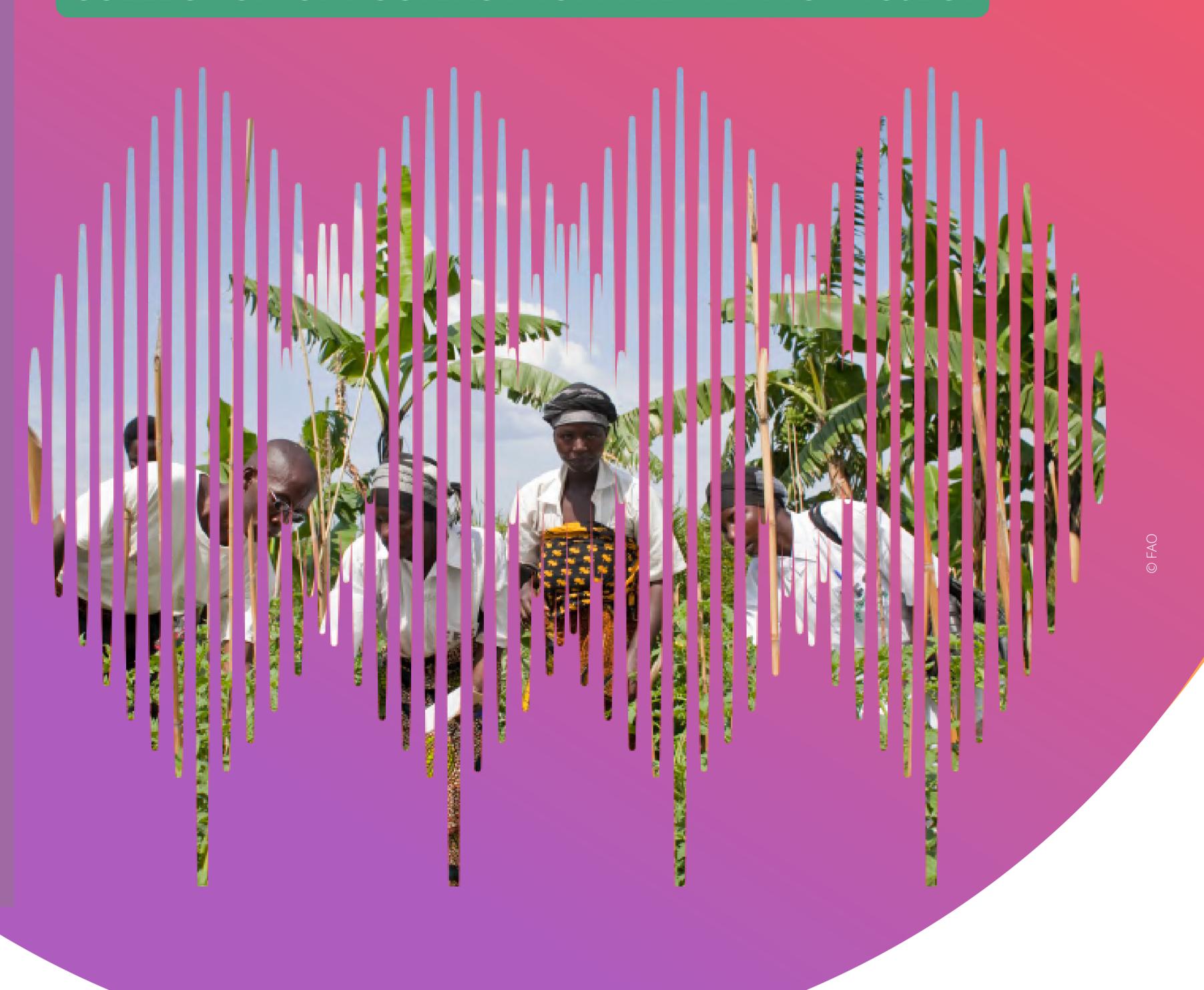


# Key achievements towards strengthening national agricultural innovation systems

in Africa (Burkina Faso, Eritrea, Malawi, Rwanda, Senegal), Latin America (Colombia), Asia and the Pacific (Cambodia, Lao PDR, Pakistan).

# COLLECTION OF POSTERS FROM THE TAP-AIS PROJECT



# **CONTACTS**

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# **MORE INFORMATION**

www.fao.org/in-action/tropical-agriculture-platform

www.fao.org/in-action/tap-ais

■ TropicalAgriculturePlatform



# The TAP-AIS project (Developing capacities in agricultural innovation systems:

scaling up the Tropical Agriculture Platform Framework)

TAP-AIS is a project funded by the European Union and implemented by FAO. The project supports the Tropical Agriculture Platform (TAP) to strengthen capacities to innovate in national agricultural innovation systems (AIS) in the context of climate-relevant, productive, and sustainable transformation of agriculture and food systems in Africa, Latin America, Asia and Pacific.





# **BURKINA FASO**

**Key achievements towards strengthening** national agricultural innovation systems (AIS)

# THEMATIC FOCUS AND CONTEXT

TAP-AIS project in Burkina Faso follows the CDAIS (Capacity Development for Agricultural Innovation Systems) project which made it possible to design numerous tools and train new skills to support multi-actor innovation communities and accelerate their development projects. innovation that encountered various technical, organizational or institutional obstacles.

**IMPLEMENTATION PERIOD** 

September 2020 - May 2024

Innovative fodder conservation practice

It was chosen to direct the project's action

at two levels of the national agricultural innovation system (meso and macro level) in order to respond to the national challenges of agricultural innovation marked by:

- 1. insufficient capacity to innovate in key organizations in the agricultural innovation system;
- 2. weakness of support services dedicated to the promotion of agricultural innovation in the face of the effects of climate change;
- 3. weak synergy between actors in the implementation of regulatory frameworks and policies in the field of agricultural innovation.



Key constraints in AIS structure, functions, capacities and enabling environment according to the AIS assessment and organizational capacity needs assessment:

National Agricultural Innovation System (NAIS) of Burkina Faso presents weaknesses which are linked to:

- Lack of institutional convergence, integration and coordination of actions supporting research, agricultural advice, entrepreneurship, digital infrastructures and innovation in a broad sense;
- Lack of skills and information within the various SNIA organizations;
- Lack of mechanisms to facilitate collaboration between organizations as well as access to financial resources and specialized expertise;
- Poor pooling of existing resources and lack of efficiency in innovation projects;
- Lack of appropriate support for innovation leaders.



To achieve the project objectives in Burkina Faso, a progressive and participatory approach was adopted.

Thus the initial phase of the project made it possible to

(i) develop the theory of change in a participatory manner and (ii) evaluate the performance of the national agricultural innovation system.

The innovation capacity building phase consisted of (i) choosing the 4 key NIAS organizations, (ii) strengthening their functional capacity through several activities and (iii) strengthening existing policy improvement mechanisms. and strategic processes for agricultural innovation.

The current closure phase focuses on the evaluation of the results of the project and the identification of the next steps, particularly with the establishment of the NIAS orientation unit.



Local cow's milk processing unit

"The creation of the inter-ministerial guidance unit for the agricultural innovation system in Burkina Faso is a necessity because it responds to a current and present need of stakeholders for the structural and sustainable transformation of the agricultural Dr Halidou Compaore, researcher at CNRST

"The realization of the creation of the unit is eagerly awaited because it conditions the consideration of innovation systems in agricultural policies. Anchoring the cell to the Permanent secretariat for coordination of agricultural sectoral policies will speed up the process." Dr Michel Sedogo, retired researcher,

**Former DG of CNRST** 



Members of the technical monitoring committee of the TAP-AIS project provide their inputs to the development of the agribusiness curriculum.



During workshops for co-construction of support plans for organizations

# **OUTCOMES**

The project contributed significantly to strengthening the NIAS in Burkina Faso. In accordance with the overall objective of the TAP-AIS project, in Burkina Faso the project focused on the analysis of the NIAS and the improvement of its functional capabilities, particularly at the meso scale, at the level of service providers support for innovation and, to a lesser extent, at the macro scale which is the political level.

Thus, the project made it possible to strengthen the functional capacities of key organizations such as ANVAR, CPF, DVRD and FIAB. These organizations constitute a representative mix of public, parapublic and private actors whose collaboration is considered essential to increase the performance of the NIAS. They benefited from the learning processes resulting from multiple co-design workshops, training, validation and planning of organizational restructuring actions.

At the political/institutional level, the project fostered consensus among the many NIAS stakeholders on the need to establish an inter-ministerial cell for interaction and coordination between different government departments and several private sector stakeholders. This result was achieved through policy consultations and technical workshops to strengthen policy dialogue.

# National project coordination

Ministère de l'Agriculture des Ressoures Animales et Halieutiques (MARAH)



#### **Boundary partners** actors primarly influenced by the project

Direction de la Vulgarisation et de la Recherche-Développement (DVRD) / Ministère de l'Agriculture, des Ressources Animales et Halieutiques (MARAH)

Agence nationale de valorisation des résultats de la recherche (ANVAR) / Ministère de

l'enseignement supérieur, de la recherche et de l'innovation Fédération nationale des industries de l'agro-alimentaire et de transformation du Burkina Faso (FIAB) Confédération paysanne du Faso (CPF)

Direction générale de la recherche et de l'innovation (DGRI) / Ministère de l'enseignement supérieur, de la recherche et de l'innovation

Secrétariat permanent de coordination des politiques sectorielles agricoles (SP-CPSA) Centre d'études, de documentation et de recherches économiques et sociales (CEDRES) de l'Université Thomas Sankara

# **CONTACTS**

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**Food and Agriculture Organization of the United Nations** Rome, Italy

# **MORE INFORMATION**

www.fao.org/in-action/tropical-agriculture-platform

www.fao.org/in-action/tap-ais

TropicalAgriculturePlatform

# **WAY FORWARD**

Three medium/long term objectives can be pursued to maintain the momentum triggered by the TAP-AIS project:

- 1. Invest in human capital, through training and strengthening the skills of individuals and organizations on an ongoing basis;
- 2. Provide ad hoc support for ongoing innovations, through the deployment of support services to innovation leaders;
- 3. Reduce the failure rate of innovations by implementing incentive measures to converge the innovation efforts of civil society, the public sector and the private sector



# The TAP-AIS project

(Developing capacities in agricultural innovation systems: scaling up the Tropical Agriculture Platform Framework) TAP-AIS is a project funded by the European Union and implemented by FAO. The project supports the Tropical Agriculture Platform (TAP) to strengthen capacities to innovate in national agricultural innovation systems (AIS) in the context of climate-relevant, productive, and sustainable transformation of agriculture and food systems in Africa, Latin America, Asia and Pacific.







**Key achievements towards strengthening** national agricultural innovation systems (AIS)

#### THEMATIC FOCUS AND CONTEXT

The TAP-AIS project in Eritrea aims to galvanize commitment and generate buy-in from the main AIS stakeholders to enhance agricultural innovation and development. The project focuses on organizational capacity strengthening and strengthening the enabling environment by establishing a national project steering committee, implementing monitoring and evaluation frameworks, and conducting knowledge management and communication activities.

# **CONSTRAINTS IN THE AIS IN FOCUS**

Key constraints in AIS structure, functions, capacities and enabling environment according to the AIS assessment and organizational capacity needs assessment:

Enabling environment: discrepancy between policy and practice, absence of policies or legal instruments to guide key issues, overlap of mandates, absence of platform for networking and stakeholder engagement and non-integrated custodian policies.

Organizational capacity: structural and institutional challenges, limited organizational resources (human, material and financial) and potential areas of improvement in leadership and management, knowledge management, strategic and systemic thinking and implementation, capacity to identify and engage key stakeholders.

Individual capacity: the need to strengthen the capacity of individual actors in the assessed work-units is evident both in their technical and functional capacities.

#### CAPACITY DEVELOPMENT INTERVENTIONS

The TAP-AIS project in Eritrea conducted two distinct assessments. The first assessment focused on the Agricultural Innovation System (AIS), analyzing its strengths, weaknesses, and opportunities. The second assessment specifically targeted the five selected organizations involved in the project. This gaps and needs assessment examined the individual, organizational, and enabling environment aspects of each organization to identify areas requiring capacity development interventions.

The project's capacity development strategy, encompassing a participatory approach, training, knowledge exchange, mentoring, institutional strengthening, networking, and sustainability efforts, aims to address the identified gaps and needs at both the AIS and organizational levels. By doing so, the project seeks to enhance the capacities of the organizations and improve the effectiveness of the AIS in Eritrea.

# **OUTCOMES**

# Capacity and behaviour of key organizations

The TAP-AIS project has had a significant impact on the capacities of key organizations in the agricultural sector. Training in report writing and communication skills has facilitated effective dissemination of information, stakeholder engagement, and advocacy for findings and recommendations.

Agribusiness management and entrepreneurship training have strengthened organizations' ability to manage agricultural enterprises, resulting in improved operational efficiency and profitability.

Farmer Field Schools (FFS) training has equipped organizations with the necessary skills to implement and support FFS programs, promoting sustainable agricultural practices and improving livelihoods.

# New or improved multi-actor mechanisms

The TAP-AIS project has also emphasized multi-actor collaboration through the establishment of the Multiactors Agricultural Innovation Platform (MAIP). Through MAIP, experts from different organizations can form partnerships with government agencies, research institutions, civil society organizations, and farmers' associations. This collaboration has enhanced knowledge sharing, coordination, and joint decision-making processes.

# Policy-related changes (e.g. influence on policies, strategies and legal and regulatory frameworks)

Training workshops on policy dialogue have empowered experts to engage in informed discussions with policymakers, influencing policy decisions and contributing to the development of inclusive strategies, legal frameworks, and regulations. The organizations' expertise in policy principles and logic has been strengthened, enabling them to shape more inclusive and sustainable agricultural policies.

# **National project coordination**

Ministry of Agriculture of Eritrea



**Boundary partners** actors primarly influenced by the project

Ministry of Agriculture:

- 1. Agricultural Extension Department (AED);
- 2. Regulatory Service Department (RSD);
- 3. National Plant and Animal Health Laboratory (NAPHL);
- 4. National Agricultural Research Institute (NARI);
- 5. Zoba Maekel Beekeeping association

# **MORE INFORMATION**

www.fao.org/in-action/tropical-agriculture-platform

www.fao.org/in-action/tap-ais

TropicalAgriculturePlatform



"The Agricultural Innovation System is a transformative approach that brings together farmers, researchers, and stakeholders to co-create sustainable solutions for agricultural development." Mr. Semere Amlesom, DG Agricultural Extension Department in Ministry of Agriculture

"Innovation thrives when farmers, experts, and scientists collaborate within the Agricultural Innovation System, fostering a culture of continuous learning and knowledge exchange." Mr. Bereket Tsehaye, Director Planning and Statistics Division (PSD) in the Ministry of Agriculture



Policy dialogue training

Farmer Field Schools (FFS) training

# **WAY FORWARD**

To sustain the momentum triggered by the TAP-AIS (Technical Assistance Program for Agricultural Innovation Systems) in the mid-term, better to consider the following action points:

- Strengthen institutional partnerships: Foster collaboration and partnerships with key stakeholders, including government agencies, research institutions, private sector organizations, and farmers' associations.
- Secure long-term funding: Develop a sustainable funding mechanism to ensure continued support for the AIS beyond the initial TAP-AIS phase. Explore options such as engaging with development agencies, establishing public-private partnerships, or advocating for dedicated budget allocations from relevant government ministries.
- Foster a culture of learning and knowledge sharing: Establish mechanisms for continuous learning, knowledge exchange, and monitoring and evaluation within the AIS. Develop platforms for sharing best practices, research findings, and innovative approaches to foster a culture of continuous improvement.
- Build capacity at all levels: Invest in capacity-building initiatives for researchers, extension workers, and farmers. Offer training programs, workshops, and mentoring opportunities to enhance their skills in areas such as innovation management, entrepreneurship, market analysis, and technology adoption.
- Promote inclusivity and gender equity: Promote gender equity by encouraging the active participation of women in decision-making processes, providing targeted training and support, and addressing gender-specific barriers to technology adoption and entrepreneurship.
- Scale up successful interventions: Identify successful pilot projects or innovations within the AIS and develop strategies for scaling them up. Conduct feasibility studies, mobilize resources, and engage relevant partners to replicate and expand proven interventions.
- Advocate for supportive policies: Engage with policymakers and decision-makers to advocate for policies that foster an enabling environment for agricultural innovation. Highlight the importance of the AIS in achieving national development goals, food security, rural livelihood improvement, and environmental sustainability.
- Strengthen monitoring and evaluation systems: Establish robust monitoring and evaluation frameworks to track progress, measure outcomes, and identify areas for improvement within the AIS.



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**CONTACTS** 

FAO Representation in Eritrea: FAO-ER@fao.org; Office of Innovation (OIN): OIN-Director@fao.org **Food and Agriculture Organization of the United Nations** 

Rome, Italy

With technical support of

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**Key achievements towards strengthening national agricultural innovation systems (AIS)** 

#### THEMATIC FOCUS AND CONTEXT

In Malawi the TAP-AIS Project focused on strenghtening the capacities of the main actors to facilitate Agriculture Innovation Systems (AIS) with particular emphasis on strengthening the Agricultural Research function and the extension department. A capacity needs assessment carried out in 2021 involved selected key organisations that were identified from an earlier study conducted in the same year (Malawi AIS assessment). These organizations included Department of Agricultural Extension Services (DAES), Department of Agricultural Research Services (DARS), National Smallholder Farmers Association of Malawi (NASFAM), Agricultural Commodity Exchange (ACE) and Lilongwe University of Agriculture and Natural Resources (LUANAR). The study established capacity gaps related to networking, resource mobilization, knowledge management and communication, governance as well as monitoring, evaluation and learning systems.

Key recommendations include:

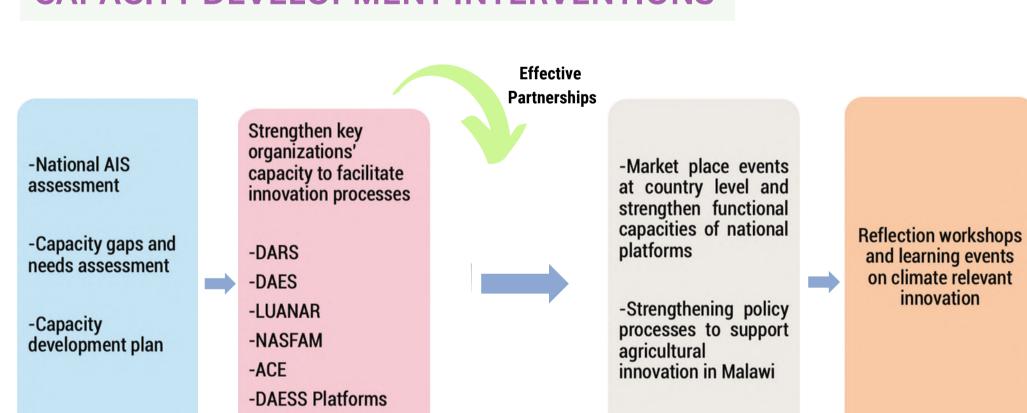
- Facilitate interactions and knowledge flows among AIS organizations.
- Facilitate policy engagement and changes within organizations and national level.
- Reconfigure extension services delivery towards AIS.
- Build capacity of stakeholders to facilitate AIS, especially through the Decentralized Agriculture Extension Services System

### **CONSTRAINTS IN THE AIS IN FOCUS**

Key constraints in AIS structure, functions, capacities and enabling environment according to the AIS assessment and organizational capacity needs assessment:

- Limited interaction and networking between AIS actors; one of the main reasons for this is the overall lack of skills and resources for establishing and building networks.
- Limited capacity to mobilize resources. The inability to mobilize resources has implications on the ability of AIS organizations to genuinely engage in innovation.
- Limited capacity for functional knowledge management and communication strategy
- Inadequate guiding policies and weak linkages between AIS actors at community level were identified as governance issues that constrain AIS organizations in Malawi's AIS.
- It was observed that the country has no policy document to guide the execution of research that develops both hard (e.g., seed varieties) and soft innovations (e.g., extension approaches and market arrangements)
- Limited skills and systems for monitoring, evaluation and learning from AIS initiatives

# CAPACITY DEVELOPMENT INTERVENTIONS



# National project coordination

Ministry of Agriculture of Malawi

# **Boundary partners**

actors primarly influenced by the project

The Department of Agricultural Extension Services (DAES)
The Department of Agricultural Research Services (DARS)
National Smallholder Farmers Association of Malawi (NASFAM)
Agricultural Commodity Exchange (ACE)

Lilongwe University of Agriculture and Natural Resources (LUANAR)

# CONTACTS

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Food and Agriculture Organization of the United Nations
Rome, Italy

# **MORE INFORMATION**

www.fao.org/in-action/tropical-agriculture-platform

www.fao.org/in-action/tap-ais

■ TropicalAgriculturePlatform



"The MAIP training workshop has enhanced our capacity to facilitate our community extension platforms like Farmer Field Schools and Village Agriculture Committees; through networking, resource mobilization, governance, MEL and knowledge management for better extension services."

Denis Zingeni, Chief Agriculture Environmental and Natural Resources Officer, Balaka District Council

"We have pleaded with the policy makers at the Ministry of Agriculture to introduce a research and innovations Desk Office at district level to address weaknesses in networking, knowledge management and communication, governance, as well as monitoring, evaluation, and learning. Integration of the research function in DAESS will require representation of researchers in structures at grassroots level as per decentralization policy."

Henderson Chikanalongwa, District Agriculture Extension Coordinating Committee Chair for Ntchisi District Council,

NASFAM District Manager

# **OUTCOMES**

- Capacities and behaviour change in building effective networks, stakeholder engagement, information, sharing, negotiation skills and collaboration.
- Multi-Actors Agriculture Innovation Platforms Developed
- Capacities in resource mobilization
- A clear mobilization and sustainability strategy for AIS organizations
- Capacities in information systems and management skills
- Capacities in MEL approaches, methods, and tools
- One AIS MEL Plan for Malawi
- Support to the National Agriculture Policy review and Development of Successor Policy
- Technical support to the revision of Decentralized Agricultural Extension Services System Guidelines
- The policy dialogue processes ignited discussions on need for policy framework for implementing agricultural research and innovation in Malawi
- Improved capacities to conduct effective multi-stakeholder policy processes.
- Draft policy brief on "multi-stakeholder policy dialogues to strengthen research capacity for sustainable agri-food systems."
- Draft book chapter on AIS as part of the agricultural curriculum in tertiary institutions



Sessions on Networking, MEL and Knowledge Management during the Master Trainer Course



Multi-stakeholder Policy dialogue participants (in presence and online)



District Policy Dialogue Sessions In Ntchisi and Balaka

# **WAY FORWARD**

- Conduct a marketplace event to lobby for continuity of CD activities by AIS partners
- Conduct final Project workshop
- Highlight Capacity gaps and needs that were documented in the CNA report but were not addressed by TAP AIS due to resource constraints.
- **Develop a joint proposal for continued Capacity strengthening in AIS** using the TAP Common framework tools.
- Develop Multi-Actor Agriculture Innovation Platforms as one of the sustainability measures for ensuring continued capacity strengthening in AIS



# The TAP-AIS project

(Developing capacities in agricultural innovation systems: scaling up the Tropical Agriculture Platform Framework)

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# RWANDA

**Key achievements towards strengthening** national agricultural innovation systems (AIS)

# THEMATIC FOCUS AND CONTEXT

- The Rwanda's Strategic Plan for Agriculture Transformation (PSTA 4) identified capacity development as an important cross-cutting priority, needed to transform the agriculture sector.
- TAP-AIS Rwanda's inception phase identified small livestock subsector as its focus for the capacity development phase.
- Based on the AIS assessment findings, two national associations were selected: Rwanda Pig Farmers Association (RPFA) and Rwanda Poultry Industry Association (RPIA).
- The small livestock sector particularly pig and poultry is prioritized by PSTA 4: They do not need of big investment and as they have a short reproduction cycle, many farmers can be reached in a short time.

### **CONSTRAINTS IN THE AIS IN FOCUS**

Key constraints in AIS structure, functions, capacities and enabling environment according to the AIS assessment and organizational capacity needs assessment:

- Limited investments and poor coordination among research and extension services
- Animal health issues causing reduced production and mortality in small livestock;
- Transport and logistics issues for live animals, products to markets and advisory service staff;
- Financial constraints for investing in small livestock farming and business;
- Poorly developed value chains and markets;
- Availability and access to animal feeds is limited or irregular;
- Weak technical and functional capacities among smallholder farmers; and
- Culture and tradition limits household consumption of small livestock protein.



Participants to the 2nd coaching session for RPIA



Capacity development planning workshop for RPFA

# **CAPACITY DEVELOPMENT INTERVENTIONS**

- The national AIS was first assessed to understand challenges the subsector is facing and to identify capacity gaps, such as gaps in policies, limited investments and poor coordination among research and extension services
- RPIA and RPFA distributed in 26 and 21 out of 30 Districts, strengthened to provide tailored innovation support services.
- The capacity development strategy included planning workshops, training on agricultural innovation platforms establishment, training on competitive funding proposal development, and a coaching and mentoring process.
- A policy dialogue process was conducted to improve the enabling environment for innovation
- Final reflection workshop, including an exhibition (see below table) and launch of two policy briefs.

#	List of exhibitors	Company	District	Exhibition products
1	Cesar Nsengiyumva	Agromex	Nyarugenge	Animal feeding, premises, proteins,
2	Aimable Nzamurambaho	Mega Vet East Africa	Nyarugenge	Concenters, vitamins,
3	Andrew Butare	RPIA	Kicukiro	Communication & visibility materials
4	Eric Niyonshuti	Prodev Tunga Feeds	Rwamagana	Animal feeds samples
5	Janvier Twambazimana	ABUSOL Ltd/ Bugesera	Bugesera	Black soldier fly powder
6	Odette Kagoyire	RPIA	Bugesera	Poultry products
7	Kivuye Janvier	Gorilla Feeds Co.Ltd	Kicukiro	Animal feeds
8	Ndayambaje Alexis	Vision Agribusiness Farm Ltd	Gicumbi	Technology, materials
0	Proeper Hruyugundi	7inling/ DDEA	Muhanga	Transport of pig samon by droppe

# **National project coordination**

Ministry of Agriculture and Animal Resources (MINAGRI)



# **Boundary partners**

**CONTACTS** 

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Damien.Shumbusha@fao.org

actors primarly influenced by the project

Ministry of Agricultural and Animal Resources (MINAGRI) Rwanda Pig Farmers Association (RPFA) Rwanda Poultry Industry Association (RPIA) Belgian Development Agency (Enabel) USAID/Land'O Lakes, "Orora Wihaze" activity Institute of Policy Analysis and Research (IPAR), Rwanda

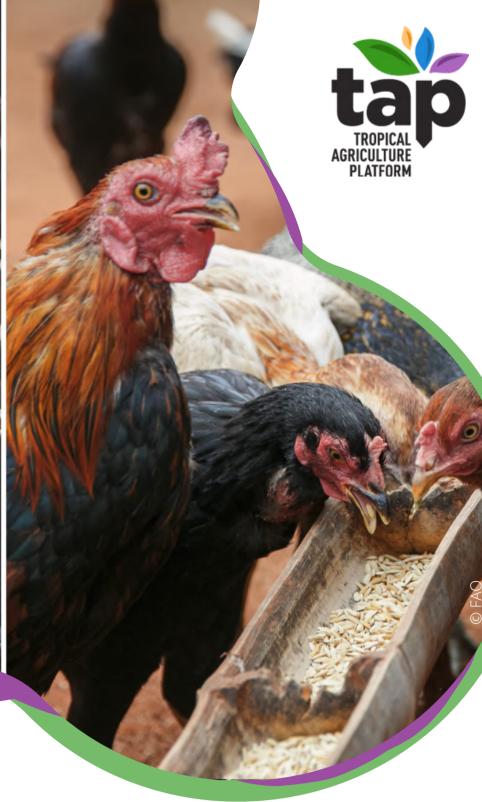
# **MORE INFORMATION**

www.fao.org/in-action/tropical-agriculture-platform

www.fao.org/in-action/tap-ais

TropicalAgriculturePlatform





"RPFA was initially established targeting only pig producers. As time went on, thanks to the training on agriculture innovation platform establishment, we called other value chain actors such as pig meat processors, feed millers, etc., to join the association. Through working together, our skills were enhanced in terms of selling our strategic plan and action plan to different partners, resulting into a signed agreement with Heads of School Organization in Rwanda". Jean Claude Shirimpumu, Chairperson, Rwanda Pig Farmers Association (RPFA)

"Before TAP-AIS project, there was no action plan to guide usual work. Currently, skills acquired on action planning have helped me to prepare an effective action plan and production is increasing compared to the past." Alexis Ndayambaje, a member of Vision Agribusiness Farm (VAF)

# **OUTCOMES**

Capacity and behaviour of key organizations: Before TAP-AIS capacity development, collaboration and team spirit was very low, with conflict of interest between value chain actors. Once their capacity strengthened in agricultural innovation platforms establishment, their capacity of communication and collaboration increased.

Policy-related changes (e.g. influence on policies, strategies and legal and regulatory frameworks): Achievements from TAP-AIS are informing the preparation of the PSTA5 in pipeline, for 2024-2029

# New or improved services, facilities, instruments:

- Thanks to the acquired functional skills, their capacities to deliver innovations were enhanced in both organizations.
- Thanks to change in doing things including delivering innovations, new members adhered the two national associations.
- TAP-AIS contributed in making the two platforms more inclusive, through participation of youth and women, not only in number but also in contributing ideas.
- At the beginning of TAP-AIS, there were conflict of interest; after, collaboration significantly increased after their capacity strengthening in agricultural platforms
- TAP-AIS interventions increased visibility and trust of the associations regarding how they are seen by non-adherents (members outside the association)
- At the beginning of TAP-AIS capacity development phase, associations underestimated the role of functional skills in their leadership as opposed to the aftermath.

# **WAY FORWARD**

- In addition to functional skills, provide tangible support to enable them to deliver innovations
- Infrastructures
- Improved breeds
- Equipment.
- Use the policy briefs to inform the PSTA5 strategy (2024-2029) in formulation
- Support the construction of storage facilities and warehouses for maize and soybean and establish a strategic reserve for feed inputs. There should be incentives for feed millers to collectively to ease the import of raw materials.
- Feed millers should be incentivised through taxes exemption on the import of raw materials
- E-soko agricultural market pricing information should be expanded and consider process of animal feeds.
- Strengthen consumer demand for eggs, poultry meet and pork, including at local market

# The TAP-AIS project

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With technical support of

**Food and Agriculture Organization of the United Nations** 

FAO Representation in Rwanda: FAO-RW@fao.org;

Office of Innovation (OIN): OIN-Director@fao.org





# \* SENEGAL

**Key achievements towards strengthening national agricultural innovation systems (AIS)** 

# THEMATIC FOCUS AND CONTEXT

In Senegal, TAP-AIS project is coordinated by the Ministry of Agriculture, Rural Equipment and food sovereignty (MAERSA) and is implemented in close collaboration with national government partners and regional and sub-regional agricultural research and advisory organizations.

Based on the AIS assessment findings and discussions, four national organizations and one university were selected as pivotal organizations to create efficient innovation ecosystems in the domain of digital transformation of agriculture for the agroecological transition:

- ANCAR is investing in the digitalization of advice to reach more producers and play a bridging
  role between researchers and farmers by facilitating the feedback of innovation needs and
  farmers' experiences and reversely by facilitating the availability of new knowledge and
  technologies.
- **FENAB** (National Federation for Organic Agriculture) and support organizations have been working for many years for the development of organic agriculture in Senegal. To give consumers confidence in the authenticity of organic products placed on the market and ensure their traceability, FENAB has embarked on the establishment of a "Participatory Guarantee System" (SPG) for the certification of organic products which will be sold under the "Bio Senegal" label.
- The municipality of Ndiob set of agroecological innovations to implement his vision of a green and resilient municipality. The achievements can help to develop models for other municipalities in Senegal wishing to contribute to the implementation of the agroecological transition led by the DyTAES (Dynamique pour une Transition Agro-Ecologique au Sénégal) and supported by the government.
- **FNDASP** institution plays an important role in financing all the phases of an innovation process: support for the first phase, the most uncertain, via "test projects", financing the adaptation of already proven techniques, and finally financing of innovation dissemination.
- **USSEIN University** liaise closely with TAP-AIS in order to explore the possibility to include specific trainings/events curricula on digital technologies for agriculture.

The project Theory of Change is about developing the joint capacities to innovate of ANCAR, USSEIN, FENAB, and Commune de Ndiob, in the domains of agroecology and digital innovations.

The ultimate objective is to unlock emerging digital innovations (digital tools for advisory services and for support services to organic food chains) and learn from that experience to feed a policy dialogue with a view to set up a national innovation strategy for the agricultural sector, with a component on a digital agriculture strategy.

# **CONSTRAINTS IN THE AIS IN FOCUS**

Key constraints in AIS structure, functions, capacities and enabling environment according to the AIS assessment and organizational capacity needs assessment:

- Lack of a clear vision for developing and implementing agricultural innovation policies.
- Lack of collaboration between the Support and Knowledge and Information subsystems (Training-research-support continuum).
- Weak competitiveness of innovations in the face of globalisation.
- Poor integration of young people and women into agricultural jobs, limited access to land for women and young people.
- Supplying raw materials and marketing agro-pastoral products.
- Difficulty in staggering production so as to have a supply of products throughout the off-season.
- Weak capacity in certain organisations (financial resources, management, legal status).
- Low level of public participation in changing the relationship between research and extension.
- Difficulty in getting demand to drive research.



"The leader of the Employment and Inclusive Growth team at the Delegation of the European Union in Senegal recalled that 'innovations are essential to meet the challenges that affect the sustainability of our food and agricultural systems and DeSIRA is a platform designed to improve farmers' access to innovation through better integration of agricultural research for the poorest'.

Stéphane Devaux, EU delegation in Senegal

"TAP AIS is a strategic project which will allow the government to have reliable and relevant information for building the capacities of the national agricultural innovation system"

Pape Malick Ndao, Secretary-General of the Ministry of Agriculture and Rural Equipment

# **CAPACITY DEVELOPMENT INTERVENTIONS**

- Implement Training & Coaching sessions on how to co-design and sustain (with adequate business model) innovative digital agri-advisory services, for the benefit of ANCAR, FENAB and their partners.
- Organize bridging events between ANCAR, FENAB and start-ups specialized in digital technologies, with a view to solve current technical bottlenecks in three digital service innovations developed by ANCAR and FENAB.
- Organize learning events on current digital innovations in the agricultural sector, with the focus on digital services for organic and agro ecology farming systems, their success and challenges, and draw recommendations to improve the policy and institutional environment.
- Explore with partners the feasibility of a service platform for digital innovation in the agricultural and livestock sectors.
- Support the development of a national digital innovation strategy for the agricultural sector, with a sub-component on digital innovations in support of the DyTAES (ie the government-led movement for the national AE transition).
- A policy dialogue process was conducted to improve the enabling environment for innovation
   Development for inter-ministerial policy dialogue activities across MESRSI (Ministry of Education,
   research and Innovation), MAERSA (Ministry of Agriculture) and MCTEN (Minister of digital economy
   and telecommunications)
- Release the TAP-AIS report and related policy briefs.

# **OUTCOMES**

- A common understanding of the concepts related to agricultural innovation and the national agricultural innovation system by the main decision-makers and political players responsible for creating a favourable environment for innovators in Senegal.
- A better understanding of the main triggers, drivers and obstacles to agricultural innovation in Senegal.
- A shared vision of the need for innovation in the agricultural sector, the need to strengthen the SNIA and the priority solutions for developing the capacities of SNIA players in relation to the current dynamics in Senegal.
- A set of data, visual tools and illustrative stories describing the 'profile' of the SNIA, i.e. the functions performed, the priority problems, the capacity-building needs, as well as possible capacity-building actions at the various levels, innovation niches, innovation support service providers and public policies (not yet completed).
- A dashboard with indicators for measuring the SNIA's performance, to enable future capacity-building actions to be monitored and evaluated (not yet completed).
- A policy note with recommendations for mechanisms, policy instruments and investments to strengthen the capacities of SNIA players (in progress).

# WAY FORWARD

- 1. Capacity building for four pivotal structures: ANCAR, FENAB, USSEIN University, Ndiob Commune, FNDASP and their partners.
- 2. **Organisation of a series of multi-stakeholder consultative workshops** to formalise the national AIS and set up governance mechanisms.
- 3. **Organisation of "solutions days"**, as a new format for bridging events between innovators and innovation support service providers, in two areas: organic farming and agro-ecological territories, with a particular focus on linking research with initiatives.
- 4. Identification of mechanisms for responding on an ongoing basis to innovation capacity development needs at country level, beyond the duration of the project.

# National project coordination

Ministry of Agriculture and Rural Equipment and food sovereignty (MAERSA)



A picture from the inception

held on February 25, 2021

Capacity development

2023)

planning digital workshop for

FENAB and ANCAR (nov. 6-11,

workshop of TAP AIS Senegal

# **Boundary partners**

actors primarly influenced by the project

National agricultural and rural advice agency (ANCAR) National Federation for Organic Agriculture (FENAB) The municipality of Ndiob

Sine Saloum Agricultural University (USSEIN)

National Fund for forestry and agropastoral development (FNDASP)

# **CONTACTS**

FAO Representation in Senegal: FAO-SN@fao.org; Cheikh.Pene@fao.org

Office of Innovation (OIN): OIN-Director@fao.org

Food and Agriculture Organization of the United Nations

Rome, Italy

# **MORE INFORMATION**

www.fao.org/in-action/tropical-agriculture-platform

www.fao.org/in-action/tap-ais

■ TropicalAgriculturePlatform

# The TAP-AIS project

(Developing capacities in agricultural innovation systems: scaling up the Tropical Agriculture Platform Framework)

TAP-AIS is a project funded by the European Union and implemented by FAO.

The project supports the Tropical Agriculture Platform (TAP) to strengthen capacities to innovate in national agricultural innovation systems (AIS) in the context of climate-relevant, productive, and sustainable transformation of agriculture and food systems in Africa, Latin America, Asia and Pacific.





# COLOMBIA

**Key achievements towards strengthening national agricultural innovation systems (AIS)** 

# THEMATIC FOCUS AND CONTEXT

The TAP-AIS project in Colombia has been carried on within the framework of Law 1876 of 2017 through which the National Agricultural Innovation System (SNIA) was created. This law creates the public agricultural extension service, defines the territorial innovation systems and establishes an articulated work between training, research and agricultural extension for rural development in Colombia. The project has worked on capacity development to recognize, support and promote agricultural innovation processes and initiatives with small and medium-sized producers.

The project has worked in two main areas:

- 1. Capacity building to promote agricultural innovation processes and initiatives with small producers
- 2. Capacity building at the institutional level in the development of the national agricultural innovation system and the extension service, with an agroecological approach. Therefore, the project has worked with producer organizations, training and research institutions.

# **CONSTRAINTS IN THE AIS IN FOCUS**

Key constraints in AIS structure, functions, capacities and enabling environment according to the AIS assessment and organizational capacity needs assessment:

The AIS assessment in Colombia focused on selected case studies and was framed within the notion of **territorial systems of agricultural innovation**, as a decentralized approach where local actors seek to identify problems, but also to prioritize solutions, within the framework of the heterogeneity and particularities of the geographic space (Pamuk et al, 2014).

Innovation policies in Colombia have gone through different moments in its recent history, based on environments that have transcended from economic liberalization and trade openness in the early 1990s and the signing of free trade agreements with various countries around the world by 2010, increasing the challenges in terms of productivity and competitiveness for all sectors of the country.

Regarding the **Territorial Innovation System in Boyacá**, the different actors perform all the functions, with a special emphasis on business and entrepreneurship promotion.

At the farm level, dairy farmers still need more support for innovation in order to overcome production bottlenecks. Therefore, in order to expand the participation of producers in different markets, more transformative actions are required at the primary markets, which will allow the adaptation of technological solutions, value-added opportunities and, in general, a better capacity to support producers and innovation at the local level.

Regarding the **Territorial innovation system of the beekeeping sector in the Bajo Cauca Antioqueño**, it was found that the function and entrepreneurship is the most developed.

Key actors from the innovation network in the dairy sector in a specific area of Boyacá

Key actors for the innovation network in the beekeeping sector in Antioquia

Nodos: 70 Relaciones: 884 Early Sector (netrata): 21.13% Centralizacion (nethals): 21.13% Centrali

As part of the results obtained in the analysis of the AIS in the case studies, a diagnosis was made of the level of adoption of innovations by the prioritized producer organizations, through the application of the instrument known as the Measurement of Rural Innovation for Organizational Strengthening (MIRFO).

Gaps in the adoption of innovations were determined at both the micro (producers) and meso (producer organizations) levels, in order to formulate capacity building plans.

# **National project coordination**

Ministry of Agriculture and Rural Development (MADR); Agency for Territorial Renewal (ART)



# **Boundary partners**

actors primarly influenced by the project

ADR – Rural Development Agency SENA- National Apprenticeship Service AGROSAVIA – National Corporation for Agricultural Research RELASER Foro Colombia ASCACB Organization

CAMPO DULCE Organization Antioquia government

# CONTACTS

FAO Representation in Colombia: FAO-CO@fao.org; ana.garciahoyos@fao.org
Office of Innovation (OIN): OIN-Director@fao.org

Office of Innovation (OIN): OIN-Director@fao.org

Food and Agriculture Organization of the United Nations

Rome, Italy

# **MORE INFORMATION**

www.fao.org/in-action/tropical-agriculture-platform

www.fao.org/in-action/tap-ais

TropicalAgriculturePlatform

# IMPLEMENTATION PERIOD January 2021- June 2024

"The work with the TAP-AIS project has made it possible to highlight agroecology and extension as a purpose and tool for the transformation of the population we serve, especially in the 6 centers where the agroecological transition pilot is being carried out.

Analyzing the application of TAPE agroecological performance allows us to plan actions that in one way or another constitute the innovation process, which are inputs for training and research projects in SENA within the framework of TAP-AIS accompaniment, consolidating lines of work based on the gaps."

Mario Mendoza, AGROSENA Leader. Sabanalarga SENA Center (Atlántico)

# CAPACITY DEVELOPMENT INTERVENTIONS

The capacity development strategy adopted by the TAP-AIS Project covered technical assistance and training to producer's organizations and key actors in two territorial innovation systems for the beekeeping sector in Bajo Cauca region and dairy chain in Boyacá. Specially in Antioquia, the project contributed to the establishment of the beekeeping sector committee.

The project also covered the national level, identifying key institutions such as the Rural Development Agency and Ministry of Agriculture and Rural Development to strengthen technical capacities towards an improved extension service regulation and implementation. Moreover the TAP-AIS intervention in Colombia strengthen capacities at the educational level with SENA regarding knowledge management towards the agroecological approach for extensionists, enhanced with a joint guide with the participation of this institutions and civil society.

Capacity building workshop for

2. Institutional workshop entitled: "Lessons learned in

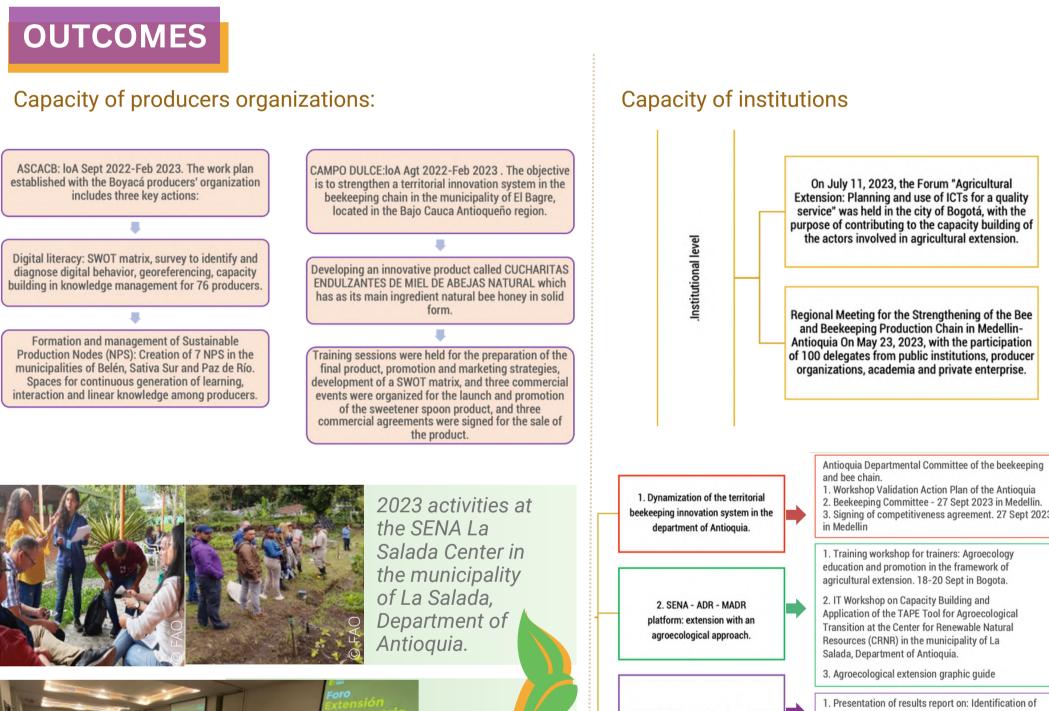
the process of formulating departmental agricultural

extension plans 2019-2023. Sept 13 Bogota

agroecological transition:

using the TAPE tool.

diagnosis in 6 SENA centers



# WAY FORWARD

• Publication of the guide on agroecological extension: training of trainers strategy ADR - MADR.

National policy

dialogue

- Preparation of a policy note related to the agricultural extension service.
- Organization of one bridging event at the country level.
- Support one national dialogue process on innovation policies as an enabling environment for agricultural innovation (under review to be carried out with the ABRIGUE project DeSIRA).
- Strengthen the main AIS organizations or platforms: line of work with SENA.
- Final workshop



# The TAP-AIS project

(Developing capacities in agricultural innovation systems: scaling up the Tropical Agriculture Platform Framework)

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# CAMBODIA CAMBODIA

**Key achievements towards strengthening national agricultural innovation systems (AIS)** 

# THEMATIC FOCUS AND CONTEXT

The TAP-AIS project in Cambodia focused on strengthening collaboration between AIS actors and in particular within and between the agricultural research and extension subsystems of the AIS – moreover, conservation agriculture and agroecology emerged as key topics pertinent to the Cambodian AIS.

In addition to the key functional capacity to collaborate, the capacity to engage in strategic and political processes was also at the forefront of capacity development interventions implemented in Cambodia. Novel multistakeholder mechanisms were employed to strengthen agricultural research, the national extension and advisory services system and to promote conservation agriculture and agroecology at the policy level.

The TAP-AIS project in Cambodia was implemented by FAO in close partnership with the Ministry of Agriculture, Forestry and Fisheries (MAFF). All activities were planned and implemented by partner organizations themselves with technical support and guidance from FAO and partners, such as the Centre for Research on Science and Innovation Policy (CRISP) and the BDtruS Research and Business Consultancy (Cambodia).

# **CONSTRAINTS IN THE AIS IN FOCUS**

Key constraints in AIS structure, functions, capacities and enabling environment according to the AIS assessment and organizational capacity needs assessment:

An assessment of the national agricultural innovation system (AIS) was conducted and published in June 2021. The assessment revealed the following major challenges in the AIS:

- Limited networking and coordination between interrelated institutions such as government and non-governmental research and extension organizations, among others.
- Low capacities for long-term strategic planning to shape the future organizational direction and for overall sustainable development among key national AIS institutions, such as research, education, extension, business and so on.
- Policy and governance issues including policies hindering agricultural innovation (e.g., import taxes on agricultural machinery and spare parts) and organizational internal hindering factors to innovation such as corruption and lack of transparency.

# **CAPACITY DEVELOPMENT INTERVENTIONS**

To address some of the challenges in the national AIS, the TAP-AIS project team with guidance from the project Steering Committee selected several key organizations as entry points for strengthening the AIS. Capacity development interventions were designed in an iterative and collaborative process resulting in the following interventions:

- The Cambodia Conservation Agriculture and Sustainable Intensification Consortium (CASIC)'s capacity to engage in political processes to promote conservation agriculture (CA) in Cambodia was strengthened through the implementation of a multistakeholder policy dialogue process.
- The Cambodian Agricultural Research and Development Institute (CARDI)'s capacity to collaborate with and engage their partners was strengthened through a new participatory approach used to develop their Strategic Development Plan (SDP) for 2023 2027.
- The Department of Extension for Agriculture, Forestry and Fisheries (DEAFF)'s capacity to reflect and learn was strengthened through trainings and practical experience with capacity needs assessments (CNA) for community and village extension workers. DEAFF's capacity to collaborate was also strengthened through the development of a national forum of pluralistic extension providers linked to the Global Forum for Rural Advisory Services (GFRAS) network.

# **National project coordination**

Ministry of Agriculture, Forestry and Fisheries (MAFF) of Cambodia



# **Boundary partners**

actors primarly influenced by the project

Cambodia Agriculture Research and Development Institute (CARDI)
Cambodia Conservation Agriculture Sustainable Intensification Consortium (CASIC)
Conservation Agriculture Service Center (CASC) Battambang
Department of Extension and Agriculture Forestry and Fishery/MAFF (DEAFF)
Provincial Department of Agriculture, Forestry and Fisheries (PDAFF) Battambang

# **MORE INFORMATION**

www.fao.org/in-action/tropical-agriculture-platform

www.fao.org/in-action/tap-ais

■ TropicalAgriculturePlatform



February 2020 - February 2023

"CASIC is committed to replicating the policy dialogue model with other related projects, maintaining national and subnational policy dialogues as regular events in its short-, medium- and long-term work plans, and integrating conservation agriculture and agroecology into relevant policies and plans of MAFF and other ministries."

HE Dr. Chan Saruth, Undersecretary of State, MAFF, and Chair of CASIC Executive Board

"During the strategic plan development process, there was active participation from all technical offices and especially young researchers who could sustain the strategic planning related work in the future."

Dr. Pol Chanty, Deputy Director of CARDI

Scan here to read policy brief on how to promote conservation agriculture in Cambodia





Participants at the launch event of the National Forum for Extension and Advisory Services in Cambodia, hosted by DEAFF

# **OUTCOMES**

The project strengthened the capacities of 161 (25 percent women) individual beneficiaries – these are mostly staff (mainly technical, but also some management and field staff) from the targeted organizations, but also including NGO field staff, multiple agribusiness and farmers organizations representatives. The project also directly benefited an additional 591 individuals.

Evidence from key informant interviews conducted with project beneficiaries suggests project outcomes are for the most part sustainable. For example, CASIC members have indicated their commitment to continuing to use the multistakeholder policy dialogue approach and CASIC has strengthened its policy influence (e.g, a target to expand CA may now be included in the updated Agricultural Development Policy).

CARDI is committed to continuing to use and expand on the multistakeholder strategic research planning approach and has already engaged other partners to potentially support in the implemention of its Strategic Plan.

Scan this QR code to read more on project outcomes in "Agricultural Innovation Pathways in Cambodia" publication



Farmers engaged in conservation agriculture, CASC staff and TAP-AIS project staff in a field of cover crop in Battambang province, Cambodia



# **WAY FORWARD**

- Cambodia's national extension and advisory service (EAS) forum has been established, but will likely need further support to become fully operational
- CASIC and its partners are continuing to advance the policy agenda to scale up conservation agriculture and agroecology
- CARDI is implementing its strategic plan and should focus in the future on reorienting to become more market- and demand-oriented in its research



# The TAP-AIS project

(Developing capacities in agricultural innovation systems: scaling up the Tropical Agriculture Platform Framework)

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# CONTACTS

FAO Representation in Cambodia: FAO-CA@fao.org; Vornthalom.Chanthavong@fao.org Office of Innovation (OIN): OIN-Director@fao.org Food and Agriculture Organization of the United Nations Rome, Italy







# • LAO PDR

**Key achievements towards strengthening national agricultural innovation systems (AIS)** 

# THEMATIC FOCUS AND CONTEXT

In Lao PDR, the project had a strong focus on addressing the needs of smallholder producers and in particular women producers. Smallholder producers constitute the majority of the farming community in Lao PDR and thus are the primary innovators in Lao PDR's agrifood system.

The project strengthened the capacities of the public agricultural extension services and agricultural research institute to collaborate and become more demand- and market-oriented to better address the needs of producers. In addition, the project supported the participatory development of a gender-sensitive agribusiness curriculum for smallholder producers and a multistakeholder policy dialogue process aimed at identifying ways to increase benefits for smallholder producers from export markets.

The TAP-AIS project in Lao PDR was implemented by FAO in close partnership with the National Agriculture and Forestry Research Institute (NAFRI), several of the Ministry of Agriculture and Forestry (MAF)'s key Departments such as Department of Agricultural Extension and Cooperatives, and was technically backstopped by FAO's Office of Innovation (OIN) in Rome with support from the Centre for Research on Science and Innovation Policy (CRISP).

# **CONSTRAINTS IN THE AIS IN FOCUS**

Key constraints in AIS structure, functions, capacities and enabling environment according to the AIS assessment and organizational capacity needs assessment:

An assessment of the national agricultural innovation system (AIS) was conducted and published in June 2021. The assessment revealed the following major challenges in the AIS:

- Limited knowledge of and access to markets, especially higher value and export markets and overall low level of commercialization among farmers.
- Low capacities and resources of the national agricultural research and extension system including the Provincial Agriculture and Forestry Offices (PAFO) and District Agriculture and Forestry Offices (DAFO), whose staff provide advisory services, but often lack the capacity to facilitate local innovation.
- Weak coordination and collaboration among AIS actors, including government ministries, development organizations, NGOs, farmers' organizations, private sector agri-business and more.
- National policies do not recognize and promote agricultural innovation and capacities in relevant ministries to formulate and implement policies which effectively support agricultural innovation.

# **CAPACITY DEVELOPMENT INTERVENTIONS**

To address some of the challenges in the national AIS, the TAP-AIS project team with guidance from the project Steering Committee selected several key organizations as entry points for strengthening the AIS. Capacity development interventions were designed in an iterative and collaborative process resulting in the following interventions:

- Department of Agricultural Extension and Cooperatives (DAEC)'s staff strengthened their capacities to provide demand-driven extension services through a series of trainings, workshops, and practical exercises.
- The Lao Farmer Network (LFN) and Northern Agriculture and Forestry College (NAFC) strengthened their capacities through collaborative development of a gender-sensitive agribusiness curriculum for LFN members, especially lead farmers, and began to use it in practice to improve farmers' agribusiness skills.
- The National Agriculture and Forestry Research Institute (NAFRI) was supported in strengthening its capacity and developed guidelines for demand-led and market-oriented agricultural research.
- Sector Working Group on Agricultural and Rural Development (SWGARD) at MAF in partnership with the Lao National Chamber of Commerce and Industry (LNCCI) strengthened its capacities through training and facilitation of a multistakeholder policy dialogue process focusing on maximizing benefits from agricultural exports for smallholder producers.

# **National project coordination**

National Agriculture and Forestry Research Institute (NAFRI)



# **Boundary partners**

actors primarly influenced by the project

Lao Farmers Network (LFN);

Lao National Chamber of Commerce and Industry (LNCCI);

Lao Upland Rural Advisory Services (LURAS);

Ministry of Agriculture and Forestry's (MAF) Departments: Department of Planning and Cooperation (DOPC) and Department of Agricultural Extension and Cooperatives (DAEC); Northern Agriculture and Forestry College (NAFC);

# CONTACTS

FAO Representation in Lao PDR: FAO-LA@fao.org; Vornthalom.Chanthavong@fao.org Office of Innovation (OIN): OIN-Director@fao.org Food and Agriculture Organization of the United Nations Rome, Italy

# **MORE INFORMATION**

www.fao.org/in-action/tropical-agriculture-platform

www.fao.org/in-action/tap-ais

■ TropicalAgriculturePlatform



"I learned a lot from the capacity development activities on making extension demand-led and well suited to the needs of farmers. By following lessons learned from the training and applying them in the field in a group work with farmers, we completed the Farmers' Information Needs Assessment (FINA), and analyzed the data collected to identify farmers' priority needs (e.g., on how to manage flea beetles and onion diseases) then, information/knowledge products (brochure on management of flea beetles) were developed, tested, revised, finalized and disseminated."

Lammone Khamphon (Oung), Technical Staff, DAEC

"The knowledge I gained on policy influence process and agriculture innovation concepts were useful. I applied the agriculture innovation concept in my teaching at the Faculty of Environmental Science, on environmental education; I point out examples of agricultural innovation in practical agricultural work, share agricultural innovation ideas and build networks on every occasion."

Bae Pheaxay, Vice Dean of Faculty of Environmental Sciences, National University of Laos

# **OUTCOMES**

The project strengthened the capacities of 155 (42 percent women) core beneficiaries and benefitted 2000 further direct beneficiaries. Moreover, 66 percent of surveyed beneficiaries indicated that they have already used the knowledge and skills acquired from the project to benefit other people (e.g., by organizing cascading trainings, teaching or simply sharing information), creating a wide "ripple effect" of the project.

Crucially, project beneficiaries (especially those who were also involved in the previous CDAIS project) have changed their mindsets and are utilizing their strengthened functional capacities (e.g., to collaborate, to engage in strategic and political processes, etc.) in their ongoing work to adapt and respond to harness the potential of innovation in agrifood systems.

The project's contributions to sustainable development fall in particular under SDGs 1 (No poverty), 2 (Zero Hunger), 5 (Gender equality) and 8 (Decent Work and Economic Growth).

At the top: Farmers participate in a reflection workshop organized by LFN, NAFC and FAO to provide their inputs to the development of the agribusiness curriculum.

On the right: Participants to the 2nd coaching session for RPIA.



# WAY FORWARD

- 1) Strengthening functional and technical capacities;
- 2) Increased focus on intervention at provincial and district level;
- 3) Investment in complementary equipment;
- 4) Support for **strategic innovation funding**;
- 5) Multistakeholder policy dialogue to promote innovation;6) Foster innovative and market-oriented agricultural research; and
- 7) Develop **knowledge among youth on agricultural innovation**.



# The TAP-AIS project

(Developing capacities in agricultural innovation systems: scaling up the Tropical Agriculture Platform Framework)

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# C PAKISTAN

**Key achievements towards strengthening national agricultural innovation systems (AIS)** 

#### THEMATIC FOCUS AND CONTEXT

TAP-AIS Pakistan focuses on strengthening key organizations and the enabling environment for innovation of low-cost agricultural machinery for small-holder farmers. The Super Seeder, a machine for sowing wheat while blending rice stubble into the soil is at the center of the project, which operates from December 2021 to April 2024.

An AIS assessment and subsequent capacity need assessments with a broad range of stakeholders identified two core capacity-related problems of the AIS: i) Machinery is not relevant to small-scale farmers' needs; and ii) Limited collaboration in the low-cost machinery innovation system. A deep analysis of root causes and effects of these problems helped identify capacity needs, priorities and actions at systems and organizational levels to strengthen the AIS around low-cost agriculture machinery in Pakistan.



The Super Seeder, introduced in Pakistan's rice-wheat system, is a solution to mix rice stubble into the soil and sow wheat seeds directly after rice harvest, instead of the traditional practice of burning the rice stubble.

Super Seeder

# **CONSTRAINTS IN THE AIS IN FOCUS**

Key constraints in AIS structure, functions, capacities and enabling environment according to the AIS assessment and organizational capacity needs assessment:

- Innovation actors face limitations due to a lack of policy support from their parent organizations, hindering their ability to initiate collaborations and engage with other stakeholders.
- Collaboration was not pursued for all stages of innovation, that is, from innovation development to innovation scaling.
- A supply-driven approach tends to be used for innovation development and scaling, rather than a market-driven approach. This limits the potential for scaling innovations.
- The scope for market formation was limited, as most initiatives were restricted to innovation development and pilot implementation.
- Innovation initiatives had set budgets and resources for defined time period, but scaling is ceased after completion of project thus limiting the sustainability for innovation.

"The capacity needs assessment exercise was invaluable, illuminated our strengths, pinpointed gaps, and we believe it will be paving the way through capacity development sessions to improve organizational capacity for better

Dr. Hafiz Sultan Mahmood, Director,
Agriculture Engineering Institute



# National project coordination Ministry of National Food Security and Research

Ministry of National Food Security & Resear

# **Boundary partners**

actors primarly influenced by the project

Agriculture Engineering Institute (AEI), Pakistan Agriculture Research Council (PARC) Extension and Adaptive Research, Directorate General Agriculture, Punjab Field Wing, Directorate of Agriculture, Punjab

Agriculture Mechanization Research Institute (AMRI), Multan

performance".

# CONTACTS

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Food and Agriculture Organization of the United Nations

Rome, Italy

# **MORE INFORMATION**

www.fao.org/in-action/tropical-agriculture-platform

www.fao.org/in-action/tap-ais

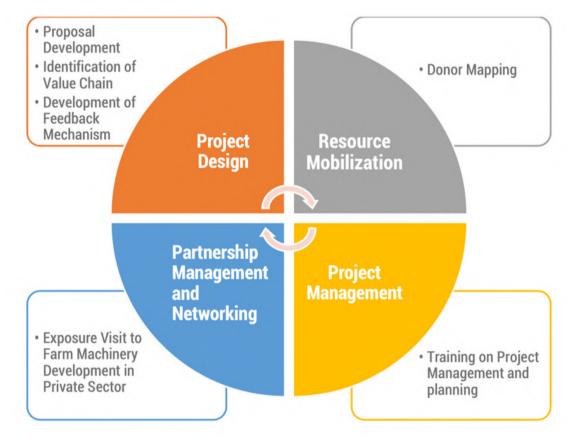
TropicalAgriculturePlatform

# IMPLEMENTATION PERIOD December 2020 - April 2024

# **CAPACITY DEVELOPMENT INTERVENTIONS**

Based on the results of the consolidated analysis of capacity need assessment, functional capacity will be developed among key innovation actors on project design, resource mobilization, partnership management and networking, and innovation management. Along with functional capacity development of these organizations, policy dialogue is being initiated with key stakeholders to ensure future agricultural innovations are market-driven, demand-centric, and involve collaboration with public and private sectors for co-creation and scaling-up.

Two to three-day capacity development activities will be organized for top and second tier management of the four key organizations, to bridge the gaps identified during the capacity need assessment phase. Capacity development sessions are being planned on the following themes:



**Project design**: Under this theme, individuals responsible for proposal submission will be invited to attend training on different topics that are covered under project design. **Resource mobilization**: Every participating organization has individuals assigned to work on mobilizing resources for the organization. This interactive training will strengthen their capacity to identify potential donors.

**Partnership management and networking**: The project will arrange coaching session to improve partnership management and networking among different stakeholders engaged in agriculture mechanization for smallholder farmers.

**Innovation management**: Training on project management and planning will be arranged for the leadership of respective organizations, to help them improve their management and execution of different projects.

# **OUTCOMES**

- Strategic frameworks and supporting systems in agricultural engineering institutions foster collaboration among stakeholders in the realm of affordable agricultural machinery.
- Innovative multi-actor mechanisms to enhance affordability and efficiency of agricultural machinery.
- Strengthened capacity of extension organizations to facilitate effective feedback from farm level contribute to more relevant innovation of smallholder agriculture mechanization technologies.

# **WAY FORWARD**

The TAP-AIS project aims to launch an innovation platform in Pakistan, fostering collaboration and knowledge exchange among agricultural stakeholders. This initiative will promote technology adoption, sustainable practices, and empower local farmers, ultimately driving agricultural development in the region.

# The TAP-AIS project

(Developing capacities in agricultural innovation systems: scaling up the Tropical Agriculture Platform Framework)

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# REGIONAL LEVEL

# Strengthening regional research and extension organizations

# **INTRODUCTION**

There are two main objectives of the TAP-AIS project work with the regional research and extension organizations (RREOs) under Output 3:

- 1. To strengthen capacity in regional research and extension organizations to integrate TAP tools and approaches in their work programme to promote innovation processes at the country level, and;
- 2. To facilitate and strengthen collaboration and synergies between research and extension organizations at regional and national level through joint planning and implementation processes.

# **CONSTRAINTS IN THE REGIONAL AIS**

A Joint Rapid Appraisal (JRA) on strengthening agricultural innovation systems in Africa, Asia and Latin America was conducted by the RREOs with TAP-AIS support. The JRA identified several main barriers that constrain the development of effective agricultural innovation systems (AIS) in all three regions.

These include:

- 1. Insufficient partnerships and collaboration among actors in the AIS
- 2. Still pre-dominant top-down approach (research → extension → farmers)
- 3. Inadequate investments in research and extension systems
- 4. Lack of (implemented) policies to promote and strengthen agricultural innovation
- 5. Lack of sufficient capacity development initiatives aimed at enhancing functional capacities of AIS actors, including in higher education curricula

# **CAPACITY DEVELOPMENT INTERVENTIONS**

To address the key constraints identified by the regional Joint Rapid Appraisal (JRA),

- a Joint Action Plan (JAP) was formulated in each region, including the following:
- Trainings of Trainers (ToTs) to strengthen capacities of regional experts • Development of practical guides to operationalize the TAP Common Framework
- (CF) Joint innovation calls, thematic & working groups to address key constraints
- Joint regional events, advocacy, documentation and dissemination of good practices, curriculum development, etc.







Asia and Latin America



Series of Good Practice Notes from the



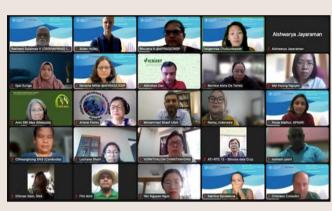
eries from Latin America of "Buenas <u>Prácticas Para la Innovación Agrícola en </u> América Latina"



<u>Guía para el fortalecimiento de las </u> capacidades funcionales para la innovación en la agricultura"



Representatives from FAO, APAARI, APIRAS, IICA and RELASER attend interregional meeting on the synthesis of good practices from Asia-Pacific and Latin America



Participants of the (virtual) Regional Training on Policy Engagement in Agrifood Systems co-organized by APIRAS, APAARI and FAO held in September 2023



Participants at the Training of Trainers (ToT) on the TAP Common Framework Tools and Approaches held with CAADP-XP4 institutions in Nairobi (Kenya) in March 2022

# **REGIONAL RESEARCH AND EXTENSION ORGANIZATIONS**

# **AFRICA**

CAADP-XP4 Institutions: African Forum for Agricultural Advisory Services (AFAAS), Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA), Conseil ouest et centre africain pour la recherche et le développement agricoles (CORAF) and Forum for Agricultural Research in Africa (FARA).

# **ASIA PACIFIC**

Asia-Pacific Association of Agricultural Research Institutions (APAARI) and Asia-Pacific Islands Rural Advisory Services Network (APIRAS).

# LATIN AMERICA AND THE CARIBBEAN

Red Latinoamericana de Servicios de Extensión Rural (RELASER) and Inter-American Institute for Cooperation on Agriculture (IICA).



















# **OUTCOMES**

Close collaborative work to implement the JAP in each region has been supported by the TAP-AIS project over the past three years resulting in the following outcomes, and more:

- Strengthened linkages and partnerships between research and extension within the regions and interregional collaboration between RREOs strengthened
- Three trainings of trainers (ToTs) organized in each region (Africa, Asia-Pacific and Latin America and the Caribbean) on capacity development tools and approaches in agricultural innovation systems (AIS): total of 78 experts trained
- Series of good practice notes published, including capacity strengthening of regional authors: 10+ from the Asia-Pacific region and 7 from Latin America
- Regional working groups: on Agroecology in Asia-Pacific and on Higher Education in Asia-Pacific and Latin America
- Regional training in Asia-Pacific on multistakeholder policy engagement
- Training manuals, guides and resource materials on operationalizing TAP Common framework and approaches

# **WAY FORWARD**

Before project closure, multiple further events and activities are planned, e.g.:

- An interregional synthesis and policy brief on good practices in AIS from Asia-Pacific and Latin America to be published;
- Regional policy dialogues in Asia and Latin America organized;
- Further regional trainings on policy engagement organized;
- Further **publications** such as a training manual on capacity development for AIS, guide on multistakeholder policy dialogue, and regional briefs on higher education and agroecology.

And, beyond the TAP-AIS project, **collaborations** between the RREOs have been sustainably strengthened giving rise to further opportunities to synergize.

# **CONTACTS**

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# **MORE INFORMATION**

www.fao.org/in-action/tropical-agriculture-platform

www.fao.org/in-action/tap-ais

TropicalAgriculturePlatform



# The TAP-AIS project

(Developing capacities in agricultural innovation systems: scaling up the Tropical Agriculture Platform Framework) TAP-AIS is a project funded by the European Union and implemented by FAO. The project supports the Tropical Agriculture Platform (TAP) to strengthen capacities to innovate in national agricultural innovation systems (AIS) in the context of climate-relevant, productive, and sustainable transformation of agriculture and food systems in Africa, Latin America, Asia and Pacific.



