

**Gender and Indigenous Knowledge:  
The Role of Nepalese Women in Agricultural  
Research and Development**

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## **Introduction to farming systems in Nepal**

More than 93% of Nepal's population is dependant on the agricultural sector to earn a livelihood (ECOGEN and IIDS, 1994). The agrarian economy is subsistence oriented; in both hill and terai (lowland) regions, very little agricultural income is realised in cash (World Bank, 1991).

In the Eastern mid-hills crop production, animal husbandry and tree husbandry are closely integrated. Use of inorganic fertilisers is extremely low (UNICEF, 1987) and cropland fertility is maintained using organic fertiliser and manure provided by livestock. Livestock also provide draught power for crop production, protein for household nutrition, and a form of farm income (Hopkins, 1985; Tulachan, 1985; Shrestha and Scherchand, 1988). Tree products are required for composting material and fuelwood, but most importantly, provide the main form of animal sustenance, especially in the dry season when tree fodder resources may be the only feed available (Heuach and Shrestha, 1986; Fronzen and Oberholzer, 1984). Declining productivity of public forestland, as a result of over-exploitation, has led to an increase in on-farm forestry and agroforestry (Denholm, 1991; Mahat, 1987); trees and shrubs are frequently grown in strips along the edges of the bari<sup>1</sup> land terraces.

## **Role of women in farming systems**

Women constitute approximately half of Nepal's total population. Ninety percent of the economically active female population is engaged in agriculture (Majupuria, 1989). Studies on the status of Nepalese women have revealed that they not only play a major role in agriculture, but constitute the 'backbone' of Nepali agriculture (Axinn, 1977). It is estimated that they contribute between 50 and 80% of the total farm work, although this varies according to ecological region and ethnic group (Adhikary, 1988; Schroeder and Schroeder, 1979; Joshi, 1980; Pradhan and Bennett, 1981; Mathema and Van Der Veen, 1981; Adhikary, 1987). Participation in farming activities is negatively correlated with age, caste, size of land holding, socio-economic status and

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<sup>1</sup> Bari land is upper slope non-irrigated cultivated land. This constitutes approximately 80% of all cultivated land in Nepal (Carter and Gilmour, 1989).

the level of farm mechanisation (Bajracharya, 1991). The role of women is especially prominent in hill regions where stronger crop-animal-tree integration requires greater involvement (Timsima *et al.*, 1989).

Gender related division of work is common in rural areas of Nepal (Thapa, 1994). Men usually take responsibility for land preparation, ploughing, and harvesting. Women undertake the collection of fodder and feeding of livestock, kitchen gardening, collection of organic fertiliser and manure, and fertilising of crops. Women are also involved in farm maintenance, seed-bed preparation, sowing, planting and weeding, seed selection, threshing, food processing and water collection (Acharya and Bennett 1983; UNICEF, 1987; Timsina *et al.*, 1989). Rural Nepalese women can be categorised, according to their decision-making power and agricultural labour input as follows:

- *de jure* female-headed farm household (male partner permanently absent, due to separation/death);
- *de facto* female-headed farm household (male partner temporarily absent, often due to male labour migration [see later]);
- female farm partner (joint decisions taken, usually with husbands; majority of time spent on farming activities);
- female farm worker (active in farming activities, but less decision-making power);
- female agricultural labourer.

[developed from Ohja (1989)]

The joint farming system is common in Nepal; many women are farm partners or female farm workers (Ohja, 1989). Acharya and Bennett (1983) found that the role of women in farm management and decision-making appears to be proportional to their labour input. They are usually solely responsible for labour allocation, and choice of crops, seeds, and fertiliser, and decisions regarding the sale of vegetable products (Acharya and Bennett, 1983; Timsina *et al.*, 1989). In contrast, women generally have limited access to the market/cash economy, and therefore, little authority when it comes to decisions regarding the disposal of products, and the management of household assets (Acharya and Bennett, 1983). Women have virtually no ownership or control of land, or other assets (World Bank, 1991). The prevalent patrilineal system means that the man is considered the head of the family, as far as outside contact and financial decisions are concerned (Timsina *et al.*, 1989)

In recent years, Nepal's women, have become increasingly marginalised. In the last twenty years there has been a sevenfold increase in out-migration<sup>2</sup> from the more densely populated hill and mountain districts (Gurung, 1989). Much migration is down to the terai lowlands and urban centres. The majority of emigrants are young males in search of paid employment to supplement the small incomes available in the highlands. Women are left to manage and survive off the non-producing farms.

One of the consequences of male-migration has been to exacerbate the perception of men as the only productive members of society (Norberg-Hodge, 1991). In Nepal, as in most developing countries, men are perceived as having a main productive role, and women, a triple role: a productive role, a reproductive (or domestic) role, and community management responsibilities (Moser, 1993). However, in contrast to men's productive role, which brings in a cash income, and is therefore 'visible', the role of women is rarely given much recognition. Although they contribute substantially more labour input into subsistence activities, especially in hill regions (World Bank, 1991), their work is generally perceived as 'unproductive'. Their unpaid reproductive and community management roles are seen as 'natural', and their contribution unrecognised as part of the GNP (Norberg-Hodge, 1991).

### **Women in agricultural research and development**

Given the role that rural women play, their labour input, responsibility and experience, it is apparent that there should be no disparity in agricultural research with regard to gender. Not only will programs which fail to include women neglect half of the country's population, but they will also be disregarding a crucial element in the production system. Unfortunately, it is still often the case that women are not sufficiently represented in agricultural research. Many programs that do include women, fail at the early stages. Most are inappropriately designed, failing to take into consideration the time constraints under which rural women labour, and the socio-economic conditions in which they live and work. Research programs which fail to address social and cultural issues are likely to be unrepresentative and attract only minimal participation. Constraints to participation in PRA activities in Western India, identified by Mosse (1993), are applicable to agricultural research in Nepal. Mosse (*ibid.*) categorised these constraints as practical (women were rarely available collectively for extended periods of time), social (activities were of a formal, public

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Much out-migration is temporary, occurring in the agricultural low season (World Bank, 1991)

nature) and methodological (women responded in different ways, sometimes losing interest).

Socio-economic stigmas acting against the participation of women are especially prevalent among certain ethnic groups and castes; within Nepal, Tibeto-Burmese communities are much more gender-egalitarian than their orthodox Hindu Indo-Aryan neighbours. Many women have limited access to resources and personal freedom. Few have the opportunity to engage in activities such as surveys, or discussions with foreign visitors (Rusten and Gold, 1991). Agricultural training is rarely appropriate, and courses often too long, or too far away. Most women receive only secondary information on modern farming methods, via their male counterparts (Bhattarai *et al.*, 1989).

Problems associated with the inclusion of women as informants in agricultural research are compounded by a dearth of female researchers and extension workers. Between 1983-84 only 2% of agricultural extension officers were female (UNICEF 1987). By 1991 women farmers were still excluded from all agricultural research projects, governmental and non-governmental, except in extension and training programmes (Bajracharya, 1991).

### **Gender Specific Indigenous Knowledge**

Rural women typically perform a much larger range of tasks than men (Loufti, 1987), and may hold different domains of knowledge relative to their different roles. Rusten and Gold (1991) worked with male and female members of a community in the middle hills of Central Nepal. They identified patterns used by the community to categorise, classify and evaluate tree fodder resources, and from these patterns, identified important domains of knowledge within the complete knowledge system. Their data led them to suggest the existence of both common and unique gender related domains of knowledge about fodder tree use, cultivation and management. However, Thapa (1994), undertaking similar work in the village of Solma, in the Eastern hills of Nepal, was of the opinion that there were no significant differences in male and female knowledge domains, and that the ranking exercises used by Rusten and Gold (1991) did not distinguish between differences in knowledge domains, and individual priorities and preferences (Thapa<sup>3</sup>, pers. comm.). It is apparent that any

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<sup>3</sup> Balaram Thapa, who completed his PhD on indigenous ecological knowledge in Nepal in 1994 is now a project co-ordinator at CARE International in Kathmandu.

methodology used must be carefully designed to ensure that it is clear what information is actually being communicated.

Gender specific priorities and preferences, however, may not be the only factors to mask, or create the impression of gender specific knowledge domains. Bordieu (1977) has stated that women's knowledge and power is often articulated only through men, their influence exerted only as long as the appearance of male control remains. Hence the presence or absence of their own men-folk at the time of interviewing, and the resultant affect on the information communicated must be considered. The degree to which women are subject to social pressure to conform to the male way of thinking, to communicate what is expected rather than having the freedom to express their own opinions, may vary between and within communities, dependant upon various socio-economic conditions, such as ethnic group, age, social status. In addition, women in the Eastern hills of Nepal are often shy with strangers, and reluctant to speak openly in front of men (Joshi, 1996). Indeed, ongoing work in Solma suggests that female farmers interviewed are communicating different information when questioned by a female researcher, than when questioned by male researchers (Gautam<sup>4</sup>, pers. comm.).

## **Conclusions and implications for future research**

Women in rural Nepal are more active than men in farming activities and decision-making processes. As such, it is unlikely that research projects will achieve their full potential without the inclusion of women at all levels. It is increasingly recognised that men do not, and possibly cannot, express important aspects of women's experience and interests (Mosse, 1993). As such, it is clearly important that women's knowledge should be considered separately to that of men. In addition, care should be taken to avoid treating rural women as a single homogenous group. Often their only commonalties are their reproductive roles, and the fact that they are neglected by those with power and authority (usually urban and male) (Loutfi, 1987). Research programmes should endeavour to include women from different ethnic groups and status, as differentiated by age, caste, size of land holding and wealth, in a manner appropriate to their socio-economic conditions. Programmes can be tailored to accommodate women, in terms of their timing, duration and distance away from the household. Research methodologies should be carefully designed to avoid confusion

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<sup>4</sup> Luna Gautam is a female research assistant involved in interviewing farmers in a knowledge acquisition programme at Pakhribas Agricultural Centre.

between differences in the indigenous knowledge held by individuals and differences in knowledge communicated. Greater participation of women may be achieved in less formal, non-public contexts, with female researchers.

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