Building knowledge

Editorial

Small-scale farmers continuously adapt their practices, as a result of their observation, collaboration, experimentation and innovation, activities which all contribute to their body of knowledge. Knowledge can be described as the result of perception, learning and reason. In this issue of the *LEISA Magazine* we look at how knowledge about LEISA concepts is currently generated, shared and used by a variety of people working towards improved livelihoods in rural areas. We argue that the generation of knowledge is a process which is and needs to be ongoing, but that further steps also need to be taken to exchange, make the knowledge available to all, and most importantly, to act on this knowledge.

The concept of LEISA is constantly being developed, as are the practices within LEISA systems. All those involved with its development and daily implementation are continuously seeking newer and better ways to improve their production and livelihoods. LEISA is not only about technical issues, but also about the empowerment of farmers, social fairness and economic viability, so its development might refer to improved technical options, new social organisations or better access to credit. Small-scale farmers and their families have always had to adapt in all these spheres, and as a result they have for centuries been responsible for the development of local practices well suited to their environmental and social context. Today, however, physical, social and economic circumstances are changing faster than ever, the competition for resources is increasing, and local adaptation is not enough to keep pace with these changes. In complex rural environments, farmers are facing changing rainfall patterns, lack of access to markets, and increasing demands from the effects of globalisation. In these situations it is even more necessary to be able to constantly build and improve knowledge, gain access to new information and knowledge, and use these to adapt improvements to suit local conditions, and deal with the changing world.

Building on previous ideas

In the last twenty years or so, much effort has been made in trying to change research and development in agriculture to better involve farmers, to the extent that this is now widely accepted. However, most formal research related to agriculture in developing countries is still carried out at large research institutions, and the extent to which farmers are involved in setting the agenda, in taking part in experiments, or in monitoring, evaluating or using the results varies a lot, but is generally very limited. The vast range of participatory approaches and methods promoted in the last twenty years have aimed, in general, at building technical knowledge in order to improve livelihoods (e.g. PRA, PTD). But in spite this common aim, there is still a gap between accepted theory and current practice. Although there have been improvements in communications and infrastructure there are still various difficulties in relation to research priorities, access to information, knowledge generation, validation and sharing, faced by small-scale farmers. Where successes are seen, they are often very localised or happen in isolation. Wilkes *et al.* (p. 9), for example, found that successful experiments by individual households "…did not necessarily lead to spread of knowledge and skills within the community". If this is the case at community level, then much greater effort would be needed to get such information out to others, scale up and create a body of useful knowledge.

It is an interesting exercise to think about which of the articles in this issue could have been written twenty or more years ago. Some "new" ideas and practices have now become widely accepted, other concepts are important enough that they constantly need repeating, while the focus of other areas of thinking has changed and developed. The articles in this issue give examples of some these cases.

Effective approaches

Effective research and development approaches for low external input agriculture are based on making effective use of indigenous knowledge, optimal use of local resources, and linking and working together as organisations or individuals, in order to access other resources and types of knowledge. Examples of this can be seen in the articles by Piniero *et al.* (p. 12) and Lundy (p. 18) or Bakewell Stone (p. 30) Additionally, research and development should and can be based in farmers' expressed priorities and needs, and be multi-disciplinary in order to be relevant to farmers daily realities. Participation by farmers at all stages of the research and development process is the ideal situation. But in practice, there are still many difficulties and gaps, especially when considering the complex relationships between all the actors involved in research and development processes. Often this is related to power, depending on who is in a position to set the research question or agenda. Another important factor is funding, as donors may have their own agenda, or smaller informal organisations may not be able to access funds. In addition, who participates, and the reason they do so may also affect the process. These various relationships of power may affect the outcome and applicability of the research. Research agendas set by outsiders normally differ from farmers' priorities. Hellin, Bellon and Badstue (p. 6) examine these and other points, stressing the difference between research which is functional and that which aims to be empowering, within the context of an international research institution. The articles from Okry and Van Mele (p. 14) and Araya and GebreMichael (p. 28) give interesting insights into the different priorities of farmers, scientists, and extension workers, not to mention the young, old, men, women and those with more or less experience. They show the different perceptions and reasoning behind the choices and priorities given to new, local and modern ideas by different stakeholders. This shows that participation can be a complex issue, but that it is essential at many levels and stages in the development and scaling up process.

Contribution of farmers' innovations

Today, many organisations recognise and are working to document and support the development of farmer innovations, which goes a step further than just encouraging participation in research. This acknowledges that farmers' own experimentation is a valid starting point, perhaps more so than when the research agenda is set by others. Until now, farmers have rarely been recognised as innovators, nor have their improved practices been seen as innovations. This was shown by Ruth Tagoe (p. 35) when she had to look for men and women doing "something new" rather than referring to "innovations". The fact that farmers innovate and experiment is not new, but it is only recently that increased awareness from others has led to a general recognition of what they do as "innovating", which also gives value to their daily experimentation. For example in Araya and Edwards (p. 40) the farmer says "I was called 'an innovator' by the local agriculture experts", which shows that even the farmer did not think of himself as an innovator.

This article also presents an interesting example of the motivation behind innovation, and that one success will often inspire another. It is said that "necessity is the mother of invention", meaning in our context that where farmers perceive a problem they will work to solve it. The article by Janev (p. 26) also highlights the lack of awareness in some circles about the term "innovation", but demonstrates that anyone and everyone can be an innovator. In this example, those who have taken up farming also bring knowledge from previous experiences to assist in improving practices and technologies. Once innovations and innovators are recognised, a next step can be to examine how best to support these processes, and look at the use of information and the role of outsiders in strengthening, validating or scaling up as relevant.

Redefining roles

The increased emphasis on participation and farmer innovation requires a re-examination of the roles of all the actors involved in small scale agricultural research and development. If farmers are increasingly empowered to contribute to the research agenda, or work as extension agents and be involved in research and scaling up (see Hellin *et al.*, p. 32), then the roles and potential contributions of outsiders will need to be reviewed. New relationships need to be built on the basis of these new understandings, and the balance of power should also shift. Currently, there is greater emphasis on working in partnerships, building linkages and finding ways for farmers, communities, researchers, NGOs, or the private sector to work together for everyone's benefit. If such a variety of stakeholders, with their equally different priorities, agendas and power structures, are willing to work together, this trend can be seen as positive. It will mean a significant change in attitudes and outlook, especially from those who have traditionally been in positions of power. Future changes and improvements in working practices will need to be based on this shift in thinking, and build on the progress which is currently being made. This broadened vision, of development efforts benefiting from people and organisations working together in networks, also reflects the recent thinking that innovation is not just in the technological sphere, but also refers to new ways of sharing learnings or working together, in terms of social, economic or institutional innovations. This is one definition of Participatory Innovation Development, which has broadened the scope of Participatory Technology Development (see Lutalo and Critchley, p. 24). The institutional context in which technological change occurs is crucial, and therefore it is important to recognise the wider context, which the concept of LEISA embraces.

Progress

In July 2000, our issue entitled "Grassroots innovation" highlighted farmer innovation and efforts to support and promote participation, extension and experimentation. It is encouraging to see that some of the ideas presented in that issue have been further developed. Progress has been made in raising awareness about the importance of farmers' participation, local knowledge and innovation, as reflected in the articles that we present here. In recent years there has also been a rise in what is known as "knowledge management", along with "knowledge centres" staffed by "knowledge specialists". This shows how the thinking and practice is moving forward, but there is still work to be done. The next steps will include validating, exchanging and institutionalising the recent progress, practices and the theories on which they are based. We will also need to focus more on supporting the building, generation, exchange and use of knowledge for LEISA. By broadening the availability of knowledge and empowering people to participate in its generation, small-scale farmers will benefit through having options and information available, which will empower them to ask the right questions, make sound decisions and create and develop their own body of knowledge. If knowledge is power, then joint building and acting on this knowledge is empowering.

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Photo: S. Edwards

Experimenting with watering methods in Ethiopia.