



# CHALLENGES TO LOCAL KNOWLEDGE

## UNDERSTANDING THE VULNERABILITY CONTEXT

Local knowledge and the local institutions that manage this knowledge are particularly challenged by rapid socio-economic and environmental changes. Shocks and trends can lead to dramatic losses of local knowledge.

Blaikie *et al.* (1992) distinguishes five common trends and shocks in which the utility and maintenance of local knowledge is extremely challenged.

- ⑥ Areas of very rapid population growth, or a concomitant reduction in resources caused by external pressures, may require adaptations of new agricultural technologies to increase food production and diversify livelihoods. All these adaptations require the rapid learning of new skills. In this situation local knowledge would have to develop, and adapt very quickly, to respond to the new challenges. High population density and reduced field sizes often lead to a reduction in crop diversity in favour of main staple crops. High-yielding crop varieties have been promoted for decades in response to growing populations. No consideration has been given to the potential negative effects on agrobiodiversity and local knowledge.
- ⑥ Circumstances in which rapid immigration to a particular area has meant that the repertoires of knowledge for agricultural/pastoral production and environmental conservation, are out of focus with a new set of opportunities and constraints. The socio-economic structures, creating this knowledge, may also face fracturing and contradictory additions as new migrants arrive. Resettlement programmes provide one example of these circumstances. People find themselves in a new situation, where their local knowledge is no longer relevant. For instance, the crops brought with those resettling may not be adapted to the new environment, or new livestock diseases may threaten existing local veterinary practices. These types of shocks can lead to the complete loss of existing local knowledge.
- ⑥ Disasters and other extreme events cause a disjuncture, both materially and culturally. The knowledge system frequently suffers a shock. Such instances are both opportunistic as well as limiting. A relevant example in Africa is HIV-AIDS, where local knowledge may regain importance as a local-level strategy to combat food insecurity. Or its existence may be threatened because many people possessing the knowledge are lost to the disease.
- ⑥ There are other processes of slower moving environmental changes such as climate change, widespread deforestation or land degradation, that challenge the resilience and adaptability of local knowledge systems. For instance, criteria for crop variety or breed selection have to adapt to the changing environmental conditions. Then, an innovation and adaptation process must take place to adjust the system to arising challenges. Many examples exist of how farmers manage to adapt their practices and knowledge to changing environments, often the result is greater diversity.



- © Rapid commercialization and economic shocks may also undermine local knowledge. The marketing of local products in a global market will necessarily disconnect the product from its related knowledge context. The focus on commercial agricultural activities will replace local practices and threaten the local knowledge base. For example, in a Bamana village (Mali), local vegetable production was challenged by commercial gardening practices. This competition led to a reduction in local vegetables grown and the decreased involvement of women, who were previously responsible for this activity. With the decline in crop diversity, the importance of local knowledge has been reduced (Wooten, 2003).

All these aspects present a challenge to local knowledge systems. However, their impact does not need to be negative. There are many examples of successful adaptations and innovations that have resulted from external challenges. To understand this better, we will call upon the holistic theory of **co-evolution**.

Co-evolution refers to the continuous and dynamic process of mutual adaptation between humankind and the natural environment. Co-evolution theory shows how social (e.g. knowledge systems), and ecological systems are interconnected, and how they influence one another. Co-evolution leads to constant adaptations to changing environments, which in turn leads to increased diversity. The following example illustrates this theory .

Dryland farming requires the specific skills of farmers to identify and further develop crop varieties that can withstand the difficult environment. In Africa, and elsewhere, droughts are a common problem in many agricultural systems. However, farmers have learned to respond to them by cultivating a wide range of crops and varieties. Instead of planting only one maize variety, farmers have developed complex intercropping systems, containing several species and varieties. This means they can save at least a part of the harvest if there is a drought.

From a co-evolutionary perspective, the challenges described by Blaikie *et al.* (1992) above will lead to adaptations, and this in turn will increase existing diversity. The most important lesson is that the broader context must be taken into account when trying to understand existing local knowledge. The context strongly influences the dynamics of local knowledge adaptation and development and in turn the adaptations and changes within agrobiodiversity.



## Key points

- Local knowledge and local institutions managing this knowledge are particularly challenged by rapid socio-economic and environmental changes.
- Areas of very rapid population growth, or a concomitant reduction in resources by external pressures, may require particular adaptations of new agricultural technologies to increase food production and the diversification of livelihoods.
- Circumstances in which rapid immigration, to a particular area, has meant that the repertoires of knowledge, for agricultural/pastoral production and environmental conservation, are out of focus with the new set of opportunities and constraints.
- Disasters, and other extreme events, cause a disjuncture, both materially and culturally. The knowledge system frequently suffers a shock. Such instances are both opportunistic as well as limiting.
- There are other processes of slower moving environmental changes, such as climate change, widespread deforestation, or land degradation, that challenge the resilience and adaptability of local knowledge systems.
- Rapid commercialization and economic shocks can also undermine local knowledge.
- All these aspects present a challenge to local knowledge systems. However, their impact does not need to be negative. There are many examples of successful adaptations and innovations that have resulted from external challenges.

## References

Blaikie, P.M. 1992. *in* Long, N. & Long, A. eds. *Battlefields of knowledge: The interlocking theory and practice in social research and development*. London, Routledge.

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](http://www.fao.org/sd/links)

World Bank on Indigenous Knowledge: [www.worldbank.org/afr/ik/datab.htm](http://www.worldbank.org/afr/ik/datab.htm)

## Additional background papers

Briggs, J., Roe, A. & Sharp, J. 2002. De-romanticizing indigenous knowledge: challenges from Egypt. *in* *Indigenous environmental knowledge and sustainable development in semi-arid Africa*. Briggs, J., Roe, A. & Sharp, J. University of Glasgow. Glasgow, United Kingdom.



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