LOCAL KNOWLEDGE AS PART OF AGROBIODIVERSITY

The important role which Local Knowledge plays in agrobiodiversity management can only be clarified by analyzing the complex nature of local knowledge and by understanding how it is related to agrobiodiversity. Let us first look at a definition of 'knowledge' before we continue with this analysis.

[Box 1] WHAT IS KNOWLEDGE?

Knowledge concerns the way people understand the world, the way in which they interpret and apply meaning to their experiences. Knowledge is not about the discovery of some final objective 'truth'. It is the understanding of culturally subjective – conditioned products that emerge from complex and ongoing processes. Knowledge involves selection, rejection, creation, development and transformation of information. These processes, and hence knowledge, are inextricably linked to the social, environmental and institutional contexts they are found.

Blaikie, 1992.

This definition is very important as it contains a number of key features, which are significant to understanding local knowledge. These include:

- Knowledge emerges from complex and ongoing processes
- Knowledge development happens through selection, rejection, creation, development and transformation (adaptation)
- Knowledge is closely linked to social, environmental and institutional contexts

Local knowledge is the information people in a given community have developed over time. It is based on experience, adapted to the local culture and environment, and is continuously developing. This knowledge is used to sustain the community, its culture and to maintain the genetic resources necessary for the continued survival of the community.

Local knowledge includes mental inventories of local biological resources, animal breeds, local plant, crop and tree species. It may include information about trees and plants that grow well together, about indicator plants that show the soil salinity, or are known to flower at the beginning of the rains. It includes practices and technologies, such as seed treatment and storage methods, and tools used for planting and harvesting. Local knowledge encompasses belief systems that play a fundamental role in people's livelihood, maintaining their health, and protecting and replenishing the environment. Local knowledge is dynamic in nature. It may include experimentation on the integration of new plant or tree species into existing farming systems, or the tests a traditional healer carries out for new plant medicines.

Local knowledge is often collective by nature. It is considered the property of the entire community and does not belong to any single individual, but this depends also on the type of knowledge.

- Common knowledge is held by most people in a community, e.g. almost everyone knows how to cook rice (or the local staple food).
- Shared knowledge is held by many, but not all, community members; e.g. villagers who raise livestock will know basic animal husbandry.
- Specialized knowledge is held by a few people, who might have had special training or an

apprenticeship; e.g. only a few villagers will become healers, midwives, or blacksmiths.

Depending on the type of knowledge, transmission will occur in different ways. For example, much of common knowledge is shared in daily activities, with other family members and neighbours. During daily work and interactions children, for instance, will watch and experience the knowledge held by elder people and family members and acquire it over time. Public places, such as markets or community mills, are important places where information sharing takes place. Common knowledge is intimately linked to the daily life of local people. They do not treat it as something separate or as needing specific mechanisms for transmittal.

A different case is the transmission of shared or specialized knowledge. Here, the transmission takes place through specific cultural and traditional information exchange mechanisms. For example, it may be maintained and transmitted orally by elders or specialists, breeders and healers. Often, it is only shared with a few selected people within a community.

LOCAL KNOWLEDGE AND GENDER DIMENSIONS

Local knowledge is embedded in social structures. Different groups of people, e.g. ethnic, clans, gender, age or wealth groups may hold various types of knowledge. This type of knowledge is related to existing differences concerning:

- Access to or control over production resources
- Access to education, training and information in general
- Labour divisions between women and men, farmers and herders, etc.
- Control over the benefits of production

Gender and local knowledge are, therefore, linked in many ways. Women and men often possess very different skills and types of knowledge concerning local conditions and everyday life. For example, women are important users and processors of natural resources for human subsistence. As such, they are often the repositories of local knowledge for sustainable resource management. On the other hand, men may have more knowledge of production issues. In many societies women are mainly responsible for growing and collecting food, securing water, fuel and medicines. They also provide a cash income for education, health care and other family needs. Furthermore, women contribute much of the labour and day-to-day decision-making that goes into crop and animal production.

While both men and women are involved in crop selection, and have highly specific knowledge, they use substantially different selection criteria. Often, women's criteria and knowledge are overlooked by researchers of plant variety selection and conservation. Where women are the main crop producers, they consciously select varieties that meet a broad range of criteria related to production, processing, storage and preservation as well as culinary qualities. When men are the main producers, they depend on female family members to advise them on characteristics that are unrelated to field crop production; particularly those aspects associated with post-harvest processing and culinary use (Howard, 2003).

Age is another important factor that influences local knowledge; younger people tend to be less aware of its relevance. Research, on traditional medicines in Ghana and Zambia, showed that younger generations often undervalue this knowledge. This is partly because traditional medicine seldom brings high economic returns to the practitioner (IK Notes No. 30, 2001). Depending on the livelihood strategies adopted by different people, or across generations, the relevance of local knowledge to agricultural production will vary.

Local knowledge, and related gender differences, can be seen as key factors in shaping and influencing plant and animal diversity. Farmers' selection and management practices, and their use of genetic resources, have played an important role in agrobiodiversity conservation. Continued management of these resources will

play a significant role in the success of future strategies. Local knowledge can help increase the relevance and efficiency of agrobiodiversity conservation efforts in various situations:

- Collection of samples: If local knowledge is included in collection and identification it will help identify crops/varieties that are in particular danger of being lost and are important to particular farmers or groups of farmers.
- Documentation and information systems: Local knowledge is relevant to a better understanding of the potential of specific varieties/breeds. This includes specific adaptations, resistance to stress factors and quality traits.
- Use of ex situ collections: Re-introduction of lost varieties/breeds, introduction of adapted varieties/breeds, participatory breeding programmes.
- Designing strategies for in situ conservation and management: Local knowledge can contribute to the selection of relevant sites and participants. Only if local knowledge is taken into account, meaningful interventions can be developed that respond to local needs.

However, there are limitations to building on local knowledge. These are manifold and include the following:

- Local knowledge is not equally distributed across a community. Not everybody within a community holds the same level and type of local knowledge. This can be a disadvantage to people participating in certain activities and can be an obstacle when trying to analyse local knowledge.
- Local knowledge is not necessarily freely communicated. This is one of the reasons why it is not equally distributed at the community level. Local knowledge is part of power-relation structures, and may be managed so that certain members in the society are excluded from acquiring it.
- Local knowledge is not easily accessible and understandable to outsiders. It should not be extracted from individuals/communities; it should be explored and shared in a participatory fashion, yielding benefits to all parties involved. Because it is dynamic, it changes and develops constantly. Furthermore, it is often location specific, and not necessarily useful in other agro-ecological or socio-economic situations.
- Local knowledge is often regarded as inferior to 'Western' knowledge (Briggs and Sharp, 2003). This attitude is reflected in many extension and research approaches, which do not take into account existing local knowledge. There is also a vacuum at the policy level, where it does not usually contribute to decision-making processes.
- Local knowledge does not necessarily offer a solution to changing external conditions. Therefore, it is important to establish mechanisms that allow integration of local and external knowledge sources.

[Box 2] ENHANCING PASTORALIST SELF-RELIANCE THROUGH SUSTAINABLE ECONOMIC DEVELOPMENT IN KENYA

In Kenya, an integrated development programme for pastoralists brings together traditional (indigenous) and modern technical knowledge for training and handbooks on the treatment of cattle diseases. The programme aims to gather indigenous knowledge from different ethnic groups, share knowledge and practices, and promote pastoralism as a valid mode of production and way of life. The Kenya Economic Pastoralist Development Association (KEPDA) brings together traditional and modern technical knowledge in all project activities.

Understanding and awareness of key issues is then promoted through publications and networking. This approach has considerable potential for the sustainable improvement of dry land productivity. In the past traditional knowledge was largely considered a research topic, and technical knowledge was believed to be a replacement for 'primitive' or outdated practices. This project aims to integrate these two sets of knowledge.

Source: World Bank.

The following example shows how these weaknesses, or limitations, can be overcome to achieve positive outcomes for people's livelihoods.

From a livelihoods perspective, local knowledge continues to be an important asset for resource poor people. Moreover, recent studies emphasize the relevance of local knowledge on indigenous food plants for increased food security and health. This is especially true for HIV-AIDS affected households in Africa, where increasing food insecurity further aggravates the negative impact of the disease. Grassroots responses, which build on agrobiodiversity and local knowledge, can contribute to combating food insecurity and the impacts of HIV-AIDS (Garí, 2003).

Key points

- Local knowledge is the information that people in a given community have developed over time. It is based on experience and adapted to the local culture and environment, it is continuously developing.
- Local knowledge is embedded in social structures. Different groups of people, ethnic groups, clans, gender or wealth groups, hold different knowledge. Women and men often possess very different skills and knowledge of local conditions and everyday life.
- Age is another important factor that influences local knowledge. Younger people tend to be less aware of the relevance of local knowledge.
- Local knowledge and gender differences in local knowledge can be seen as key factors that shape and influence plant and animal diversity.
- Local knowledge can help increase the relevance and efficiency of agrobiodiversity management and conservation efforts at different levels.
- Local knowledge is not easily accessible and understandable to outsiders. It should not be extracted from individuals/communities. It should be explored and shared in a participatory fashion that yields benefits to all parties involved.
- Local knowledge does not necessarily offer a solution to changing external conditions. It is therefore important to establish mechanisms that allow the integration of local and external knowledge sources.
- From a livelihoods perspective, local knowledge continues to be an important asset for resource poor people.

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World Bank Web site on indigenous knowledge: www.worldbank.org/afr/ik/what.htm

Web sites

FAO Web site on HIV/AIDS: www.fao.org/hivaids

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

World Bank Web site on indigenous knowledge: www.worldbank.org/afr/ik/what.htm

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