VALUES AND BENEFITS OF AGROBIODIVERSITY FROM A GENDER PERSPECTIVE

In order to understand the values and benefits of agrobiodiversity, from a gender perspective, it is important to look at the different values and benefits of agrobiodiversity in general first. There are two main categories of values to be identified: use-values and non-use values [1]. The former can be divided into three main subcategories:

- **Direct use-values** refer to the benefits resulting from actual use, such as for food, fodder, shelter, ritual, medicinal and commercialization. These values can be further divided into *income values* and *non-income values*. This distinction is important for understanding the gender differences.
- **Indirect use-values** are the benefits derived from ecosystem functions; including adaptability to marginal environments and contribution to nutrient cycling. Also, the cultural and social values obtained from agrobiodiversity (e.g. social status).
- **Option values** are derived from the value given to safeguarding an asset for the option of using it at a future date. These may be seen as a type of insurance value, against the occurrence of new diseases or climate change.

Non-use values include the *existence value*, for biological communities or areas of scenic beauty. Often these are valued in crude terms; at the amount people are willing to pay to prevent a species from becoming extinct, or an area being developed (Funtowicz and Ravetz, 1994). The existence value is relevant to a much wider stakeholder group as it is not linked to any direct uses. For example, people may pay to see plant or animal life in another country or region that they cannot see in their own.

The range of values and benefits obtained from agrobiodiversity management are closely related to the underlying livelihood strategies and livelihood outcomes pursued by different people.

Direct use-values are of more immediate importance to agrobiodiversity management. Agrobiodiversity can only be sustained if the people who manage it will obtain benefits or direct use from doing so. It is essential therefore to focus more on these types of values. In applying a more gender-differentiated perspective to **direct use-values,** the benefits obtained from managing agrobiodiversity will be better understood.

Taking livestock management as an example, men and women around the world participate in livestock production. However, men and women generally:

[1] For examples of these different values please see Anderson, S. 2003. Sustaining livelihoods through animal genetic resources conservation. *in* Conservation and sustainable use of agricultural biodiversity. Manila, CIP-UPWARD in partnership with GTZ, IDRC, IPGRI and SEARICE.

- **Own different animal species.** Men tend to be responsible for cattle and larger animals and women for smaller animals, such as small ruminants and poultry.
- **Have different responsibilities.** Regardless of who owns the animal, women are often responsible for the care of young animals, keeping stalls clean or milking. Men are occupied with herding, breeding and slaughtering. Or, women may be responsible for the day-to-day care and men for management and administration.
- **Use different animal products.** In many societies, women use animals for milk and dairy products, whereas men use their meat, hides and for traction.

Both men and women benefit from the direct use-values obtained from keeping livestock. However, men often focus on income values, obtained through commercialization of livestock products or animals, whereas for women, in many cases, the non-income values are of greater importance (Anderson, 2003).

Similar aspects apply to women for the management of plant genetic resources. Here women are often in charge of the management and conservation of minor food crops. These are used for home consumption, rituals and medicinal properties. Often, these species are grown in home gardens, or they are intercropped in small areas of the main plots. Men are frequently in charge of the cultivation of staple crops and commercial crops, which take place in the fields outside the homestead. The following example, from a Bamana village in Mali, shows the gender roles and responsibilities found in crop production.

GENDER ROLES IN CROP PRODUCTION IN A BAMANA VILLAGE (MALI)

The men in a Bamana village in Mali work collectively in their group's main upland field (*foroba*). This is located in a bush area a few kilometres from the settlement. Here, they produce a suite of staple crops including sorghum (*nyo – Sorghum bicolor*), millet (*sanyo – Pennisetum glaucum*), corn (*kaba – Zea mays*), cowpeas (*sho – Vigna unguiculata*), peanuts (*tiga – Arachis hypogaea*) and Bambara groundnuts (*tiganinkuru – Voandzeia subterranea*).

Women, on the other hand, are responsible for the cultivation and collection of plants for the sauces that flavour men's grain crops in the daily meals. During the rainy season, married women work individually in upland fields assigned to them by the *dutigiw* to produce *nafenw*, or 'sauce-things.' In most cases, women intercrop peanuts (*tiga – Arachis hypogaea*), cowpeas, kenaf (*dajan – Hibiscus cannabinus*), roselle (*dakumun* or *dabilenni – Hibiscus sabdariffa*), okra (*gwan – Abelmoschus (Hibiscus esculentus*) and sorghum. They focus their cropping patterns on traditional leafy and vegetable items that complement the staples produced on the *forobaw*. The vast majority of women's crops are destined for direct consumption. From time to time, some items are sold to generate income, which is typically used to purchase commercial sauce ingredients such as bouillon cubes, vegetable oil or salt. In addition, to cultivating relish crops in upland fields during the rainy season, throughout the year women gather various wild or semi-wild plants from their fields or bush areas for use in their sauces. For example, they gather and process the leaves of the baobab tree (*Adansonia digitata*) to make a key sauce ingredient. They use the fruit of the shea nut tree (*Butryospermum parkii*) to make cooking oil and skin-care lotion. Women maintain these productive trees in their fields, and make use of species in the bush areas around the community. In this way a wide variety of wild and semi-wild greens are regularly used for their sauces.

Source: Wooten, 2003.

However, these responsibilities can and do change. For example, with male out-migration, women may take over men's roles and decentralization may shift emphasis from milk to meat production. Moreover mechanization, and other technical innovations, may involve men in what were formerly women's production systems.

To appreciate and understand the different values and benefits obtained from agrobiodiversity from a gender perspective, the following four key aspects are important:

- determine the current division of labour and ownership of different crop/livestock components;
- assess the role of crops/livestock in the household economy for both men and women. For example, women may use crops/livestock and livestock products for family food consumption, generating income, investing their savings or as security against future economic or personal risk;
- take into account different uses of crops/livestock in the local economy – for example, traction, meat, milk, manure, hides, wool or ceremonial uses;
- include processing/marketing of crops/livestock and livestock products, in which women often play a key role.

These gender-based differences reflect the different livelihood strategies and outcomes adopted and pursued by men and women, and exemplify the different values obtained from doing so. Rural women's key role, as food providers and food producers, links them directly to the management of genetic resources to secure family food production. At the same time men's role, as income earners, links them more often to cash crops and improved species and varieties.

For **indirect use-values** it is important to consider the social status obtained by managing or owning a certain resource. Status, within the community or society, can be defined as an indirect use-value. The status of men and women is often defined by their access and control over plant and animal resources. Rearing chickens in the backyard, for instance, in many places is a criterion for the social status of the family. A case study in Botswana revealed that over 80 percent of backyard chicken-keepers are women, and that the absence of chickens is seen as an obvious sign of poverty (Moreki, 2001). This example shows that rearing chickens results in direct use-values (eggs, meat) and in indirect use-values, such as social status. In Botswana, as in many other African regions, chickens are generally regarded as livestock raised by women. This is mainly because they are perceived to be of lower commercial value than other kinds of livestock (cattle and goats) (Moreki, 2001). A man's status in such a society may be defined by the number of cattle he keeps or similar criteria.

In the introduction it was mentioned that **option values** are derived from the value given to safeguarding an asset. This provides the option of using the asset at a future date. It is a kind of insurance value against the occurrence of, as an example, new diseases or climate change. It is difficult to assess whether people are aware of this type of value, or to what degree this may influence their management practices. There are examples nonetheless of farmers cultivating, or at least not eliminating, wild plant species in their fields. They know these plants may be important for their food security if the main crop fails. In this sense they recognize the option value of these wild species.

Key points

- The range of values and benefits obtained from agrobiodiversity management are closely related to the underlying livelihood strategies and livelihood outcomes pursued by different people.
- Direct use-values are of more immediate importance to agrobiodiversity management. We know that agrobiodiversity can only be sustained if the people who manage it will obtain benefits or direct use from doing so.
- Applying a more gender-differentiated perspective to direct use-values will help to better understand the benefits obtained from managing agrobiodiversity.
- Both men and women benefit from the direct use-values obtained from keeping livestock. However, men more often focus on income values obtained through commercialization of livestock products or animals. In many cases, non-income values are more important to women.
- In terms of indirect use-values it is important to consider the social status obtained by managing or owning a certain resource.
- Option values are derived from the value given to safeguarding an asset. This provides the option of using it at a future date. It is a kind of insurance value against the occurrence of, for example, new diseases or climate change.

References

Anderson. 2003. Sustaining livelihoods through animal genetic resources. *In* Conservation and sustainable use of agricultural biodiversity. Manila, CIP-UPWARD in partnership with GTZ, IDRC, IPGRI and SEARICE.

Funtowicz, S.O. & Ravetz, J.R. 1994. The worth of a songbird. Ecological economics as a post-normal science. Ecological Economics 10: 197–207.

Moreki. 2001. Village poultry and poverty alleviation. Workshop proceedings of community based management of animal genetic resources, Swaziland 7–11 May 2001.

Wooten, S. 2003. Losing ground: Gender relations, commercial horticulture, and threats to local plant diversity in rural Mali. In Howard, P.L. ed. 2003. Women and plants, gender relations in biodiversity management and conservation, London, ZED Books.

Web sites

FAO Web site on Gender, Agrobiodiversity and Local Knowledge: www.fao.org/sd/links

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