

New model for innovation: Networked innovation in agriculture

Agricultural innovation is widely considered as a key element in achieving food security through sustainable, equitable agricultural systems and by raising production and incomes, especially of smallholder farms.

In the past 50 years there has been series of conceptual changes in understanding farming system and the set of policies and capacities needed in the public and private sector to realize the potential of agriculture innovation in the farmer's field. This evolution was gradual and included, but was not limited to, production system and sustainable livelihood approaches, as well as participatory and broader knowledge system concepts.

These various approaches are conceptual steps acknowledging the complexity and non-linear nature of the attempted change to improve family farmers' livelihoods, but more importantly each steps introduced new socio economic, cultural, institutional and political factors to better understand the drivers of change in rural areas.

Today, FAO's Research and Extension Branch, together with its partners, is a key agent of change in networked innovation approach in the context of the Agricultural Innovation Systems (AIS) to serve the needs and demands of resource-poor farmers and consumers, to address global development goals of reducing hunger and poverty, while ensuring environmental sustainability. The AIS concept emerged from the need of shifting agricultural research and extension towards development outcome-centered mechanisms, recognizing that innovation is not a research driven process that simply relies on technology transfer.

Networked innovation in this context is the process by which social actors create value from knowledge. Existing studies suggest that, because knowledge is

becoming more widely distributed, innovation increasingly needs to occur 'at the interstices' of collaborating groups and organizations. Thus networked innovation processes need to be emphasized, over more hierarchical forms. Innovation should become a process of generating, accessing, sharing and putting knowledge into use in which stakeholders learn and innovate together managing the benefits and the risks. The alignment of development policies and resource allocation, the reshaping of research and extension institutions, as well as the communication and interactions between all actors and players and the interactive learning processes as a means of evolving new arrangements specific to local contexts and culture become therefore pivotal to this process.

This approach of facilitating the exchange and use of knowledge developed by rural actors results in uncovering new ideas, increasing the speed of adoption and leveraging scarce resources dedicated to agriculture research and extension. With a better understanding of "what is out there", various rural actors in FAO member countries are able to achieve impact by combining external capabilities with internal innovation resources.

FAO advocates a shift from interventions focusing on single components of the agricultural innovation processes towards a system-approach aimed at strengthening institutions and stakeholders networks to facilitate the development of inclusive and integrated agriculture innovation system tailored on the needs of smallholder farmers.

Through its technical assistance programme FAO has been supporting participatory processes for improving national agricultural innovation systems by involving key stakeholders, including producers and their organizations, in assessing current research and extension systems and planning of interventions for improving these systems at policy, institutional, human resources, and technical level. New tools of agriculture innovation systems focus on facilitating innovative exchange and the use of knowledge and technologies to achieve social and economic advancement. The

example below illustrates some of the FAO contributions and its role in promoting networked innovation.

Innovation and Competitiveness for Peruvian Agriculture Programme (INCAGRO)

In the late 1990's the Government of Peru decided to promote agriculture innovation to reform its extension system. The World Bank responded to this decision and provided a loan to establish a modern and decentralized agriculture science and technology system that is pluralistic, demand-driven and led by the private sector, FAO provided technical assistance and the INCAGRO programme started in 1999. One of INCAGRO's interesting feature has been the use of competitive funding schemes to promote a market for agriculture innovation services. An important aspect of this schemes is that farmers were the owners of the projects being funded, agriculture service providers were contracted to complete specific activities and farmers group had to contribute to in cash and in kind to the projects. The success of this approach led to a demand-driven market for agriculture innovation where little existed before. The key for this success was to enhance the power of the clients to formulate, co-finance, regulate, implement, and to monitor and evaluate extensions services through mechanism and tools of the competitive funds. INCAGRO is a practical and successful demonstration that, with then appropriate policies, institutions and facilitation process, farmers' voices are heard and their demands become authentic drivers of agriculture innovation.

Facilitating capacity development in agricultural innovation in the tropics

In developing countries, so many of the challenges facing agriculture and natural resources management can be addressed through innovation. But many developing countries don't have the resources or capacities to develop their innovation systems effectively. The "capacity gap" is worse in the tropics, where poverty is pervasive. When initiatives are under way to develop the agricultural innovation capacities of tropical countries, they are generally small-scale, with high transaction costs, limited impact and not well coordinated or in synergy with

each other and they often do not match the needs of the country, inadequately consider interdisciplinary needs and may overlook the specific demands of its own agricultural markets.

To respond to this innovation capacity gap, the G20 Agriculture Ministers meeting in June 2011, requested FAO to take the lead in developing a Tropical Agriculture Platform (TAP) “for capacity building in tropical agriculture in developing countries”, along with the G20 countries and institutional partners. A concept note was discussed at the G20 Conference on Agricultural Research for Development, Montpellier, in September 2011, and further developed into a project proposal through an informal stakeholder consultation, held in Rome in December 2011. The proposal was endorsed by the G20 Agriculture and Development Working Groups in spring 2012 and by the G20 Leaders’ Summit, Mexico, June 2012. The membership of the G8 also endorsed the development of TAP at the Summit held in USA in May 2012.

TAP is a high-profile initiative launched at the first G20-led Meeting of Agriculture Chief Scientists (MACs) in September 2012 in Mexico and strongly supported by the FAO Director-General. The Secretariat is being hosted at FAO headquarters in Rome. TAP will facilitate more effective and more coherent actions in capacity development in agricultural innovation systems in the least developed tropical countries and knowledge sharing, with a particular focus on smallholders. At the global level, TAP will contribute to greater coherence of capacity development interventions in support of less developed countries from actors in more advanced agricultural innovation systems. Such partnerships need to acknowledge national leadership and ownership and be aligned with national plans and demands, based on stronger partnerships and shared visions. The wide adoption of the aid effectiveness agenda across the international community will provide the context for this coherence. TAP will improve the effectiveness and efficiency of capacity development programmes to facilitate the emergence of innovation systems in tropical agriculture which contribute to food

security and environmental sustainability. Sustainable capacity development solutions at scale and based on integrated approaches across the three capacity dimensions of enabling environment, organizations and individuals will have lower transaction costs and greater impact.