Gender and Agricultural Biodiversity

Underpinning the Convention on Biological Diversity is recognition that humans, themselves a diversity of cultures and knowledge, are an integral component of ecosystems as both users and managers of resources. Because it is human management of agricultural landscapes that shapes agricultural biodiversity, gender-based differences in knowledge and responsibilities greatly impact management activities.

Agricultural biodiversity *is a broad term that includes all components of biological diversity of relevance to food and agriculture. It also includes all components of biological diversity that support the ecosystems of which agriculture is a part (agro-ecosystems): the variety and variability of animals, plants and micro-organisms, at the genetic, species and ecosystem levels, which are necessary to sustain key functions of the agro-ecosystem, its structure and processes, (CBD COP 3 decision III/11, annex I).*

Examples

Gender roles of women and men include different labour responsibilities, decision-making processes, and knowledge. According to their needs, men and women often use resources differently and thus manage their resources in different ways. The gendering of local knowledge, including knowledge used for managing agricultural systems, has four key characteristics (Huisinga Norem *et al*., 1993):

1. *Women and men have knowledge about different things;*

2. *Men and women have different knowledge about the same things;*

3. *Women and men may organize their knowledge in different ways;*

4. *Men and women may receive and transmit their knowledge by different means.*

- Both men and women farmers play an important role in agricultural biodiversity throughout the world. Nevertheless, the role of women is less recognized, even though rural women produce half of the world's food; and in developing countries, they are responsible for 60–80% of food production. In Southeast Asia, for example, women provide up to 90% of the labour for rice cultivation, while in Egypt they represent 53% of all agricultural labour. In sub-Saharan Africa, women produce up to 80% of basic foodstuffs both for household consumption and for sale (FAO, 1996).

- In many countries, women play a crucial role in managing agriculture and are the primary savers and managers of seeds. Up to 90% of planting material used in smallholder agriculture is derived from seeds and germplasm which

women have produced, selected and saved (FAO, 2001). However, their knowledge is not restricted to edible plants. In Mali, for example, certain vegetable species are valued because of the ingeniousness and tenacity of women, who preserve them and use them for basket making, weaving, pottery, etc (NBSAP Mali).

Throughout the West African Sahel women include fruits, leaves and roots from native plants such as the baobab tree (Adansonia digitata), red sorrel leaves (Hibiscus saddarifa), kapok leaves (Ceiba pentandra) and tigernut tubers (Cyperus esculentus) in their families' diet. More than 800 species of edible wild plants have been identified across the Sahel, which broaden the nutritional spectrum and are more reliable that some traditional grains (World Bank, 2000).

In certain villages in Mexico, women cultivate home gardens, with staple crops for culinary processes, fruit trees, and plants that require special care. These women have a unique knowledge of many varieties of plants and their cultivation needs (Chambers and Henshall Momsen, 2007). A recent study in Asia showed that 60 home gardens in one village contained about 230 different plant species. Individual garden diversity ranged from 15–60 species (FAO, 1996).

- Women play an important role in the livestock sector. They feed and milk larger animals, and raise poultry and small animals such as sheep, goats, rabbits and guinea pigs (FAO, 2008). In south-east Mexico, women keep as many as nine breeds of local hens, as well as breeds of ducks, turkeys and broilers in their back gardens selecting the best breeds for the local environmental conditions (FAO, 2006).

- Women's intercropping of diverse species tends to be undermined by monocultural practices. For example, in the Kurichiyas community in Kerala, India, women tend to intercrop while men are normally responsible for monocultures (FAO, 2006). The monocultures could not only affect women's practices but also their environment because diverse agro-ecological schemes reduce the risk of disease, plagues, desiccation or erosion; improve the nitrification of the soil; and spread the risk of crop failure.

- Despite the fact that both men and women contribute to the production of secondary crops, such as legumes and vegetables, women, however, play a crucial role. In Mali, for example, women play a key role in the conservation of aromatic plants and several vegetable species like the shea tree, néré, edible tamarind, sesame plant, fonio, seat pea and voandzou (NBSAP Mali).

services that would enhance their production capacity. In Liberia, women produce 60% of food crops despite the lack of access to farmland, their low level of technological training and knowledge, and lack of financial assistance (Liberia NBSAP). An analysis of credit schemes in five African countries found that women received less than 10% of the credit awarded to male sma-

A trend towards the 'feminization of agriculture' has been observed in many parts of the world. Men's participation in agriculture has declined because of migration from rural to urban areas and death caused by war, sickness and HIV/AIDS. In Africa, for example, the male population in rural areas is decreasing rapidly, while the female population remains relatively stable. In Malawi, the rural male population fell by 21.8% between 1970 and 1990. This trend has resulted in an increase in the proportion of households headed by women. Approximately one-third of all rural households in sub-Saharan Africa are now headed by women (FAO, 2008).

- Social norms define female work and male work. In Tamil Nadu, India, both male and female agricultural workers agreed it would be humiliating for a man to be paid the same as a woman, even for the same work (Hill Rojas, 2004).

- Gender inequality exists in the access to valuable resources such as land, credit and agricultural inputs, technology, extension, training and

llholders (FAO, 2008). Fewer than 10% of women farmers in India, Nepal and Thailand own land (FAO, 2008). In Kenya, although their statutory laws do not prevent them from owning land, women still face numerous difficulties in trying to own land (Kenya NBSAP).

- Income and organization can lead to political participation for women and increased decision making

in the household. After the introduction of a groundnut project in West Africa, the Samanko women's group not only earned cash from new groundnut varieties but also began to influence community decision making (Hill Rojas, 2004).

Agricultural biodiversity is largely shaped by human activities and management practices, and large numbers of people depend on it for sustainable livelihoods. However, gender analyses have made clear that men and women often manage, use and control natural and agricultural resources differently. Moreover, agricultural systems, and the roles, rights and responsibilities of men and women who farm, differ according to geographic and cultural context. By understanding these differences, and the gendered power relations behind them, agricultural programmes and policies achieve greater equity and efficiency.

Challenges

- *Further study of the linkages between gender, agrobiodiversity, agriculture, and poverty reduction.*
- *Development of clear guidelines, tools and methodologies to mainstream gender into biodiversity management.*
- *The need for equitable access to agricultural resources and inputs to support biodiversity conservation. Both women and men working with plants and animals need credit, technical support and extension services in order to mitigate or reduce potentially harmful practices.*
- *Need for gender-disaggregated data to highlight women's contribution to agriculture. Additionally, more data is needed on women's crops, gender differences in the timing and labour supply, and access to labour-saving equipment.*
- *Diversity across communities not captured in policies and services for men and women in agriculture.*

- *Agricultural extension services and new technologies should fulfil the needs of men and women from local communities.*
- *Empowerment of women to raise levels of nutrition, improve production and distribution of food and agricultural products, and enhance living conditions.*
- *Provision of unbiased access for men and women to credit, new technologies, land, education, farming tools and other agricultural inputs from supporting institutions.*
- *Protection of local communities' rights, particularly those of women and indigenous groups, through legal frameworks.*

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