

Contribution of Rural Women in Conservation of Agro Biodiversity in HP

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Abstract

India has one of the largest networks of protected areas in the world with rich biodiversity. National parks, sanctuaries and biodiversity-rich areas have been designated as biosphere reserves to conserve ecosystems. Himachal Pradesh is very rich in biodiversity. Agriculture and horticulture are the mainstay of Himachal's economy as 71% of the people are engaged in these fields. Women, particularly in hilly areas, have greater responsibility for agriculture. Women while working in agriculture activities directly or indirectly help in the conservation of agro biodiversity. Rural women hold the key to many of agricultural systems for food production, seed selection, protection of agro-biodiversity and conservation of biodiversity. But it has been observed that the contributions of women and men to agricultural production are often divided along gender lines, with important implications for sustainable agricultural practices and biodiversity conservation. Men are generally responsible for land preparation, such as clearing and soil tilling, while women are responsible for sowing, hoeing, crop maintenance, harvesting, food processing, storage and seed selection for future planting. Up to 90% of planting material used in smallholder agriculture is derived from seeds and germplasm which women have produced, selected and saved. Women play an important role in the livestock sector also. They feed and milk larger animals, and raise poultry and small animals such as sheep, goats, rabbits etc. Women are traditional caretakers of genetic and species diversity in agriculture; men are more often concerned with converting these resources into cash. While women probably constitute the largest group of farmers who have conserved and improved ago-biodiversity, they often have no property of their own and are often left with no choice but to exploit natural resources in order to survive. Women should have better access to land and resources for the prevention, adaptation and mitigation of climate change.

Keywords: Biodiversity, Conservation, Agro Biodiversity, Germplasm and Natural Resources

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Introduction

India has one of the largest networks of protected areas in the world with rich biodiversity. National parks, sanctuaries and biodiversity-rich areas have been designated as biosphere reserves to conserve ecosystems. Agro biodiversity encompasses all components of biological diversity of relevance to food, agriculture and the sustainability of agro-ecosystems. India has a predominantly agrarian economy with 70% rural population of those households, 60% engage in agriculture. Nearly 63 percent of all economically active men are engaged in agriculture as compared to 78 per cent of women. Almost 50 percent of rural female workers are classified as agricultural labourers and 37% as cultivators. About 75 percent of the Indian female populations are from rural families, who belonged to the small and marginal farmers and landless agricultural labourers (Census of India, 1991).

In Himachal Pradesh Agriculture is the main alternative for Rural Women, Himachal's economy as 71% of the people are engaged in these fields. Women, particularly in hilly areas, have greater responsibility for agriculture. It is observed that women play a significant and crucial role in agricultural development and allied fields including, main crop production, live-stock production, horticulture, post-harvesting operations, agro/social forestry, fishing etc.

Women while working in agriculture activities directly or indirectly help in the conservation of agro biodiversity.

It has been observed that the contributions of women and men to agricultural production are often **divided along gender lines**. While women probably constitute the largest group of farmers who have conserved and improved agobiodiversity, they **often have no property of their own** and are often left with no choice but to exploit natural resources in order to survive.

Objective

In this paper an attempt has been made to analyze the contribution of rural women in biodiversity conservation in agriculture and gender issues related to agriculture sector.

Methodology

This paper is basically descriptive and analytical in nature. Pub med research has been carried out on net on various related topics. The information is also collected from local women working in the fields according to the need of the study.

Discussion

Women and Biodiversity Conservation

Women play a central role in the agricultural sector, engaging as producers, laborers, marketers, and entrepreneurs. Rural women hold the key to many of agricultural systems for food production,

seed selection, protection of agro-biodiversity and conservation of biodiversity. Women also perform many duties and responsibilities over family nutrition, child-care, and food security etc. as their main source of income. Women, particularly in hilly areas, have **greater responsibility** for agriculture.

Traditional practices specifically emphasize the close ties between biodiversity conservation and spirituality. Auspicious days are chosen to start preparing the fields, sowing the seeds or harvesting. They make seed offerings to the village goddesses and worship the draft animals and the farming implements that will be used for sowing. There are many examples of women initiating the movement for the protection of trees. An older and now widely known National case is the Chipko movement in India, made up primarily of village women who stopped commercial logging in the 1970s by embracing trees in their community forests.

In Himachal women can be seen in villages worshipping the Sacred tree Peepal. Women also tie a thread round the peepal trees. Likewise Tulsi, Banana trees are also worshipped by women.

To Save Our Seeds Movement, or Beej Bachao Andolan, subsequently sprang up among local farmers in the central Himalayan region of Garhwal (Uttaranchal). For many women, biodiversity is the cornerstone of their work, their belief

systems and their basic survival. Apart from the ecological services that biodiversity provides, there is the collection and use of natural resources. Women collecting and conserving edible plants that contributed 50 to 70 per cent of dietary requirements.

Today, women continue to gather firewood and other bush products for food, medicine, paint and house-building. Wild food enhances food security in many communities during unfavourable situations such as famine, conflicts, and epidemics. Women often gather medicinal plants along road banks and fences because so many have access to only the most marginal land. Yet their knowledge is immense, because community well-being depends on it, and preservation of this knowledge is crucial for maintaining biodiversity.

As women farmers and resource users constantly experiment with plants and animals in order to improve their quality, they adapt their knowledge to multiple uses. On their own plots, women manage kitchen gardens, growing a wide variety of vegetables. Kitchen gardens can become small laboratories where women try out diverse wild plants and indigenous species. Experience and innovation result in sustainable practices to protect the soil, water and natural vegetation, such as natural pest controls as an alternative to agricultural chemicals.

Women play an important role in the livestock sector also. They feed and milk larger animals, and raise poultry and small animals such as sheep, goats, rabbits etc. Women in animal husbandry and livestock sector constitute 69 percent of the labour force as against 35 percent in crop farming (Economic Survey 2002-03).

But it has been observed that the contributions of women and men to agricultural production are often **divided along gender lines**, with important implications for sustainable agricultural practices and biodiversity conservation. Men are generally responsible for land preparation, such as clearing and soil tilling, while women are responsible for sowing, hoeing, crop maintenance, harvesting, food processing, storage and seed selection for future planting. Generally ripen crop is harvested manually by women from fields. Women carry the work of collecting fuel of wood sticks. There is hardly any activity in agricultural production, except ploughing in which women are not actively involved. In some of the farm activities like processing and storage, women predominate so strongly that men workers are numerically insignificant (Aggarwal 2003).

Women deal with non-monetized biomass based subsistence economy of the household i.e. firewood, cow dung, crop wastes, organic manure, etc. In comparison men tend to earn cash e.g. sale of herbs and

wood. Women work as unpaid laborers on family farms with a greater role than men in operational decision making. Male migration due to employment in other area in turn adds to the load of work on women. Thus women's responsibilities extend from the household duties to working in the fields as well.

Women have tended to see the environment as a resource supporting their basic needs. As an example, rural Indian women collect the dead branches which are cut by storm for fuel wood to use rather than cutting the live trees (Baljit&Renu, 2011). **Women are traditional caretakers of genetic** and species diversity in agriculture, men are more often concerned with converting these resources into cash.

Gender Issues

Gender related differences in terms of labour, property rights and decision-making processes and perceptions also shape knowledge systems, so men and women end up with varying forms of expertise. Men may know a great deal about trees used for timber, for example, while women are authorities on those providing fruits, medicines and fodder. Throughout history men have looked at natural resources as commercial entities or income generating tools,

In India including Himachal Women comprise the largest percentage of the workforce in the agricultural sector, but do

not have access and control over all land and productive resources. Largest proportion of rural women worldwide continues to face deteriorating health and work conditions. Despite their importance to agricultural production, women face severe handicaps. They are in fact, the largest group of landless labourers with little real security in case of break-up of the family owing to death or divorce; inheritance laws and customs discriminate against them land reform. Women labour contributes to 60 percent of the hours worked, contributing up to 30 percent of official hours. Yet women receive only 10 per cent of the world's income and own less than one per cent of the world's property (Gupta, 1987). Female agricultural labours do not enjoy any maternity leave and do not get proper rest after childbirth. According to Joshi (1999), the productivity of female labour is low. Productivity of female agriculture labour is really low compared to that of male labour.

Women agricultural workers, although they represent a big proportion of all women workers, continue to receive lower wages than men. The Ministry of labour puts the difference at 60 per cent of men's wages, while the Indian Labour journal showed that women received 75 per cent of men's earnings.

Crops like rice and wheat, Weeding and hoeing used to employ a large number of female labour days/acre. Due to the use

of agro-chemicals women are exposed to several health hazards such as gynecological infections, arthritis, intestinal and parasitic infections. With the introduction of chemicals to destroy weeds, women are affected more as they were the principal labour for weeding (Singh and Punia 1991).

As the male members control the finance, this creates an adverse impact on women's access to household assets and other household activities (Chowdhary 2004).

The decision making process of women in agriculture in Himachal Pradesh are not independent (Bala, 2003). A study conducted by Sethi (1991) in Himachal Pradesh, revealed that women's opinion is not normally considered in the matters related to participation in developmental activities.

Challenges /Constraints

There are many constraints which are given below:

- Limited access to education and control over natural resources.
- Insecure employment and low income.
- Growing competition on agricultural markets which increases the demand for flexible and cheap labor.
- Growing pressure on and conflicts over natural resources.
- One of the major weaknesses of the agricultural sector is to be found in the production, disposal, preservation, processing and marketing of agricultural products.

- The lack of appreciation of the role of rural women in agriculture is harmful and gives rise to a lack of specific policies, policies.
- Poverty, illiteracy and non-involvement in the design and planning of programs and policies that reflects the real and specific needs of rural women.
- Issues like climate change, irregular rainfall, floods, droughts and have a greater impact on rural women and make their life difficult.
- Rural women have to walk, moreover, long distances to carry water and fetch firewood, which is harmful for the health of humans, causing high rates of infant and maternal mortality.
- Social customs dictate, especially rural women, should - in addition to agricultural activities having duties and responsibilities for cooking, carrying water and fetching firewood etc.

All these constraints limit their participation in decision-making processes and their exposure to more opportunities.

Steps Needed

We must undertake joint efforts to create favorable conditions in agricultural areas, including:

- Strengthening the network of public services in rural areas, including health, education, and welfare services.
- Public goods, such as extension services, storage facilities, rural infrastructure (roads, electricity, and information and communication technologies), access to markets and access to credit, as well as supporting organizations and farmer cooperatives.
- The training of rural women is very important, especially with the adoption of modern agricultural techniques.
- Dissemination of the results of research carried out by experts - including those on agro-ecological techniques -with a view to increasing Rural Women's production levels.
- Establishing policies that combat the asymmetries that prevent rural women from being protected against the effects of climate change.
- Women worldwide are also organizing to make their voices heard and to promote biodiversity conservation and sustainable management at local, regional and international levels. Development strategies should consider rural women as the epicenter, paying special attention to their social skills both within and without agriculture sector.
- Rural women - instead of being treated as mere beneficiaries – should, in other words, be viewed as experts who possess knowledge which complement experts' formal knowledge. Participation in policies that benefit rural women.
- Despite progress made in National and International policies since the first World Conference on women in 1975, urgent action is still necessary to implement gender and

social equity in AKST (Agricultural Knowledge Science and Technology).

- It also requires giving priority to women's access to education, information, science and technology, and extension services to enable improving women's access, ownership and control of economic and natural resources.
- Priority should be given to technological development policies targeting rural and farm women's needs and recognizing their knowledge, skills and experience in the production of food and the conservation of biodiversity.

Conclusion

With knowledge passed down through many generations, women frequently acquire a profound understanding of their environment and of biodiversity in particular, yet their contributions to conservation go unrecognized. A number of changes can strengthen women's contributions to agricultural production in Himachal. These include support for public

services and investment in rural areas in order to improve women's living and working conditions. Giving priority to technological development policies targeting rural and farm/hilly women's needs and recognizing their knowledge, skills and experience in the production of food and the conservation will improve the yield of agriculture and status of Himachali women. Agricultural activities should lead to rural women increasing their income but mere financial support is, however, not sufficient and it should come with better access to land and resources for the prevention, adaptation and mitigation of climate change, combined with rural women learning. The adoption of measures that facilitate the type of agriculture that contributes to the conservation of natural resources that benefit women empower them is in particular, necessary. Above all, conservation efforts need to draw from the principles of social justice, equity and equality.

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