

## CHAPTER 1

### INTRODUCTION

From time immemorial women have been found to be akin to the nature and natural resources, be it soils, water, flora or fauna. History traces their association with the plants and domestication of crops out of seeds collected from the forests. They have been engaged in a active role in sustaining ecology and played a crucial role in the evolution of agriculture.

#### Women's Role in Agriculture

Women are vital and productive workers in the Indian economy. Nearly 84 per cent of all economically active women in India are engaged in agriculture and allied activities. Agriculture employs four-fifth of all economically active women; they constitute one-third of the agriculture labour force and 48 per cent of self employed farmers.

Agricultural Policy is still dominated by the false view that 'farmers are men', women are only 'house wives'. Though women contribute significantly even disproportionately, yet remained 'inactive' and 'dependent'. There is a conceptual inability of statisticians and researchers to define women's work inside the house and outside the house (farming is usually a part of both). According to the assessment in the Indian Himalaya, a pair of bullock works for 1064 hours, a man for 1212 hours and a woman for 3485 hours in a year on a 1 hectare farm. A woman's work is more than of a man and 2 bullocks combined.

Sustainable production is very important for food security. In every region of the developing world, millions of women work as farmers, farm workers and natural resource managers. In doing so, they contribute to national agricultural output, maintenance of environment and family food security. They make above contributions despite unequal access to land, inputs and information. A growing body of evidence indicates that if male-female access to inputs were less unequal, substantial gains in agricultural output would occur, benefiting both women and men. Estimate from Food and Agriculture Organization (FAO) of United Nations show that women account for more than half of labour required to produce the food consumed in the developing world. This can be further confirmed by other studies in India and Tamil Nadu, which had reported that 78 per cent of economically productive women are engaged in agriculture. Among the rural working population, 50 per cent of rural female workers are classified as agricultural labourers and 37 per cent as cultivators and 70 per cent of farm work was performed by women (Census of India, 1991).

#### **Feminization of Agriculture**

It seems that agriculture itself is largely a 'feminized' sector. A little more than two-thirds of India's workforce and almost 81 per cent of all economically active women have been engaged in agriculture and allied activities. The bulk of rural women belong to the families of small and marginal farmers, and provide most of the farm labour, putting in 14 -18 hours of productive manual labour every day.

The trends since 1951 are indicated in Table 1.1.

Table 1.1. Farm Women Engaged in Agriculture

Year	Total population (million)	Female population (million)	Total Female workers (million)	In Agriculture (%)	As farm labour (%)	As cultivators (%)	Percent of female workers to total workers
1951*	361	174	41	77	32	45	29
1961*	439	213	59	80	24	56	32
1971*	548	264	31	80	50	30	17
1981*	685	321	45	77	44	33	20
1991*	856	403	91	81	47	39	22
2001#	1027	496	124	87	47	33	26

Source: \* Swarn Lata Arya, Samra J.S. and Mittal S.P. Rural women and conservation of Natural Resources ~ Traps and opportunities, *Gender Technology and Development 2* (2) 1998.  
# Census of India 2001. Provisional population totals Paper - 3.

While the absolute numbers of women workers as a whole, engaged in agriculture alone, have risen enormously, the total percentage of women in agriculture has been constant, at about 80 per cent. Significantly, within this group, there has been a decline in the cultivating category, and rise in landless female-labour. But, as the last column shows, there has been a continuing 'feminization' of agriculture in the last 3 decades.

### **Constraints of farm women**

#### **a. Unequal Land Rights**

The laws governing women's rights to land differ widely in various parts of the world (World Bank, 2000). Some religious laws forbid female land ownership. The inheritance laws are biased against women (Swaminathan, 1977). The

patriarchal system in India had somehow resisted the inheritance of property by women. Despite the spirit of law and custom, women generally failed to inherit land in their name and even if women were formal legal owners, management of the land was taken over by men (Krishnaji, 1992). However in South India, historically, women could enjoy some property rights in contrast to property rights in North India. Women's right to inherit, own and control property, were determined primarily by the values and norms which were socially acceptable as well as the mechanisms of intra-household decision making and distribution (Mukund, 1999). The arguments generally cited for not giving land ownership to women, include fragmentation of holdings and operational problems when girl gets married and shifts to distant place. It is noteworthy to mention that equal rights for women to inherit the wealth of the parents had been legalized in Tamil Nadu.

Women also tend to be allocated poorer land, whose quality deteriorates even further as it is intensively cultivated (Quisumbing, 1995). Some development projects have made innovative attempts to give women access to land. For example, in Andhra Pradesh 'State land grant scheme' promoted women's access to land. In Karnataka, project funds were used to lease land for women's group (Quisumbing, 1995).

#### **b. Access to Use of Resources**

An analysis of International Labour Organization, Food and Agriculture Organization and National population census data was carried out for 19 countries of South and South-East Asia and estimated that 45.30 percent of agriculture labour force consists of women. Women are almost half of adult population. They

constitute one-third of labour force but consume two-thirds of the world's working hours and yet earn only one-tenth of the income and own only 1 percent of world's property (World Conference of the United Nations Decade of Women, Nairobi, Kenya, 1975).

### **c. Technological Biases on Women**

Female workers generally own fewer tools than men. Since farm capital contributes positively to yields, female farmers are likely to have lower yields than male. Moreover, new technology has often been inappropriate to women's need. For women who farm in their own plots, new agricultural technology may reduce drudgery and increase productivity. However use of improved tools and equipment need better skill and training (Hedge, 1999). But for female hired labourers, adoption of labour saving devices may mean the loss of employment and income. But mechanization need not necessarily displace labour but could reduce the hours of work (Swaminathan, 1997). Also where principally husbands make decisions about investment in equipment, investment in labour saving technologies for women is frequently low priority. The 'traditional socio-cultural barriers' regarding use of tools / gadgets by women is yet another problem. The attitudes of people need to be influenced to break this barrier.

The research system in agriculture is also male dominated and masculine oriented. No deliberate attempts have been made to evolve women specific home and farm technologies to reduce their ergonomic burdens. Thus, their effectiveness and efficiency is not fully utilized.

Albeit the agricultural technologies generated are seemingly gender-neutral, actually they are not so. Much more efforts are needed to ease the women's work in certain operations like cultivation of paddy, threshing of paddy, dehusking of groundnut in which predominant participation of women is observed.

d. Gender **blindness** in Agricultural Extension system

The extension approaches and strategies usually followed for transfer of technology do not cater to the needs of farmwomen. Most training programs for women continue to emphasize on household and domestic skill rather in agriculture and animal husbandry. Further even the venue, timings, duration, content and methodology of training are not very appropriate for farm women with trainings largely being confined to institutional settings. Swaminathan (1985), World Bank (1980) and Doorenbos (1984) reported that male extension workers bypass female farmers.

In most plans of agrarian development women are not treated as partners though they are accommodated. This error has resulted in failure for many agricultural development projects.

Female extension personnel are more likely to be influential and effective in teaching female farmers than male extension workers. Training centers are also not adequate to meet the requirements of farm women (Gintings 1982, Gabriel 1989, and Whyte 1986).

To overcome the obstacles faced by women farmers, particularly the traditional, cultural, religious and caste discrimination, and the need for organizing a separate training programme for farm women has been recognized.

**e. Lack of Access to Credit**

Women are more in disadvantageous position than men because property that is acceptable as collateral, especially land, is held by men. Further, transaction costs involved in obtaining credit is high for women. Some of the social and cultural barriers in getting credit are:

- o Low educational level of women,
- o Lack of familiarity with loan procedures,
- o Exclusion from local farmers group.
- o Women tend to be involved in the production of relatively low return crops that are not included in formal sector lending programs (World Bank 2000, Quisumbing 1995).

**f. Lower Level of Education**

Average literacy rates for men in developing countries were over 50 percent, while two-thirds of women still illiterate (World Bank, 2000). This disparity continues to be larger in rural areas, where educational attainment is lower. Better-educated farmers are more likely to adopt new technologies and do have access to extension services. Underinvestment in women's education thus has high opportunity cost.

Barriers to women's increased productivity and the lesser use of their experience and knowledge may impose a large opportunity cost to society in terms of foregone output and income. Many studies show that plots of land controlled by women have lower yields than those controlled by men. This is because of labour and fertilizer rather than managerial and technical inefficiency. Unequal rights and

obligations, limited time and financial resources prevent women from applying the optimal level of inputs. The women farmers are able to get higher yield of 9-24 per cent than men if they are given better education and access to resources (Quisumbing, 1994).

#### Women's Economic Access

The second important criterion of food security is economic access to available food. A household's access to food depends greatly on its real income. Number of studies showed that improvement in household welfare depends not only on the level of income, but also on who earns that income. These studies find that women, relative to men, tend to spend more of their income on food for family. Women's decision to engage in income-earning activities involve complex trade-offs. Studies support the argument that women's employment, especially for low-income households, may be good not only for women but also for other members of household. In India, 35 per cent of households below the poverty line are headed by women, while in Tamil Nadu, a study found that 86 per cent of the families with at least 1 child less than 5 years are dependent to varying extents on the economic contribution of women, 14 per cent are exclusively dependent on the woman's contribution, and are described as 'female-headed', and only 14 per cent have no female contribution to income in cash terms. Nearly 86 per cent, or the vast majority, live within the 'continuum of female dependency' (Mina Swaminathan, 1998).

Rural women spend high proportion of income on food and health care of children as well as general household consumption whereas men spend a higher portion for personal expenditures (Mencher 1987, Jiggins 1986). Thus:

- ® Women's income has positive effects on household calorie consumption.
- ® Women's income tends to come more frequently and in smaller amounts and it is readily spent on households' daily subsistence need than more expensive items, e.g. income from milking of cows. Timing and flow of incomes influences the food expenditure.

Enhancing the capabilities of farm women to use improved techniques will not only help in increasing the production, but also in reducing their strain and time spent on farming activities. Training of women in judicious and appropriate use of agro-chemicals at proper stages of crop growth would further lower the cost of production and reduce environmental pollution while increasing the yields.

#### Western Paradigm mitigating the Effective Roles

Green revolution is in reality a western patriarchal anti native model of agriculture that shifts the control of food systems from women and peasants to food and agri business nationals and disrupts natural processes.

The masculinist paradigm of food production, which has come to as a 'green revolution' and 'scientific agriculture' etc., involves the disruption of the essential links between forestry, animal husbandry and agriculture.

The renewable base of agriculture provided by women through application of green manure, fodder and compost and organic matter has been destroyed by

reductionist agriculture, which replaces the renewable inputs from the farm by non-renewable inputs for factories and displaces women's work in providing sustainable inputs. In recent years, sustainability is given paramount importance and the agriculture modeled on nature, demands women's role channelized to recycle the internal resources providing necessary inputs for seeds, soil moisture, soil nutrients and pest control.

#### Pivotal role feit In Decision-making Process

In Indian economy, farm business has been a family enterprise. The roles of men and women are complementary, not only physical participation, but also in respect of decision making process. Men's role is authoritative and dominant, but women are subtle and persuasive.

However, the decision-making role of farm women seems to have changed considerably over the years, mainly for two reasons. Firstly, the joint family system is breaking and secondly the introduction of modern agricultural technology. Both these changes, led to increased income, change in attitude and change in outlook, especially the women.

There is an increasing evidence of women's participation in decision-making activities associated with farm-related activities. Though seemingly male takes pre-rogative in decision making, but it is strongly influenced by the attitude and opinion of females.

Despite their substantial contribution to agriculture development, women have always been neglected and marginalized. All agricultural extension services

are almost exclusively by men for men. This is due to the assumption that all farmers are men. Another reason for men oriented extension is possibly the inability to see women as farmers and understand that women farmers have different extension needs than men. This situation has to be changed. Women have to be recognized as farmers and men and women have to be considered equal partners in the process of agricultural development. Otherwise, the ideal of equitable and sustainable development would remain only a dream.

#### Statement of the Problem

Women constitute a major percentage of agriculture labour force. In spite of their major role in agriculture, women have been left out of the extension and training programmes of agriculture. This results in keeping the productivity of agriculture at a low level.

The planners and policy makers have not given due recognition to rural women's role in agriculture. Their training needs have gone unaddressed and they have become invisible in training programmes. They have inaccessibility to modern technology, credit, training and other facilities. Their role has become passive due to ignorance about modern inputs and methods of cultivation. Their energy is spent in procuring fuel, fodder, food and water, leaving very little time to improve their skills. In order to impart and upgrade their skill in farming, Tamilnadu Government implemented a group based training scheme 'TANWA' from 1986 - 2003. How far TANWA succeeded in transferring skill or knowledge to farm women in small groups? Has the scheme reached the objective of promoting Awareness level of the farm women about the farm technology? What is the Adoption Level? Has TANWA improved the productivity of farm managed by farm women? Is there a difference

between participant and non-participant category with regard to Awareness, Knowledge and Adoption Level? A probe into the above questions is essential to understand the impact of the programme and to incorporate the lessons learnt in future plans and programmes.

#### Objectives of the Study

1. To analyze the district wise progress of TANWA programme in Tamil Nadu.
2. To study the socio-economic characteristics of women participants and non-participants.
3. To find out the Awareness, Knowledge and Adoption level of critical technologies among the participants and non-participants of TANWA.
4. To identify the association between the Socio-Economic Characteristics and Extent of Awareness, Knowledge and Adoption.
5. To evaluate the perceived socio-economic impact of training programme on farm women.
6. To identify the constraints faced by the trainees and suggest suitable measure to overcome them.

#### Significance of the present study

It is evident from the fore going analysis that women play a predominant role in agriculture contributing not only to increase in agriculture productivity and production, but also in livelihood security. The present study has been taken up to probe how far farm women have been technologically empowered through Tamil Nadu Women in Agriculture programme (TANWA) implemented in Tamil Nadu during 1986 to 2003.

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