0.00	0.00
TOTINC	80	695.76	1693.08	1.67
FEM-CUR	70	860.11	1379.33	15.67
TOT-CUR	70	860.11	1379.33	15.67
FEM-RD	62	2.11	1.10	1.00
TOT-RD	70	3.99	2.06	1.00

Maximum Value	Std Error of Mean	Sum	Variance	C.V.
580.00	2.60	43240.00	540.00	4.30
62.00	1.14	2513.00	104.17	32.49
80.00	1.66	2751.00	187.51	33.85
189.00	3.38	4138.75	857.25	53.06
178.00	4.34	4733.75	1505.95	65.58
10.00	0.20	194.00	2.87	65.46
11.00	0.24	238.00	4.56	71.75
4.00	0.04	162.00	0.10	15.67
8.00	0.21	125.00	2.58	71.98
4.00	0.08	103.00	0.50	52.11
2.00	0.24	8.00	0.30	34.23
1.00	0.00	2.00	0.00	0.00
10.00	0.14	116.00	1.54	85.63
5.00	0.11	100.00	0.85	62.69
20.00	0.45	747.00	16.02	42.33
10.00	0.29	329.00	6.31	56.48
7.00	0.21	237.00	3.13	54.52
48.00	1.07	1230.00	87.58	58.58
15.00	2.04	40.00	16.67	40.82
25.00	4.37	50.00	76.33	69.90
12.00		12.00		
60.00	1.65	1283.00	157.65	56.76
20.00	2.36	67.00	22.25	28.16
6.00		6.00		
12.00		12.00		
131.00	3.18	3215.00	801.39	69.56
35.00	3.26	126.00	95.50	69.80
29.00	4.31	84.00	111.20	75.32
48.00	20.50	55.00	840.50	105.42
53.00	1.39	1296.00	152.76	75.34
60.00	1.46	2192.00	167.63	46.66
16.00	0.41	460.00	13.28	63.37
25.00	0.74	1020.00	43.46	51.70
11800.00	175.20	42702.80	2363491.66	277.21
0.00	0.00	0.00	0.00	
13300.00	189.29	55661.13	2866510.05	243.34
7893.33	164.86	60207.48	1902547.90	160.37
7893.33	164.86	60207.48	1902547.90	160.37
6.00	0.14	131.00	1.22	52.20
9.00	0.25	279.00	4.25	51.70

Table 32. Description of variables

Variable	N	Mean	Deviation	Value
HHNO	80	440.50	23.24	401.00
AGE-FEM	80	41.78	15.52	14.00
AGE-MALE	69	52.71	15.45	25.00
TAG-MAL	73	73.60	41.00	1.00
TAG-FEM	79	92.53	63.56	19.00
NMALES	73	2.38	1.44	1.00
NFEMALES	79	3.18	2.57	1.00
FEM-MS	80	2.10	0.38	2.00
TFMS1	39	2.44	2.09	1.00
TFMS2	76	1.79	1.18	1.00
TFMS3	10	1.50	0.71	1.00
TFMS4	05	1.00	0.00	1.00
SCH-FEM	80	1.03	0.22	1.00
SCH-MALE	69	1.38	1.23	1.00
CHD-FEM	73	7.26	4.51	2.00
CHB-FEM	55	4.53	3.72	1.00
CHL-FEM	51	3.37	2.50	1.00
OWNF-FEM	55	23.24	15.13	4.00
OTHF-FEM	09	16.33	11.48	4.00
OWNNF-F	28	13.64	9.37	1.00
OTHNF-F	09	13.56	12.22	1.00
OWNF-MAL	49	33.29	16.96	5.00
OTHF-MAL	10	29.00	17.52	6.00
OWNNF-M	13	22.69	11.17	4.00
OTHNF-M	06	15.83	13.45	2.00
TOT-OWNF	64	66.80	48.41	4.00
TOT-OTHF	12	38.08	28.00	4.00
TO-OWNNF	38	26.39	23.66	2.00
TO-OTHNF	14	19.36	19.04	2.00
FD-AGR	78	17.86	12.51	0.00
TD-AGR	78	31.83	12.50	11.00
FD-ECO	80	6.46	2.78	0.00
TD-ECO	80	17.00	4.94	8.00
FEM-SAL	03	1016.67	1717.64	16.67
FEM-INC	76	584.87	3502.80	3.33
TOTSAL	79	179.07	591.06	0.00
TOTINC	79	1302.12	3659.85	50.00
FEM-CUR	80	316.42	752.27	3.33
TOT-CUR	80	316.42	752.27	3.33
FEM-RD	78	1.59	0.76	1.00
TOT-RD	80	3.15	1.43	1.00

Maximum Value	Std Error of Mean	Sum	Variance	C.V.
480.00	2.60	35240.00	540.00	5.28
98.00	1.73	3342.00	240.76	37.14
90.00	1.86	3637.00	238.68	29.31
224.00	4.80	5373.00	1681.35	55.71
412.00	7.15	7310.00	4039.41	68.69
17.00	0.17	174.00	2.07	60.41
16.00	0.29	251.00	6.58	80.76
4.00	0.04	168.00	0.14	17.93
11.00	0.33	95.00	4.36	85.70
5.00	0.14	136.00	1.40	66.00
3.00	0.22	15.00	0.50	47.14
1.00	0.00	5.00	0.00	0.00
3.00	0.03	82.00	0.05	21.82
8.00	0.15	95.00	1.50	89.04
30.00	0.53	530.00	20.36	62.15
16.00	0.50	249.00	13.81	82.08
10.00	0.36	172.00	6.72	76.86
83.00	2.04	1278.00	228.78	65.09
40.00	3.83	147.00	131.75	70.27
35.00	1.77	382.00	87.79	68.68
37.00	4.07	122.00	149.28	90.13
72.00	2.42	1631.00	287.79	50.97
55.00	5.54	290.00	306.89	60.41
40.00	3.10	295.00	124.73	49.22
40.00	5.49	95.00	180.97	84.96
248.00	6.05	4275.00	2343.09	72.47
95.00	8.08	457.00	783.90	73.52
130.00	3.84	1003.00	559.70	89.63
72.00	5.09	271.00	362.71	98.39
55.00	1.42	1393.00	156.59	70.07
66.00	1.41	2483.00	156.17	39.26
12.00	0.31	517.00	7.75	43.06
23.00	0.55	1360.00	24.38	29.04
3000.00	991.68	3050.00	2950277.78	168.95
30000.00	401.80	44450.00	12269620.87	598.90
300.00	66.50	14146.67	349349.27	330.07
31163.33	411.77	102867.67	13394515.96	281.07
6056.67	84.11	25313.67	565904.28	237.74
6056.67	84.11	25313.67	565904.28	237.74
4.00	0.09	124.00	0.58	48.02
8.00	0.16	252.00	2.05	45.49

Explanation of Abbreviations in Tables 27-32

OBS	Observations
Dome	Domestic (activities)
Prod	Production (activities)
Rep	Reproductive (activities)
Repoth	Reproductive activities (baby sitting, etc.) for others
Social	Social activities
Outvil	Out of village activities
Day-Oth	Work done per day for others
Day-Own	Own work done per day
Mth-Oth	Work done per month for others
Mth-Own	Own work done per month
SSN-Oth	Work done per season for others
SSN-Own	Own work per season
Week-Oth	Work done per week for others
Week-Own	Own work per week
Year-Oth	Work per year for others
Year-Own	Own work per year
HHNO	Household number
AGE-FEM	Age female
AGE-MALE	Age male
TAG-MAL	Total male agricultural activities
TAG-FEM	Total female agricultural activities
NMALES	Number of males
NFEMALES	Number of females
FEM-MS	Females married and single
TFMS1	Total females marital status 1 (single)
TFMS2	Total females marital status 2 (married)
TFMS3	Total females marital status 3 (widowed)
TFMS4	Total females marital status 4 (divorced/separated)
SCH-FEM	Schooling female
SCH-MALE	Schooling male
CHD-FEM	Child desired

CHB-FEM	Child born
CHL-FEM	Child living
OWNF-FEM	Female's work on own land
OTHF-FEM	Female's work on other's land
OWNNF-F	Female's non-farm own work
OTHNF-F	Female's non-farm work for others
OWNF-MAL	Male's own farm work
OTHF-MAL	Male's farm work for others
OWNNF-M	Male's non-farm own work
OTHNF-M	Male's non-farm work for others
TOT-OWNF	Female's total work on own farm
TOT-OTHF	Female's total work on other's farm
TO-OWNNF	Female's total own non-farm work
TO-OTHNF	Female's total non-farm work for others
FD-AGR	Female's agricultural decisions
TD-AGR	Total agricultural decisions
FD-ECO	Female's economic decisions
TD-ECO	Total economic decisions
FEM-SAL	Female salary
FEM-INC	Female income
TOT-SAL	Total salary
TOT-INC	Total income
FEM-CUR	Female currency
TOT-CUR	Total currency
FEM-RD	Female's rights of disposal
TOT-RD	Total rights of disposal

Questionnaire

1			

Village No.: _____
Household No.: _____
Respondent Name: _____

FORM I
HOUSEHOLD PARTICULARS

Interviewer: _____
Date: _____

Member's Code	ALL MEMBERS OF HOUSEHOLD						ALL FEMALES 12 YEARS AND OLDER			ALL MEMBERS 12 YEARS AND OLDER					
	NAME	ROLE	AGE	SEX	MARITAL STATUS	Years of schooling	NUMBER OF CHILDREN			Work on farm?		Years of work: Farm		Nonfa	
							DESIRED	BORN	LIVING	Own	Other	Own	Other	Own	Ot
1.															
2.															
3.															
4.															
5.															
6.													155		
7.															
8.															
9.															
10.															
11.															
12.															
13.															
14.															
15.															
16.															
17.															
18.															
19.															

2				

FORM II
TIME ALLOCATION OF ACTIVITY

Village.:_____ Interviewer:_____
Household No.:_____ Date: _____
Respondent Name:_____

Activity Code	Description of Activity	SUB ACTIVITY CODE	hours day		hours week		hours month		hours season		Yearly	
			OWN	OTH	OWN	OTH	OWN	OTH	OWN	OTH	OWN	OTH
1	A. PRODUCTIVE ACTIVITIES											
	Agriculture and animal husbandy Land preparation (ploughing, hoeing, harrowing, beating clods, slash and burn)	01										
	Terrace keep-up and routine repair of irrigation channels	02										
	Collecting and preparing organic fertilizer	03										
	Carrying and spreading organic-chemical fertilizer	04										
	Planting operations (seedbed preparation, sowing, transplanting)	05										
	Weeding	06										
	Irrigation	07										
	Harvesting (bundling, drying crop residue, storing or bagging grain)	08										
	Threshing and cleaning grain	09										
	Horticulture	10										
	Kitchen gardening	11										
	Seed selection and storage	12										
	Guarding/protection of crops (in field and harvested)	13										
	Herding	14										
	Care and feeding of animal in compon (medical treatment, shoeing, grooming)	15										

Activity Code	Description of Activity	Sub Act Code	hours day		hours week		hours month		hours season		Yearly	
			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	Fodder collection	16										
	Castration/breeding	17										
	Shearing	18										
	Milking	19										
	Butchering	20										
	Other	—										
	Hunting and Gathering	21										
	Hunting wild animals, birds, etc.	22										
	Fishing	23										
	Gathering materials for craft production (hemp, nettles, nettles, bomboo, leaves, etc.)	24										
	Gathering of edible food (mushrooms fruits, tobacco, nettles, etc.)	25										
	Collection of medical herbs	26										
	Fetching or preparing fuel	27										
	Fetching water	—										
	Manufacturing/construction	28										
	Textiles (includes entire process from cleaning wool, or cotton, though spinning, setting up loom, dying, weaving)	29										
	Rope/basketry (grass mats, ropes, fish-nets, baskets, etc.)	30										
	Making/repairing tools and utensils (ploughs, spades, Dhiki, pots, etc.)	31										
	Leather work	32										

Activity Code	Description of Activity	SUBSTANCE CODE	hours day		hours week		hours month		hours season		Yearly	
1	Sewing (in own home)	33										
	Building and reparing house (living quarters)	34										
	Construction and repair of compound or field	35										
	Fences, animal sheds & shelters in thefield or in the yard	36										
	Well-digging	37										
	Construction of khiki, mills, grinding stones, etc.	38										
	Other	—										
	Food processing	39										
	Husking/drying grains, post husking, winnowing	40										
	Roasting, grinding, chiura-making (beaten rice)	41										
	Oil processing	42										
	Liquor making	43										
	Food preservation (drying of meat & vegetable, pickle making)	44										
	Other											
	Participation in Local Economy	45										
	Government Service	46										
	Wage labor (agriculture, construction, animal husbandry, portering, fuel gathering, etc.)	—										
	Trade (sale of food grains, dairy products, and other food stuffs, livestock or manufactured goods)	47										
	Hotel, tea-shop, beer house, stores	48										

Activity Code	Description of Activity	SUB ACT CODE	hours day		hours week		hours month		hours season		Yearly	
			OWN	OTH	OWN	OTH	OWN	OTH	OWN	OTH	OWN	OTH
1	Lending/borrowing	49										
	Medical service (for wages)	50										
	Regigious service (for wages)	51										
	Entertainment (for wages)	52										
	Other	53										
	Total	—										
2	B. DOMESTIC ACTIVITIES											
	Cooking/serving	54										
	Cleaning dishes and pots	55										
	Cleaning house/mud plastering	56										
	Washing clothes and bedding	57										
	Fetching water	58										
	Shopping	59										
	Other	60										
	Total	—										
3	C. REPRODUCTIVE ACTIVITIES Childbearing and child care Child birth/recovery period	61										
	Tending	62										
	Feeding	63										
	Bathing/cleaning	64										
	Oiling and massaging	65										
	Other	66										
	Total	—										

Activity Code	Description of Activity	SUB ACT. CODE	hours day		hours week		hours month		hours season		Yearly	
			OWN	OTH	OWN	OTH	OWN	OTH	OWN	OTH	OWN	OTH
3	Education Academic (in-village)	67										
	Nonformal (in-village)	68										
	Grooming and personal hygiene	69										
	Sickness/treatment	70										
	Eating	71										
	Other	72										
	Total	—										
4	D. SOCIAL ACTIVITIES Obligations Ritual (for self or neighbour without pay)	73										
	Voluntary labor	74										
	Political service (panchayat, etc.	75										
	Voluntary community service (school, committees, organizations, etc.)	76										
	Other	—										
	Leisure Drinking of alcoholic beverages	77										
	Gambling/card playing	78										
	In-village visting	79										
	Inter-village visiting	80										
	Sleeping	81										
	Other	82										
	Total											

Activity Code	Description of Activity	SUB ACT. CODE	hours day		hours week		hours month		hours season		Yearly	
			OWN	OTH	OWN	OTH	OWN	OTH	OWN	OTH	OWN	OTH
5	E. OUT-VILLAGE ACTIVITIES (involving overnight stay outside the village)											
	Government service	83										
	Wage work	84										
	Trading	85										
	Education	86										
	Other work	—										
	Herding	87										
	Visiting parents, in-laws or grandparents	88										
	Other visits	89										
	Other	90										
	Total	—										

Page 7A
FORM III
AGRICULTURAL DECISION MAKING

Respondent Name: _____
Interviewer: _____
Date: _____

3

							Type of crop code (Grains-1, Cash crop-2, Kitchen Garden-3)
							Importance code (First-1, Second-2, Third-3)
							Crop code (VLS/Nutrition Survey)
							Who decided to grow the crop?
							Who decided use own/improved seed?
							If own seed used, who did seed selection?
							Who decided to use organic fertilizer?
							Who decided on how much organic fertilizer to use?
							Who actually applied organic fertilizer?
							Who decided on timing of organic fertilizer application?
							Who decided to use inorganic fertilizer?
							Who decided on how much inorganic fertilizer to use?
							Who actually applied inorganic fertilizer?
							Who decided on timing of inorganic fertilizer application?
							Who decided on pesticide application?
							Who decided on the harvesting and weeding?
							Who decided on the sowing and transplanting?
							Who decided on land leasing (in/out)?

4				

FORM IV
ECONOMIC DECISION MAKING:
CONTROL OVER FAMILY CASH AND EXPENDITURES

Village No.:_____
Household No.:_____
Respondent Name:_____

Interviewer:_____
Date: _____

1. Who generally keeps the household money?

2. Who usually goes to the bazaar to make purchases?

EXPENDITURE AREAS	EXP. CODE	WHO FIRST SUGGESTED?	WHO WAS CONSULTED?			WHO DECIDED?			WHO DISAGREET		
3. Food and other necessities (during last month):	03										
4. Gifts or loans to friends, neighbors, relatives or priests (in last year):	04										
5. Clothing (in last year):	05										
6. Household durables (in last year):	06										
7. Medical treatment (in last year):	07										
8. Travel (in last year):	08										
9. Social/religious ceremonies (in last year):	09										

5				

FORM V
WAGE/SALARY INCOME

Village No.: _____ Interviewer: _____
Household No.: _____ Date: _____

Name	RELATION-SHIP CODE	Sources Income	Season Salary	Season Income	WHEN ACTIVITY TAKES PLACE: Number of days per season	WHEN ACTIVITY TAKES PLACE: Number of months per year
1.						
TOTAL						
2.						
TOTAL						
3.						
TOTAL						

Note: Wages should include both cash and In-kind income received as payment. Payments in-kind should be converted into cash as local market prices.

One interview, seasonal, 3 times.

6				

FORM VI
RIGHTS OF DISPOSAL/JOINT FAMILY PROPERTY

Village No:_____
Household No:_____
Respondent Name:_____

Interviewer:_____
Date: _____

Did your family make any transctions in the following	TRANSAC-TION CODE	YES/NO	S-1 P-2	Value in currency	Who can sell or give away this property?	How much of this property can respondent dispose off on own? (none, some, all)
KIND OF ASSET: A. land	01					
B. Building 1. Residence	02					
2. Other farm buildings	03					
C. Milk Animals 1. Cows	04					
2. Buffaloes	05					
D. Drought Animals 1. Oxen	06					
2. He/ Buffaloes	07					
3. Horses	08					
4. Other pack animals	09					
E. Minor Animals _poultry 1. Goats, sheep, and poultry	10					
F. agricultural Equipment 1. Plough	11					
2. Other Machiney	19					
G. Transport vehicles 1. Animals carts	20					
2. Bicycles	21					
3. Others	29					

6				

Did your family make any transctions in the following	TRANSACTION CODE	YES/NO	S-1 P-2	Value in currency	Who can sell or give away this property?	How much of this property can respondent dispose off on own? (none, some, all)
H. Other Assets 1. Share of bank or cooperative	50					
2. Bank deposit, loan or advances	51					
3. Gold and silver	52					
4. Cash	53					
5. Household utensils	54					
6. Others	60					