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The changing roles of international agricultural research centres

Van Mele^a, Paul and Julian David Reece^a

a Africa Rice Centre (AfricaRice), Learning and Innovation Systems Program, Cotonou, Benin. Email
p.vanmele@cgiar.org.

Background

International agricultural research is increasingly required to demonstrate its effectiveness in reducing rural poverty in a sustainable way. The donors who support it require firm evidence that their investments in research are an effective means of achieving the objectives of their various Aid agendas. In order to make it possible to provide such evidence, the research centres within the Consultative Group on International Agricultural Research (CGIAR) need to reposition themselves, extend the range of objectives that they pursue and build institutional and collaborative links with a far wider range of actors in the regions that they serve than has traditionally been the case.

The need for this kind of repositioning arises from the way in which agricultural innovation for poor countries has traditionally been pursued. Investment in agricultural research and development is mainly the responsibility of the local and international public sector, partly because private actors have neither the incentives nor the resources necessary to make the investment that is needed. Research, then, has been conducted in centralised institutes with its results passed to farmers by extension agencies (Clark 2002). Much of this research has been undertaken by the CGIAR system, a network of international centres of excellence mandated to undertake strategic research for less developed countries, with their work being directed by objective “scientific” indicators of need and opportunity rather than by local politics. The international agricultural research centres (IARCs) of the CGIAR have thus developed production technologies that were then passed on to national researchers in each country, leading to applied, contextual research and eventual transfer to farmers via the extension systems.

Organising agricultural research in this way poses a number of problems for all parties involved, including aid donors and hence the IARCs themselves. It is clear that responsibility for success or failure is shared between a number of agencies, so that even an excellent output (e.g. a crop variety, a scientific finding or a method to enhance learning) from an international Centre may fail to reduce poverty in countries where the local research and extension systems are ineffective. Now that donors are judging the IARCs they support on the basis of the developmental impact of their work, in addition to the scientific quality of their direct outputs, the weak institutional context within which they are embedded poses a direct threat to the Centres themselves.

One response to this dilemma, explored in the remainder of this paper, is for the Centres to reposition themselves so that they become far more effective at delivering sustainable reductions

in rural poverty. In order to do so, they will need to strengthen the innovation systems through which they work. This will involve playing the role of linkage creator and knowledge broker within local and regional innovation systems, so that multiple sources of local knowledge and innovations are valued, built upon and shared through regional and global exchange mechanisms. A range of institutional innovations, including in particular partnerships with a wide range of appropriate actors, will be needed to make this happen. Moreover, the IARCs, including the CGIAR, will need to extend their role so that they include building national capacities to develop effective learning approaches. Such approaches, embracing both learning strategies and tools, should enhance production, quality and marketing in an integrated manner. Again, this will require that the Centres form new partnerships and learning alliances involving different types of actors, including media professionals among others.

Working with media professionals

Let us examine how one of the CGIAR Centres has responded to the research and development (R&D) challenges outlined above. As a commodity-based centre, the Africa Rice Center (AfricaRice) has a long history of developing and promoting rice-based knowledge and innovations. It has built upon this heritage to assume a key role in knowledge sharing throughout the region that it serves. In order to do so, it has formed and maintained partnerships and has enhanced its linkages with a wide range of relevant actors. It thus increasingly collaborates with other Centres, such as the International Rice Research Institute (IRRI), to build capacities across the region and to develop crop-related training, including an e-learning course on quality rice seed. More broadly, it has built upon and extended its traditional links with national research and extension systems by developing social research collaborations with national universities. Besides, AfricaRice now works with local and international media professionals to explore ways in which rural learning may be made more effective and more inclusive to women and youth.

AfricaRice partnered with Countrywise Communication, an experienced international media company, to train local people in producing low-cost, high quality videos. We will elaborate on the success of this collaboration later on. Another partnership, with the Canadian non-governmental organization Farm Radio International (FRI), is enabling AfricaRice to share the learning content of these videos with far larger audiences. Working under contract from AfricaRice, FRI has backstopped the preparation of scripts for radio programmes based on the content of the videos, and has used its network of grassroots organizations and rural radio stations to ensure that the programmes that result are broadcast to a wide audience. The partnership also helped to link radio broadcasters with rice research and development agencies in their country. And since FRI is committed to strengthen the capacities of rural radio stations, and was impressed by the quality and content of the farmer-to-farmer videos, it decided to distribute them to all of its members.

Developing new approaches, methods and tools to strengthen advisory services

AfricaRice, then, has assumed a role in stimulating and strengthening outreach to farmers. It developed an approach called zooming-in zooming-out (Figure 1) in order to scale up the use of local innovations and sustainable technologies (Van Mele 2006). Because the zooming-in zooming-out approach results in regionally relevant and locally appropriate learning tools, it can guide other CGIAR Centres to develop tools for advisory services and so upgrade, at a regional scale, the effectiveness of client-oriented service delivery. These tools include farmer-to-farmer videos that present problems known to be relevant to large numbers of farmers along with ideas to inspire them to develop their own solutions. As IARCs have a long history of managing multi-country projects and conducting participatory research with farmers, they are in a privileged

position to apply the zooming-in zooming-out approach and so enhance the impact and visibility of their research and development efforts.

AfricaRice's work with videos represents an experiment in scaling up approaches, such as Farmer Field Schools (FFS) and Participatory Learning and Action Research (PLAR). PLAR is an approach inspired in part by the FFS, with more emphasis on stimulating farmer experimentation under the diverse African agro-ecological and socio-cultural conditions. These approaches are of proven value in promoting learning among farmers, testing and modifying technologies, and building social cohesion, but scaling them up has until now remained a key challenge. A novel approach to this problem is for farmers who have graduated from PLAR or FFS to share their learning and innovations with their peers through video. Built into the zooming-in zooming-out approach, this results in powerful and effective farmer-to-farmer videos.

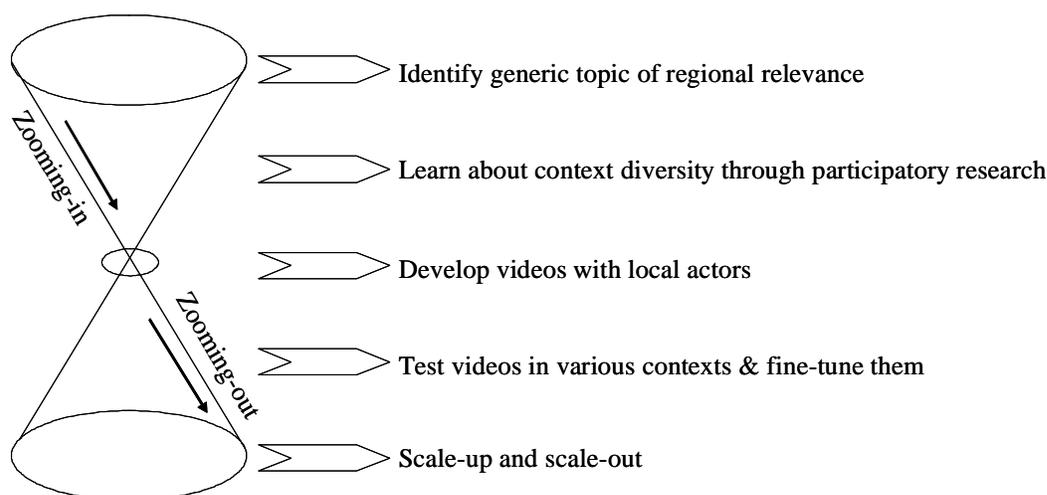


Figure 1. Zooming-in zooming-out: scaling up sustainable innovations (based on Van Mele 2006)

AfricaRice has collected evidence which demonstrates that showing these videos not only promotes widespread experimentation with good agricultural and processing practices, but also stimulates further technical innovation as rural people are encouraged to understand the scientific principles underlying the problems they face and then act upon that understanding. For example, the rice parboiling video promotes an improved way of parboiling that leads to better quality rice, an issue of regional importance. More than 90% of the women in Benin who watched the video improved the quality of their rice. Those who did not have access to the improved equipment developed their own creative solutions to apply the principle of parboiling rice by steam.

Unexpectedly, even the rather technical-oriented post-harvest videos triggered a range of institutional innovations. Public screenings of these videos in rural areas are attended by entire communities, thus bringing together a range of actors at local level in a context that encourages them to join hands to resolve shared problems. More generally, AfricaRice's work in this area acts as a catalyst to strengthen linkages between farmers, processors, traders, as well as advisory and credit service providers and increases the connectivity of the innovation system in question. By early 2009, AfricaRice had distributed videos to 164 partners in 33 African countries & 11 non-African countries who in turn shared them with over 346 local organizations. Multiple organizations, not limited to AfricaRice partners, have organized video shows in Benin, The Gambia, Ghana, Guinea, Mali, Nigeria and Uganda, among other countries. As such, the farmer-to-farmer videos strengthened the capacities of more than 500 organizations and more than

130,000 rice farmers and processors across Africa (Van Mele et al. 2010). The videos are also used by schools and universities, reaching future generations of research and development agents.

The videos work because it is researchers working with farmers and processors on the ground to help them to be more profitable. The bottom line is that farmers do not want new varieties or new methods of growing or processing unless it will give them a better income or more livelihood-related choices and therefore better security. The videos are farmer friendly, farmer focussed, but professionally shot and edited. Emphasis is also placed on good translations so that the messages and voice of the farmers are heard clearly. To achieve this, AfricaRice elaborated their strategic partnership with Countrywise Communication.

Work using these videos provides several good examples of the way in which AfricaRice collaborates with other actors to merge different sources of knowledge to promote sustainable reductions in rural poverty. AfricaRice received feedback that showed that farmers frequently ask for their own copies of the videos so that they don't depend on intermediaries to organize video shows. As hardly any of the public advisory service providers responded positively to this request, AfricaRice further relied on Countrywise Communication to strengthen capacities of national media professionals and establish private partnerships for the large-scale distribution of local-language versions of the videos. In Ghana, for instance, agro-dealers will use the videos in their rural communities. These videos give them ways to up-grade rice production, build trust and so expand their markets, while offering an enhanced range of services to their clients.

Broadening the R&D perspectives and structure

To gain insights as to how agricultural advisory services and innovation systems overall can be made more effective, responsive and inclusive, AfricaRice conducts social research that complements and in turn shapes the development of these learning tools, processes and alliances. Innovative farmer feedback mechanisms, involving the use of rural radios and ICTs, are to be further developed and tested. Action research that addresses rural learning, but also participatory varietal selection and multistakeholder processes, is expected to make future research and development by IARCs and partners more relevant and socially-inclusive. As it has been built into AfricaRice's Strategic Plan, it is protected from shifts in donor priorities.

Furthermore, AfricaRice has made changes to its structure so that it can work more effectively to enable the countries that it serves to make greater use of technological and other innovations (whether these originate from the Centre or elsewhere) and so enhance the developmental impact of applied research for development. Thus in 2008 it created a special unit to undertake activities related to information management and capacity building. This RiceTIME Unit (where TIME stands for Training, Information Management and Extension linkages) incorporates all freestanding capacity building and development activities of the institution.

At the same time, a Learning and Innovation Systems Program was created in order to research - and at the same time steer - the human, social and institutional dimensions of rice R&D. The activities undertaken under the RiceTIME Unit benefit directly from the more process-oriented outputs created by this Program. These outputs, along with strengthened communication and feedback mechanisms, are equally helpful to the Genetic Diversity and Breeding Program. AfricaRice, then, has responded decisively to the new demands placed upon the CGIAR research centres. It has developed new in-house capacities and formed a range of unorthodox partnerships to strengthen national capacities that make rural learning more effective and socially inclusive. It has modified its organisational structure to enable itself to play an expanded role in the development process.

Over the years, many IARCs have conducted participatory research. The challenge they all face is to capitalize on the outcomes of these processes, e.g. by using the zooming-in zooming-out approach. Also, more capacity building is needed alongside media professionals. Feedback mechanisms are vital to inform the direction of new research, and so further development is needed to ensure that such mechanisms are reliable, operational and socially-inclusive (Salahuddin et al. 2008). To sustain progress, donors should consider supporting initiatives to create more flexible learning environments and move away from rigid logical frameworks with pre-set, quantifiable targets.

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