Food and Agriculture Organization of the United Nations

A PREVIEW OF ACTION-ORIENTATED ASSESSMENT OF AGRICULTURAL INNOVATION SYSTEMS

Background

In many countries, policymakers and decision-makers need relevant information on agricultural innovation systems (AIS) to guide the formulation of innovation support strategies and policy instruments (Ruane 2019).
The Research and Extension Unit of the Food and Agriculture Organization of the United Nations (FAO) in Rome is involved since 2018, with its partners, in the development of a methodology for conducting an action-orientated assessment of national agricultural innovation systems, in line with the recommendation of the FAO Committee on Agriculture (COAG) to support FAO Members. The assessment is implemented in the frame of the TAP-AIS project.

The TAP-AIS project in a nutshell

"Developing capacities in agricultural innovation systems (AIS): scaling up the TAP Framework", in short TAP-AIS (2019-2024), is a project funded by the European Union under the DeSIRA initiative, and implemented by FAO in nine countries (Burkina Faso, Cambodia, Colombia, Eritrea, Laos People's Democratic Republic , Malawi, Pakistan, Rwanda, Senegal). The project aims to scale up the capacity development framework of the Tropical Agriculture Platform, with a focus on strengthening capacities of national stakeholders including innovation support service providers, decision makers and policy makers, in the context of climate-relevant, productive, and sustainable transformation of agriculture and food systems. The AIS assessment approach illustrated in this Preview is one of the expected outputs of the TAP-AIS project.

What is an agricultural innovation system?

- An agricultural innovation system (AIS) is defined as a network of actors (individuals, organizations and enterprises), together with supporting institutions and policies in the agricultural and related sectors that bring existing or new products, processes, and forms of organization into social and economic use. Policies and institutions (formal and informal) shape the way that these actors interact, generate, share and use knowledge as well as jointly learn (TAP, 2016).
- An AIS encompasses all the actors (farmers, farmer organizations, industries, processors, traders, transporters, input suppliers, decision makers, legal agencies, researchers, service providers, extension services, civil society organizations and others) involved, directly or indirectly, in agricultural production, processing, marketing, distribution and trade, each playing various roles during an innovation process (figure 1).
- The AIS approach represents a paradigm shift from the linear and top-down model of technology transfer towards a more systemic, open and interactive approach to agricultural innovation where all the actors - farmers' organizations, civil society, sector actors, political actors, etc. - have a key role to play. This implies an evolution of support approaches to innovators with greater focus on developing functional capacities of individuals and organizations involved in these multi-actor innovation processes (Toillier *et al.*, 2020).
- The AIS approach is also widely used as a framework for analyzing and exploring solutions to complex agricultural problems, for analyzing combined technological, social and institutional innovations in agriculture, or for identifying new innovation policies (World Bank, 2012).

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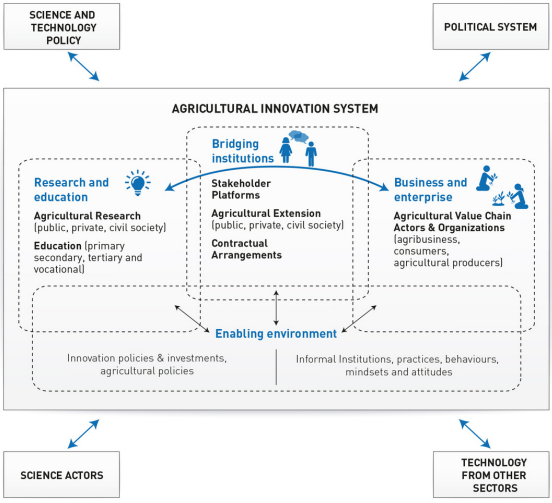

Figure 1. Conceptual Diagram of an Agricultural Innovation System (TAP 2016)

Why doing an action-orientated assessment of the agricultural innovation system?

- Innovation is the central driving force which will transform agrifood systems, lift family farmers out of poverty and help the world to achieve food security, sustainable agriculture and the Sustainable Development Goals (SDGs).
- Due to the nature of innovation processes, which are generally complex, non-linear, uncertain and context-specific, there is no simple blueprint to support their emergence and scale-up.
- The action-orientated assessment will provide contextualized information and evidence on the existing innovation processes, on the hindering and enabling factors, on the resources and infrastructure available to better support them and on the capacity development needs of key actors of the national innovation system. This assessment is conducted in a participatory and reflective manner, engaging various stakeholders including policy- and decision-makers, heads of organizations and innovators in thinking and designing together strategies for strengthening the national agricultural innovation system.
- By communicating a systemic perspective of innovation and giving a framework to analyze innovation processes and innovation support mechanisms, the assessment process itself is an opportunity to develop capacities of all stakeholders.

What are the main methodological features?

- The scope of the assessment and its objectives are adapted to the country context and to the expectations of national AIS key actors, as regard to political priorities in the agricultural sector and needed innovations. A standard assessment methodology is applied and adjusted to the objectives of each country, with the support of the Research and Extension Unit of FAO.
- The analytical framework of the national agricultural innovation system is based on multiple AIS perspectives that combine the analysis of functions, structures and capacities, and the enabling environment, which involves the use of a wide range of different tools.
- The analytical tools are grouped together in a toolbox available to the assessment teams; they are both quantitative and qualitative, involving diverse degrees of consultation, participation and inclusion of key AIS actors.
- Innovation case studies are used as proxy of the functioning of the national AIS and as pedagogic support material for a shared understanding of the challenges of innovation in the country context.

- High-level indicators are developed to measure the functions of the national AIS. They can be used for communication purposes with various audiences, to raise awareness on key issues, to advocate for particular investments, to monitor progress as regard to innovation support functions, for instance, or to help the governance of the system as a whole.
- Stakeholder network analysis is used to highlight issues of interaction, collaboration, influence and alignment between a variety of organizations.
- Capacity analysis highlights the individual and organizational capacities needed for the proper functioning of the national AIS at different levels: local innovation niches, organizations that provide innovation support services, and governance actors of the national AIS. Self-assessment tools are used to facilitate capacity development.
- Analysis of the external environment provides insights on enabling and hindering factors for innovation related to policy and legal frameworks, institutions and cultural aspects.

Standard steps of the AIS assessment process

The assessment is part of a three-phase process (pre-assessment, assessment, post-assessment), led by the TAP-AIS project (figure 2).

1) The pre-assessment phase aims at establishing conducive conditions for integrating the assessment into the national context. A scoping study helps to raise expectations and identify entry points for the assessment. An ad-hoc assessment team is trained on the assessment approach.

2) The assessment phase is broken down into four analytical steps (figure 3).

- The first step aims at characterizing the functions delivered by the national AIS, mostly based on insights from innovation case studies.
- The second step aims at analyzing the underlying causes of why some functions are less efficient than others, exploring the networks of actors, their capacities and the policy, institutional and cultural environment in which they operate.
- The third step is a consolidation of previous results at a system level, with emphasis on the major challenges and constraints and on available systemic capacities for improving the functioning of overall national AIS.
- The last step aims at matching problems and needs with capacity development interventions and policy instruments. Recommendations are made on action to take at different levels of the AIS, i.e. with innovators, with innovation support service providers and with decision makers and policy makers.

3) The post-assessment phase uses the information and evidence from the assessment for influencing the policy-making process, feeding policy dialogues, guiding the design of capacity development interventions and advocating for investments or changes in the AIS.

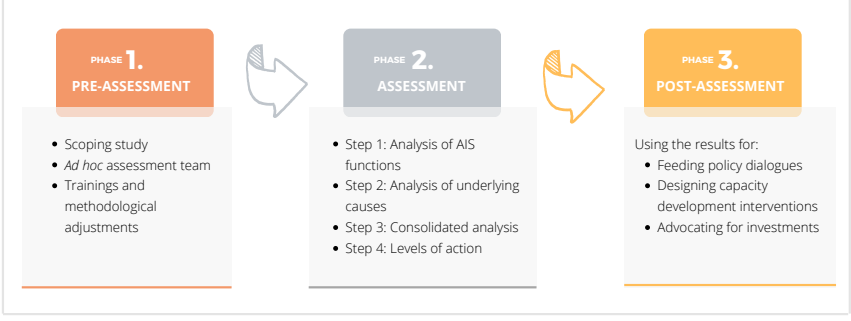

Figure 2. Implementing phases of the AIS assessment

Figure 3. Standard steps and outputs for the action-orientated AIS-assessment

Main expected outputs

- National AIS profiles of nine countries: Burkina Faso, Cambodia, Colombia, Eritrea, Laos People's Democratic Republic, Malawi, Pakistan, Rwanda, and Senegal.
- Guidelines on implementing action-orientated AIS assessment in a variety of contexts.
- A dashboard with indicators to measure the performance of the national AIS and to allow the monitoring and evaluation of future interventions.
- Policy briefs on how to develop innovation policies and instruments for strengthening AIS and developing capacities to innovate at a country level.

Main expected outcomes

- A shared understanding among national AIS actors of key concepts related to innovation and of the main triggers, drivers and constraints to agricultural innovation at the national level.

- A shared vision among national AIS actors on priority objectives and desirable solutions to improve the national AIS and to develop capacities of the key actors and stakeholders.

Resources

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