

Redesigning a Livestock Research Institute to Support Livestock Development within an AIS Approach

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SYNOPSIS

The International Livestock Research Institute (ILRI) has undertaken significant institutional change as it attempts to shift its research from a linear, science-driven approach to an innovation systems approach through the adoption of a research-for-development strategy, fostering of new partnerships and knowledge brokering roles, reorganizing and refocusing its research focus, and by adjusting its skills and human resource needs. To illustrate these changes and their rationale, this profile draws on lessons from a wide range of projects and research into linking knowledge with action.

CONTEXT

The imperative to invest in agricultural research that provides more benefits to more poor people is driven by the increasing numbers of poor throughout the world, the global food crisis, and evidence of mounting climate change, among many other forces. Livestock are a key asset for poor households, especially women, and they often contribute to better health and livelihoods. Yet the capacity of livestock-related research to produce measurable reductions in poverty has been questioned, indicating that perhaps other, less linear approaches merit evaluation.

Livestock systems and mixed crop-livestock systems are inherently complex and diverse. National agricultural research and extension systems in developing countries are relatively weaker at working on livestock than on crops. Public services for animal breeding, health, and market information are grossly underinvested and often underdeveloped, and private participation remains quite limited. These conditions make it especially challenging to develop livestock innovation systems.

PROJECT OBJECTIVE AND DESCRIPTION

The objective—redesigning ILRI to support livestock development within an AIS approach—was attempted by developing an approach that uses innovation systems and value chain perspectives to design and implement an expanding portfolio of research-for-development (R4D) projects with an emphasis on developing innovation capacity among system actors with external funding (box 4.26). Adopting this approach has required considerable innovation in how livestock research is done and in the issues it addresses. That innovation was supported by developing a new research strategy and approach, impact orientation, changes made to human resource and discipline mix, partnership management, and strategic communication (described in more detail under “innovative elements”).

INNOVATIVE ELEMENTS

Over the past decade, ILRI’s organizational structure and research approaches have evolved to pursue the new agenda. Some of the key and innovative elements are:

- **A research-for-development strategy and approach.** ILRI’s research strategy features a holistic systems perspective extending from production and markets to institutions and policy. Its R4D projects balance technical and process issues through orchestrated innovation networks, in which coalitions of actors along particular value chains (such as those for dairy or small ruminant production) identify knowledge required by target groups and test options to address them. The networks emphasize joint action and learning.
- **A knowledge brokering role.** ILRI engages as a knowledge partner that integrates or bundles complementary knowledge and technologies to promote pro-poor livestock development. It uses knowledge to influence

Box 4.26 Building Capacity in Livestock Innovation Systems: Early Results from the International Livestock Research Institute and Partners

A starting point for building capacity in livestock innovation systems is to make it easier for the actors to innovate—through organizing, partnering, and linking in a number of ways. This form of capacity building is a major element of recent projects by the International Livestock Research Institute (ILRI) and its partners.

Networking actors. The Fodder Innovation Project (funded by the UK Department for International Development) works with partners within and outside government in India and Nigeria to form innovation networks that enable actors in local livestock systems to organize for innovation. Working with a diverse set of actors in the system made it possible to address broad system constraints rather than narrow technical issues. Partner organizations have started to institutionalize this approach (see box 4.27 for details).

Designing interventions around a service hub. The East Africa Dairy Development Project, initiated in late 2007, has built upon ILRI's experiences in Kenya and elsewhere to design interventions around a “service hub” that develops a network of actors to introduce, test, and offer a range of services, technical options, and information.

Forming public-private partnerships to reach clients. Several projects engendered new partnerships between public and private agencies:

- The Livestock, Livelihoods, and Markets project (LiLi), started in 2007 with the International Crop Research Institute for the Semi-Arid Tropics, promotes better delivery of livestock services and market participation of smallholder goat and cattle keepers in Southern Africa. Through an innovation platform facilitated by the Namibia National Farmers Union in the LiLi Project, AGRA (a commercial agricultural cooperative) sponsors a veterinary outlet as part of its Social Responsibility Outreach Program.

- Partners from public, private, and nonprofit organizations developed and tested index-based livestock insurance in Kenya's Marsabit District in a project initiated in 2009. The insurance proved commercially viable and will be scaled up for use in Ethiopia. The first pilot involved Equity Bank of Kenya, UAP Insurance, and Swiss-Re as commercial partners. More than 2,000 contracts have been issued, covering livestock worth over US\$1 million and attracting premiums exceeding US\$77,000.
- A vaccine against East Coast fever has existed for more than three decades. Highly effective and in great demand, the vaccine has been produced in ILRI's laboratories, but more widespread distribution would require an effective cold chain. To scale up production and make the vaccine more widely available, the Global Alliance in Livestock Veterinary Medicines is partnering with ILRI and private companies to establish viable commercial production and delivery systems (module 6, IAP 2).

New partnerships broaden the participation of the poor. Several new projects respond to zoonotic diseases such as avian influenza by building the capacity of veterinarians and public health officials in early detection, diagnosis, and response. The projects mitigate disease risk by improving coordination at the national level. An “ecohealth” project initiated in 2009 in Southeast Asia develops community-led options to prevent and control emerging zoonoses. A group of regional health and disease surveillance networks and institutions catalyzed this effort. Under the Safe Food, Fair Food Project, initiated in 2008, ILRI and its partners promote risk-based approaches to improve food safety and the participation of the poor in informal markets for livestock products in West Africa.

Source: Authors; www.fodderinnovation.org; <http://www.ilri.org/ibli/>; www.GALVmed.org; <http://www.ilri.org/EcoZd>; <http://www.ilri.org/SafeFoodFairFood>; <http://www.slideshare.net/ILRI/using-hubs-to-increase-smallholder-farmers-access-to-services-experiences-from-the-east-africa-dairy-development-project>; <http://mahider.ilri.org/bitstream/10568/1787/1/InnovationPlatformMozambique.pdf>.

actions globally and in target regions, facilitates and convenes livestock R&D actors around pro-poor livestock issues, and identifies gaps in knowledge and technologies to fill.

- **Reorganizing and refocusing research.** There is no perfect way to organize human resources, but ILRI recognized that impact depended on replacing discipline-based and geographically specific research projects with

a new culture of working across disciplines and thematic areas. ILRI has built up multi- and transdisciplinary research capacities and added capacity for poverty and gender research and impact assessment. Its Science Advisory Panel helps to assure research quality, renew intellectual capital, and provide an informal, outside evaluation of ILRI's work. Links between strategy, planning, and research implementation have been strengthened.

- **Aligning human resources and skills.** ILRI began to change its culture by building a new mix of capacities (scientific, managerial, and business and partnership management) and testing staff evaluations that reflected the multifaceted roles involved in its new way of working. Financial and other systems were reformed in parallel. ILRI emphasizes larger projects to improve the efficiency of human resources, finance, and administrative support.
- **Forging strategic R&D partnerships.** As indicated in box 4.26, ILRI engages proactively with key enabling partners (policy makers, regulators) and implementing partners (farmers, market agents' organizations, private companies, NGOs, and government) and provides incentives to research managers to do so. Its R&D partnerships benefit from complementary competencies and capacities and its work is aligned with broader government, NGO, and private initiatives. A partnership strategy and guidelines (ILRI 2008) support these efforts.
- **Strategic communications and knowledge management** play a key role in engaging and supporting partnerships, influencing the global and regional livestock agenda, and making ILRI's research outputs accessible. Its communications strategy differentiates the information needs of its stakeholders and networks of influence.

BENEFITS, LESSONS, AND ISSUES FOR WIDER APPLICATION

Lessons and issues for wider application from the new approaches, as well as from the "Linking Knowledge with Action" study (Kristjanson et al. 2009), are summarized in the sections that follow. Box 4.27 presents detailed lessons from the Fodder Innovation Project, which was instrumental in the design of subsequent projects and reflects an AIS approach.

Designing livestock innovation systems and processes

Localized innovation systems (often established around sharply defined value chains) are most effective and have the

greatest potential to create impact. Extracting meaningful, practical principles and lessons from these context-specific, path-dependent innovation processes makes it complicated to scale up successful approaches or replicate them. Practitioners must give rigorous attention to learning what works where and how, and then make judicious use of the elements. Building on the social capital of actors, their history of collaboration, successes, and current initiatives can overcome some of these challenges.

One question is whether innovation system approaches need to be expressed through projects. Is it possible to build coordinating mechanisms into innovation systems without bureaucratizing and immobilizing them in a top-down program? Where should ownership be located? In the national agricultural research system? Are the most appropriate contexts for an innovation system approach in commodity research, in regional programs, or in programs based on agroecological areas? These questions are part of a long list of queries that practitioners will need to consider in deciding on the best means of achieving their goals.

Orchestrating coalitions and building innovation capacity

Spaces and environments have to be created to facilitate interaction and communication among actors in the innovation system. They need a place to articulate demands and promising solutions and create the "pull" that elicits innovation. The scale (national, regional, district, or village) of such platforms depends on the problem being addressed, coordination requirements, and structure of the value chain. Experience shows that effective projects require a year simply to lay the groundwork. This important issue needs to be highlighted and negotiated with donors. For example, the Fodder Innovation Project created loose networks of actors around the issue of fodder scarcity at the district level, but as the networks emerged, it became clear that the focus needed to be at the broader level of the livestock value chain.

Are partnerships among individuals or organizations? Often projects identify like-minded individuals in organizations, with personal contacts and relations playing a big role. This means of operating is inherently unstable in the longer term. It is critical to test and learn how networking can become a routine in the organizations involved and not be limited to select individuals.

Boundary spanning and brokerage functions are critical. Brokers by definition have to be good communicators who

Box 4.27 Lessons and Operational Issues from the Fodder Innovation Project

The Fodder Innovation Project provided practical guidance for implementing other projects with an innovation systems orientation:

- ***Fodder was too narrow a theme for building a network.*** It is more appropriate to build networks and innovation capacities around crop-livestock value chains that mobilize wider coalitions of partners and more interest. Appropriate technology introduced through partnerships that ILRI had made prior to the project proved to be a useful catalyst to involve new stakeholders and raise and address broader system constraints.
- ***Building true partnerships, facilitating stakeholder platforms, and building innovation capacities take time.*** These processes and projects need longer time frames to mature and gain currency in policy debates and organizational change.
- ***Innovation processes need one or more organizations or individuals to assume the critical roles of broker, connector, and catalyst.*** An organization's ability to do this depends on its particular situation. The history of the partners and stakeholders, their social capital, and the legitimacy and credibility they bring are all critical factors.
- ***Monitoring and evaluating the processes and resulting changes are essential but far from trivial***

Sources: Authors; Kristjanson et al. 2009; de Haan et al. 2006.

tasks. Traditional logframes and monitoring and evaluation systems are inadequate for measuring many of the indeterminate outcomes of innovation systems (see module 7, IAP 6 and Lilja et al. 2010).

- ***Financial management and planning must be flexible*** and adept at accommodating emerging opportunities and challenges.
- ***Engage policy actors from the beginning*** to identify windows for influence and for ownership of research results. Policy stakeholders have observed that the evidence of impact is very valuable but the evidence base is too small.

In its examination of the Fodder Innovation Project (among others), the “Linking Knowledge with Action” study concluded that projects are more likely to link knowledge with action when they (1) recognize that scientific research is just one “piece of the puzzle,” (2) apply systems-oriented strategies, and (3) engage the partners who are best positioned to transform knowledge jointly created by all project members into actions (strategies, policies, interventions, technologies) leading to better and more sustainable livelihoods. The knowledge flows both ways between practitioners/implementers/policy makers and researchers—making the emphasis on linking *with* action rather than linking *to* action an important one.

are skilled at supporting collaboration and interactive processes that involve different types of stakeholders. A critical function of brokers is to manage and deal with large asymmetries of power among actors. Brokering roles can be played by local government, extension services, CSOs, national research systems, or even the private sector, depending on the constellation of skills, capacities, social capital, legitimacy, and credibility they possess. Engaging nontraditional partners like the private sector is still a challenge for NGOs and government as well as public research institutes. ILRI has found that assuming these brokerage roles is not always the best solution, given that these intensive, long-term, and local processes demand continuous engagement that is rarely supported by short project periods.

It seems much more logical that ILRI should focus instead on building the capacities of key partners to play these roles. This approach poses its own challenges: The skills required cannot be mastered easily in formal training alone. They require substantial coaching and mentoring on the job. Two vital questions for project designers to answer are who is best placed to play this role, and who is responsible for setting arrangements in motion.

Researchers will need to hone their skills to assume the roles that the innovation system requires, and researchers from complementary disciplines rarely found in traditional research organizations will need to be engaged: anthropologists, political economists, communications specialists, and project managers, among others. New institutional arrangements will make it possible to work more effectively with

partners to capitalize on the competencies and human resources they bring.

Monitoring, evaluation, and impact assessment: new approaches urgently needed

In research-for-development projects, finding the right balance between the production of international public goods and the achievement of local development impact is a recurring challenge for international organizations like ILRI. When such projects attempt to build innovation capacity, they often must choose between a capacity-building approach aiming for sustainability, with much wider and deeper potential impacts, or an approach that seeks the rapid “adoption” of research products to raise productivity and incomes (often only for a short time). Projects are needed that blend the implementation of a good development strategy with rigorous scientific research.

Research projects are much more likely to link knowledge with action when they are designed as much for learning as for knowing. These projects are openly experimental, embracing failures so as to learn from them throughout the project's life. This kind of learning does not occur unless risk-taking managers are funded and rewarded; these managers also must be evaluated regularly by external experts (Kristjanson et al. 2009).

It is important to develop M&E frameworks to track both processes and outcomes and serve the twin objectives of learning and accountability. In the typical three- to four-year research-for-development project, it is difficult to demonstrate change, because it often depends on complex processes and interactions among diverse organizations and individuals coming together for the first time. In the Fodder Innovation Project, technical, institutional, and organizational changes appeared to reinforce each other and generate improvements in livestock systems that could improve livelihoods. In reality, it was difficult to draw clear causal

links in these complex adaptive systems and attribute specific changes to specific interventions. Impact assessment frameworks and methodologies are still imperfect tools for demonstrating impacts and proof of concept. More appropriate tools must be developed and tested.

Pro-poor partners help make innovation pro-poor

The Fodder Innovation Project showed that working through and with partner organizations that had an explicit pro-poor mandate and agenda helped target interventions better and ensure pro-poor outcomes through negotiation in the networks. Although service delivery generally improved in Fodder Project areas owing to the networks' actions, better service delivery did not guarantee that the poor would benefit. The possibility that they would benefit increased only when champions in the network negotiated the conditions to ensure that outcome. It is vital to gain greater clarity on which alternative mechanisms will ensure pro-poor outcomes if partner organizations are not specifically committed to those outcomes.

Policy engagement

Innovation is more likely to occur if it is fostered by specific policies and institutional arrangements. The evidence and learning from research projects can inform policies so that they result in better outcomes and impacts. Although many organizations tend to assume that they understand policy makers' needs for information and knowledge, in practice research organizations often seem to lack an adequate understanding of policy processes and the best mechanisms to incorporate evidence and knowledge into policy decisions. Engaging policy actors from the outset is one strategy for enabling policy makers to influence and own research results. Engagement in policy processes demands special expertise and targeted, strategic communication.