Food and Agriculture Organization of the United Nations

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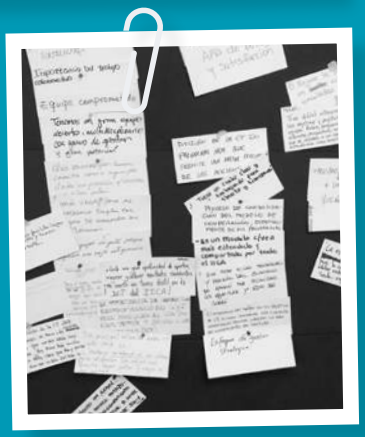

Guide for strengthening functional capacities in agricultural innovation

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Guide for strengthening functional capacities in agricultural innovation

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This work builds on a guide previously published by FAO in collaboration with the Inter-American Institute for Cooperation on Agricultural (IICA), the Latin-American Network of Rural Extension Services (RELASER- for its Spanish acronym), and the Tropical Agriculture Platform (TAP), which focused exclusively in the Latin American countries (FAO and IICA, 2022). As the guide use increased, a version in English focusing particularly on the Caribbean countries was necessary.

The preparation of this guide is part of the activities to support processes of agricultural innovation in Latin America, with a particular focus to the Caribbean countries, to contribute to climate-relevant, productive and sustainable transformation of agriculture and food systems.

Special appreciation to the work of Dr Priscila Henríquez, international expert on agricultural innovation and capacity building, for updating the guide, compiling the cases for the Caribbean countries and adapting those for the realities of the Caribbean nations.

This work is dedicated to the professionals working to improve services to innovate to agriculture, particularly the extensionists, researchers and advisory service providers working with smallholder farmers.

Abstract

The intense dialogues focused on achieving sustainability of agrifood systems in light of the challenges such as climate change, soil degradation, pandemics and rural poverty, among others, have highlighted the relevance of supporting innovation processes in agriculture. Innovation is understood in a broader sense that involves more than just technology. We can talk about technological innovations, such as drought tolerant crop varieties, or those resistant to diseases and pests; organizational innovations, such as innovative marketing schemes for local women's groups, or strengthening farmers' access to markets; or institutional innovations, such as the use of credit guarantee schemes and index-based insurance to reduce risk to production.

In the complex environment in which they operate, many innovative processes are unleashed by the local actors working in value chains, without intervention or support from "experts". Fostering and scaling innovation processes requires an understanding of the complex interactions between people and organizations, and the biophysical, social, economic and institutional factors that affect these interactions. The support should go beyond the traditional "transferring" of a practice that works well in one particular place, with the hope that it works in the same way in another. Innovation is about discovering, adapting, testing, co-creating, failing, starting again, and finally succeeding and changing something for the better.

New types of knowledge and skills, both technical and functional (or soft skills) are required to work in the complex environment where innovation occurs, especially when working with resource-limited farmers and other stakeholders. Surprisingly, it is frequently assumed that facilitators of these key innovation processes have the functional capabilities required to enhance innovation and achieve the expected results, working hand in hand with the innovators themselves.

An analysis carried out in 2020 by the Inter-American Institute for Cooperation on Agriculture (IICA) and the Latin American Network of Rural Extension Services (RELASER - for its Spanish acronym), supported by the Food and Agriculture Organization (FAO) of the United Nations, revealed that many organizations in the Agricultural Innovation Systems (AIS) have serious deficiencies to fulfill their facilitation functions and support innovation. Many discussions held in platforms and forums that promote innovation in Latin America and the Caribbean has revealed that good attention to strengthening the technical and functional capabilities of the actors in AIS unleashes innovation, especially for the benefit of smallholder producers, their family members, and other small agricultural businesses.

This guide is part of the action plan activities implemented by IICA and RELASER to contribute to strengthening AIS in Latin America, in this case with a particular focus on the Caribbean countries. The purpose of this guide is to contribute to the development of functional capabilities among individuals and organizations that support innovation in the Caribbean. The guide follows a similar document published by FAO and IICA two years previously, which has been cited and used in Latin America (FAO and IICA, 2022).

The guide uses the common framework for capacity development promoted by the Tropical Agriculture Platform (TAP) in order to identify and reinforce key functional capacities in organizations and individuals. In accordance with the common framework, strengthening functional capabilities allows actors to reflect and learn, collaborate, navigate the complexity, and participate in political strategies and processes. Additionally, together they allow us to focus on the future and not only in solving problems of the present.

The guide contains 11 chapters, each including a brief introduction highlighting the theoretical and applied background of the section and introduces conceptual frameworks and key figures. Methodologies and tools for analysis are presented for each step, with at least one case study (success story) related to the chapter, and an exercise to strengthen the learning of each case. In addition, references and links to resources, tools and methodologies are included in each chapter, which are specific to the Caribbean countries, therefore the readers can continue their learning on their own.

After presenting a general introduction and guide, Chapter 3 discusses the general framework on AIS and innovation and capacity building. Four capabilities are highlighted: (1) manage complexity; (2) collaboration; (3) reflection and learning; and (4) involvement in political and strategic processes. Together, these four capacities lead to the ability to adapt and respond to harness the potential of innovation. These are known as the 4+1, and form the core capacities for innovation in agriculture promoted by TAP.

Chapter 4 focuses on tools to design the process to strengthen capabilities in AIS and innovation niches, where working with multiple parties is of the upmost importance and requires the capacity for collaboration. Here we reflect on the importance of adaptive planning of the innovation processes within platforms of multiple actors, as well as in niches. Clearly, these processes must be based on trust and a shared vision that responds to challenges and opportunities.

Chapter 5 addresses the assessment of functional capacity-building needs as a basis for designing the training process, explaining why it is important to carry it out, and offering resources from the project CDAIS “Capacity Development for Agricultural Innovation Systems (CDAIS)” a pilot that successfully implemented the TAP framework globally.

Chapter 6 focuses on how to develop leaderships for innovation, which represents a key functional capability for individuals and organizations to foster these processes, particularly working in challenging environments and with little resources, such as is the case of many initiatives in the Caribbean countries.

Chapter 7, is about facilitating multi-stakeholder engagement. The chapter provides the tools to facilitate innovation processes where individuals and organizations from many sectors, not just agriculture, participate, often immersed in complex policy environments.

Chapter 8 develops the topic on promoting collective action, delving into the triggers and success factors that lead to innovation. Three different drivers of the commitment to trigger innovation are highlighted: motivation, knowledge and empowerment, as well as the functions of each of these capabilities.

The management of partnerships for innovation is discussed extensively in Chapter 9, as facilitating successful alliances in niches and in AIS can seem like a titanic task if the facilitator is not equipped with the right tools. Innovation platforms are utilized in many countries to ignite processes where many organizations in order to achieve innovation, and these institutional arrangements need to be managed and nurtured to be able to continue functioning beyond the project conclusion.

Chapter 10 discusses knowledge management, and presents a conceptual framework, with principles and ideas to be considered by the organizations that promote innovation processes. It is explained that, in the context of an AIS many forms of knowledge interact, such as tacit, explicit, implicit, incorporated and established. These various types of knowledge form the basis of the management process that involves creating, acquiring, storing, integrating, analyzing and sharing these forms of knowledge in a specific system context, where many different parts participate.

Finally, some very brief reflections are presented on the need to strengthen the functional capabilities in addition to technical ones in innovation projects. The reader is reminded that the functional capacities in individuals are a combination of interpersonal skills, social skills, communication skills, character or personality traits, attitudes, professional attributes, social intelligence quotients and emotional intelligence, among others, that allow us to navigate environments, work well with others, and achieve goals.

The publishers hope that this guide will be a useful resource for professionals who facilitate multi-stakeholder platforms and contribute to innovation in agriculture in the Caribbean countries.

CHAPTER 1
Introduction and learning goals

Chapter 1

Introduction and learning goals

This guide reinforces two crucial conditions for achieving innovation in agriculture: cooperation based on multi-stakeholder arrangements, and strengthening the capacities needed to successfully facilitate innovation processes.

Professionals working in agriculture are usually more familiar with the technical capacities that have to do with our knowledge and skills, crucial to achieve the goals and aspirations of the organizations. These capacities are strengthened through training, and other forms of learning. However, traditionally, agriculture professionals are less knowledgeable about the functional capacities associated with skills, knowledge and attitudes that are necessary for putting to use technical capacities (for a comprehensive overview, please consult Annex 1). Both technical and functional capacities are critical for achieving the goals of alliances, innovation platforms, round tables or other types of partnerships. In this guide, we will refer to these diverse forms of cooperation as multistakeholder platforms (MSPs).

Latin America and the Caribbean (LAC) have abundant natural resources, biodiversity and many successful models for agriculture innovation. At the same time, it is necessary to address the huge challenges posed to food systems, especially the need to produce more and better food for a growing population in the context of the unpredictability caused by climate change, pandemics and other shocks. To take advantage of these assets and face the multiple challenges, we have to cooperate in innovation processes through effective and creative work with and by MSPs.

Multistakeholder platforms:

Mechanisms for organization and management that bring together all social actors influencing and affected by specific topics or problems.

Multistakeholder platforms need to innovate, that is: to create something, even if it is not new, that generates impact in a specific context. We know that innovation is not just a technological issue, but it also refers to important changes in the organizations so that individuals obtain better results from their efforts, and in the institutions that provide an adequate framework for the interactions. An example of such an innovation is the renewed role of the social media and on-line tools in connecting people, from producers all the way to consumers, through networks or short supply chains that, simultaneously, contribute to enhance our 'information, communication and technology (ICT) literacy. The example in figure 1 highlights how through an MSP, farmers took advantage of the crisis created by COVID-19 to convert it into a business opportunity during the COVID-19 pandemic. This was an organizational innovation.

Innovation in technologies, processes and forms of organization is essential for improving and transforming food systems and achieving the Sustainable Development Goals (SDGs), and Agricultural Innovation Systems (AIS) are a model for doing so. AIS embody the complex web of individuals and organizations that implement innovations, the role of organizations that act as bridges and facilitate the processes, and the fertile environment for stimulating the innovations.

The efforts to come to a common understanding of the concept of innovation have contributed to revealing and making explicit different worldviews. The difficulty that many of us have when defining innovation can be understood as a clash between two different views. People with a technical background often regard innovation in terms of adoption of technologies; while those that have experience in the social sciences see it rather as an interactive process of learning by experience. However, the two visions complement each other as they contribute to improving peoples livelihoods and wellbeing.

Figure 1. Association of Producers sell at home in an adapted bus during the COVID-19 pandemic, Costa Rica.

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Innovation

The process of putting to use knowledge, whether this happens through techniques and practices or through specific ways of working.

Agricultural innovation is the process by which individuals or organizations put new or existing products, processes and forms of organization into social or economic use to increase effectiveness, competitiveness and resilience. This contributes to food and nutritional security, economic development and the sustainable management of natural resources.

In this guide, we will focus on strengthening functional capacities of both individuals and organizations as facilitators of MSPs that contribute to innovation and improved functioning of AIS.

In this guide we aim to:

1. Demonstrate the relevance of strengthening functional capacities in agricultural innovation processes, as a complement for technical capacities.
2. Offer resources to professionals who facilitate agricultural innovation processes in the Caribbean to self-improve their functional capacities.
3. Inspire readers to test new approaches for strengthening functional capacities that are relevant for innovation, and thus contribute to improve the performance and effectiveness of their organizations.
4. Guide the readers towards practical tools for strengthening functional capacities that can enhance the effectiveness of agricultural innovation processes.

The robustness of this guide is based on the wealth of knowledge of agricultural innovation and AIS of many organizations in LAC, with emphasis in the Caribbean countries. Here we use the framework for capacity building promoted by the Tropical Agriculture Platform (TAP) in order to define some key functional capacities that are key for innovation[1].

1 See more at https://tapipedia.org/framework/4-1-capacities)

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CHAPTER 2
About the guide

Chapter 2

About the guide

How to use the guide?

You do not need to follow this guide linearly as it is presented. You can start with the chapter that most interests you and then go on to discover the usefulness and relevance of other chapters in an iterative process. Each chapter starts with a short introduction underlining the theoretical and applied background for the topic, and presents key conceptual frameworks and figures. On every topic, you will find tools, with at least one exercise in the form of a success story and questions for its analysis that will help you derive lessons and consolidate your learning process. We have included relevant references and links to specific resources, tools and methodologies, which you can consult on your own.

After presenting a general introduction and the guide, in chapter 3 we discuss the general framework for AIS, innovation and capacity strengthening. Chapter 4 focusses on how to design the process to strengthen capacities in AIS and innovation niches, where we stress the work with MSPs. In chapter 5, we address how to asses needs for functional capacity strengthening so that you can have a solid basis for the process. The core topic of chapter 6 is how to strengthen leadership, since leadership is a key functional capacity for individuals and organizations to be able to promote innovation processes. The title of chapter 7 is “Facilitating the involvement of multiple stakeholders” and it offers the tools for facilitating innovation processes involving individuals and organizations from many sectors, not just agriculture. In chapter 9, we delve into the promotion of collective action, as well as the challenges and success factors that lead to innovation. The management of partnerships for innovation is dealt with extensively in chapter 9. Chapter 10 presents knowledge management with a conceptual framework, principles and ideas for the organizations involved in this process. The guide closes with some brief considerations.

We recognize that the topic is extensive and that the guide cannot discuss all capacities that are needed for successful innovation. Therefore, we included success stories that will help to analyse the concepts learned, as well as questions for further reflection. Every chapter includes additional resources that we recommend to consult to further explore the topics discussed.

Some questions that this guide will help you answer:

If you are a professional whose job is to coordinate processes, you are a facilitator; you might have the questions such as:

- How can I be more effective in strengthening functional capacities in agricultural innovation processes, thus contributing to the development of my organization and the AIS?

- What tools are available for strengthening functional capacities, and where can I find them?
- What kind of activities work well when facilitating innovation processes?

This guide can be used by anyone who is interested in agricultural innovation, but is particularly useful if you are:

- A facilitator or mediator supporting rural development and value chains.
- An extension agent that provides information and services to farmers and other actors in the rural environment.
- A provider of advisory services for agricultural, organizational and entrepreneurial management.
- An agricultural researcher whose work benefits from efficient collaboration and learning relations with producers, extensionists, entrepreneurs, agricultural input providers and others actors in AIS.
- A director of agricultural research and extension activities in a research institute, a university, a non-governmental organization (NGO) or some other development organization.
- Someone involved in the implementation, funding, collaboration or coordination of MSPs.
- A student or a professional working in higher education agriculture institutions, as these organizations are also involved in working with MSPs

This guide has been enriched by publications of TAP and of the Capacity Development for Agricultural Innovation Systems project (CDAIS), and the Leveraging the DeSIRA Initiative for agri-food systems transformation[2] a service facility supporting the DeSIRA Initiative. We include references to resources from these sources where necessary. We recommend the reader o familiarize themselves with the valuable self-learning resources that are available on the TAP digital platform[3].

We have compiled important literature, such as other guides, resources of the Latin American Network of Rural Extension Services (RELASER[4]) and of IICA[5], as well as resources from other organizations.

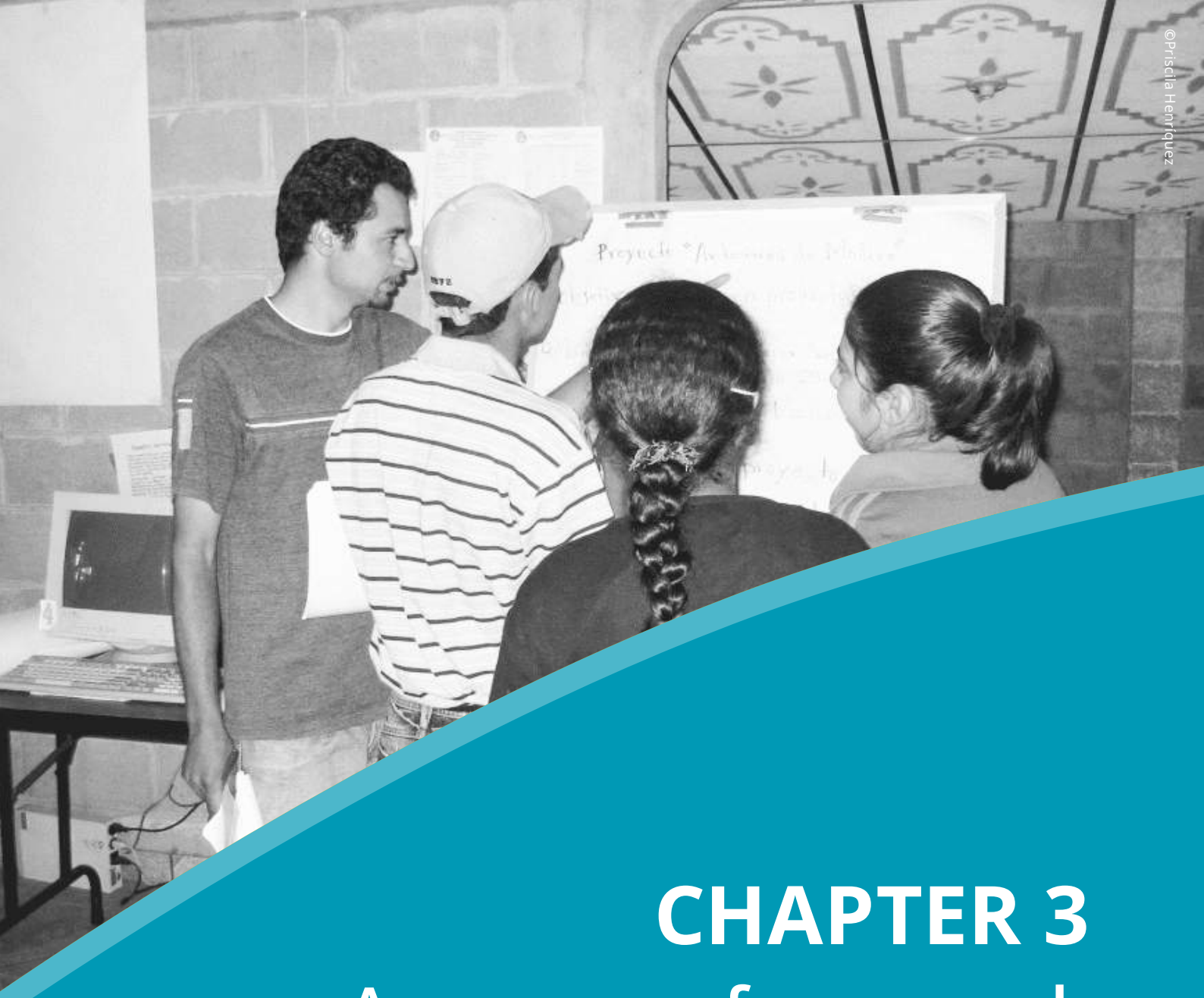
Remember that learning processes are continuous and dynamic!

2 See more at https://www.desiralift.org/

3 See more at https://tapipedia.org/

4 See more at https://relaser.org/

5 See more at https://www.iica.int/en



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CHAPTER 3

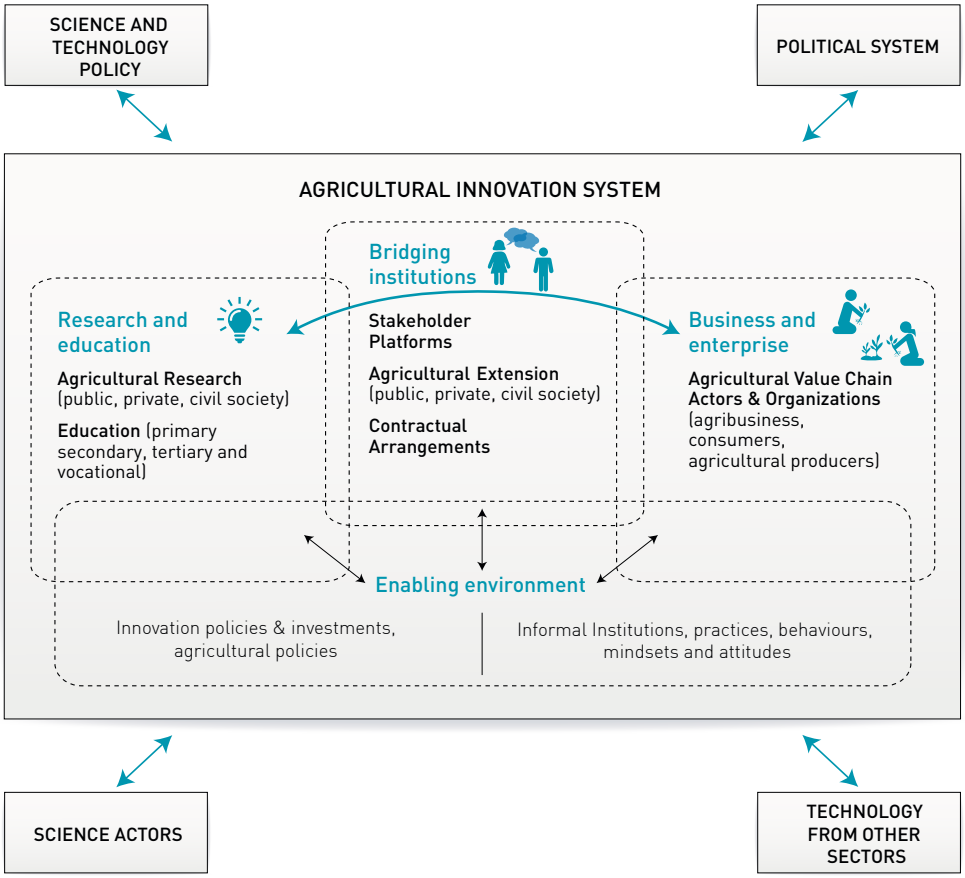
A common framework for innovation and capacity strengthening

Chapter 3

A common framework for innovation and capacity strengthening

Agricultural innovation processes tend to be long-term, with the participation of many stakeholders, who communicate, exchange opinions, adapt/adopt technologies and practices, in short, they innovate to improve something. There is increasing consensus on the importance of AIS as a general framework that connects agricultural innovation with, on the one hand, training, research and extension, and, on the other, with government, private sector, agricultural producer organizations and non-governmental organizations (NGOs). An AIS is a network of actors or organizations and individuals that, together with institutions and policies that support the agricultural sector, make social and economic use of new or existing products, processes and forms of organization. The policies and institutions (both formal and informal) shape the way in which these actors interact, create, learn, share and jointly use knowledge (figure 2).

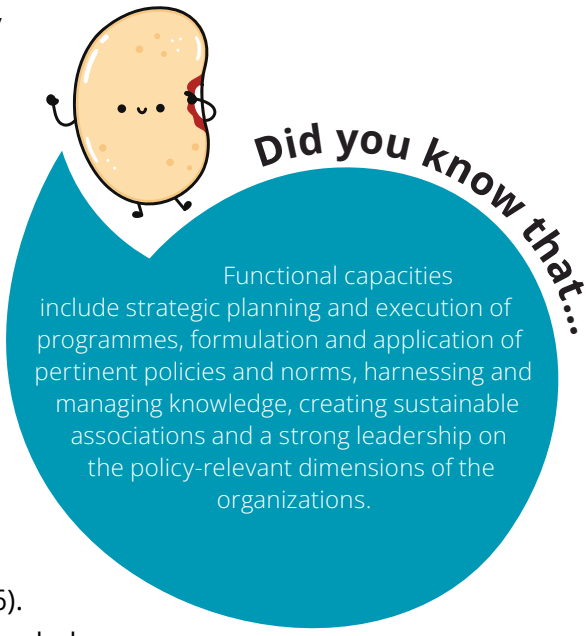
Figure 2. Diagram of an agricultural innovation system



Source: Tropical Agriculture Platform. 2016. Common Framework on capacity development for agricultural innovation systems. Conceptual Background. Wallingford, UK, CAB International. https://www.cabi.org/Uploads/CABI/about-us/ 4.8.5-other-business-policies-and-strategies/tap-conceptual-background.pdf

Research cannot operate in isolation and needs to build strong collaborations to ensure transformative processes take place and are owned by those it intends to serve. However, to "transfer" a technology or a practice from a research institute or a company so that it is successfully implemented demands the co-creation[6] of an innovation process that safeguards local adaptation and readjustment of relations between the various stakeholders. Let us remember that local actors are natural innovators who are constantly finding better ways to carry out their activities, often without intervention by research or extension organizations. To energize these processes both the organizations and the individuals in the AIS must develop not just technical capacities but also "soft" or functional capacities. These capacities are especially relevant in organizations that function as "bridges", managing relations and knowledge in the AIS, tasks that are frequently carried out by agricultural research and extension organizations and other non-profits. These organizations need skilled facilitators who can use methods and tools that promote dialogue and address their mutual dependence, allowing all stakeholders to jointly achieve their objectives, despite having different world views, and frequently competing for the same financial resources. Building capacities to collaborate goes through iterative learning cycles and collective learning, promotion and support of behavioral changes toward more collaborative innovation.

Many agriculture and development projects focus on transferring technical skills to individuals. This means that the majority of organizations that are part of AIS have important shortcomings in terms to their functional capacities, either because they prioritize too much their technical capacities or because they lack effective schemes to integrate both types of capacities (FAO 2021a).Insufficient attention is paid to the creation of an enabling environment of policies, values, norms and legislation that can stimulate full use of these capacities. In addition, much emphasis has been put on immediate products and results, and very little on the sustainability of the efforts. If projects pay more attention to strengthening technical and functional capacities of AIS actors, innovation will be unleashed even in non-agricultural sectors, and support a genuine innovation ecosystem.

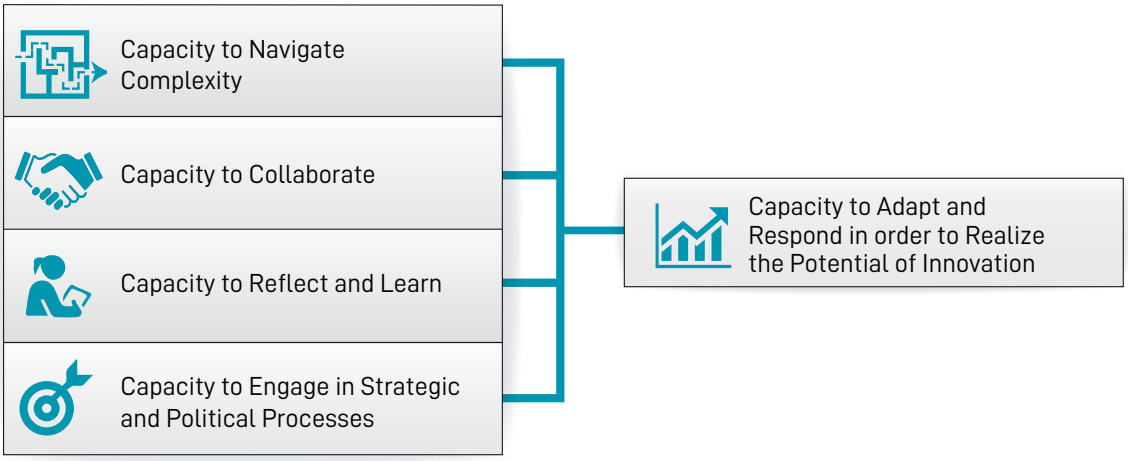


The TAP, an initiative of the agriculture ministers of the G20 countries, has adopted a common framework for strengthening technical and functional capacities, in order to address systematically the weaknesses of individuals and organizations engaged in innovation (Tropical Agriculture Platform, 2016). The development of functional capacities grounded on the TAP common framework was implemented through the CDAIS alliance and the DeSIRA projects.

[6] Co-creation has different names: co-design, human-centered design, strategic design, system thinking, and systemic innovation.

The TAP common framework focuses on five functional capacities known as 4+1 (figure 3), which allows the actors in AIS to reflect and learn, to collaborate, to navigate complexity and to participate in policy-making strategies and processes. In addition, they help to look ahead, and not just to solve present problems.

Figure 3. Functional capabilities relevant to innovation in agriculture.



Source: Tropical Agriculture Platform. 2016. Common Framework on capacity development for agricultural innovation systems. Conceptual Background. Wallingford, UK, CAB International. https://www.cabi.org/Uploads/CABI/about-us/ 4.8.5-other-business-policies-and-strategies/tap-conceptual-background.pdf

The **"capacity to innovate"** is the result of mastering the 4+1. We recommend the reader to get familiar with the methodologies and approaches developed by TAP and CDAIS. The manuals are found on https://www.tapipedia.org/es/resources#tabs-0-contentmain1

We can reinforce these capacities by way of three main areas (Gildemacher and Wongtschowski, 2015):

- Improving the skills, knowledge, competences and confidence or trust of individual actors.
- Strengthening the organizations, companies and other groups of actors by improving their internal processes and incentives.
- Creating an environment in which the stakeholders interact actively, exchange new ideas and knowledge, and engage in collaboration.

The common framework stresses the importance of working within innovation niches as spaces for learning, experimentation and transformation at the micro level, that strategically manage to stimulate sustainable change (Tropical Agriculture Platform, 2016). In the niches, learning should not only be about accumulating facts and data that comes from technical experimentation, but also about changes, attitudes and challenging assumptions. Learning within niches is collaborative; a process where actors, from similar or different groups gradually develop a partial or complementary, and enhanced, understanding. This is called two-way learning and goes beyond mere problem-solving: it challenges the implicit assumptions, values and beliefs that are inherent in our actions.

The collaborative and two-way learning takes place when the actors get to know each other in a social space, work together and learn something together through their action(s).

Innovation niches: an example

The case of the bean producers of the cooperative Productores y Comercializadores Agrícolas de Oriente (PROCOMAO) in El Salvador, is characteristic of an innovation niche. PROCOMAO producers have reported a significant progress in complying with the food standards to enter new markets. They adapted the infrastructure for dry bean storage and selection, and their installations have been registered with the health authorities, and have complied with labelling the nutritional value of their products, which adds value to their product. By complying with the demands of the buyers in formal markets, PROCOMAO is now selling its products at a better price and has increased is production, which benefits more than 150 producers (m/f). This has contributed to development in the Salvadoran region of Morazán.

Source: CDAIS (Capacity Development for Agricultural Innovation Systems). 2021. Desarrollo de Capacidades para Sistemas de Innovación agrícola en El Salvador: Sistematización y Metodología. San Salvador, El Salvador. https://cdais.net/indicio/

Exercise

Below we present a story of change that exemplifies an agricultural innovation process of funding for agriculture initiatives, the Agriculture and Innovation Entrepreneurship Programme (AIEP) in Guyana. After reading it, please answer the questions posted at the end of the story.

Successful innovation case:

High-value crops initiative - part of transforming Guyana's food sector

In Guyana, the Dr Mohamed Irfaan Ali-led Administration has made good on its promise to encourage young people to pursue a career in agriculture, with the launch of the Agriculture and Innovation Entrepreneurship Programme (AIEP). Looking to the future, the government has allocated USD 200 million in its 2023 budget for the expansion of the youth farming programme. The initiative was initially launched in January 2022, and it is the flagship undertaking to stimulate and promote economic growth in the lives of young agriculturists, increasing domestic income for consumers by retailing non-native crops at a cheaper price.

More than 100 young graduates of the University of Guyana and the Guyana School of Agriculture are engaged in shade house farming, growing crops such as broccoli, cauliflower, carrots and romaine and iceberg lettuce. Training is provided to agriculturists and qualified

individuals in various areas, including soil production, seedling production, agronomical practices, and marketing and branding.

As a result, over 16 metric tonnes of vegetables were produced. Initially, about 25 shade houses were to be established for the cultivation of three high value crops. However, the success of the programme prompted the government to invest further in the initiative. By the end of 2022, 120 shade houses were constructed to support the production.

The administration aims to engage a further 100 new young agri-entrepreneurs and increase the production of the crops by 50 percent. The ambitious goal will benefit young people by providing them with employment opportunities, and boost the country's economy by increasing food security and exports of high-value crops. The AIEP is a game-changer for Guyana's agricultural sector, and it is expected to have a significant positive impact on the country in the short and long term. Meanwhile, a fresh flower project was rolled out in 2022, which saw the production of 2551 roses, while creating additional employment and generating income for single parents.

The government's commitment to investing in the programme is a clear indication that it is dedicated to revolutionizing the agriculture sector and positioning Guyana as a major player in the global market. It is also contributing to CARICOM's target of reducing its large food import bill by 25 percent by the year 2025, with Guyana leading the initiative.

https://tinyurl.com/37ntthk5

Questions about this case:

- Does the case represent an innovation? Explain.
- Identify, using the common framework in figure 2, the stakeholders that participated in this experience.
- What were the positive contextual factors that made possible the successful outcome?

Resources for the chapter

Agrinatura & FAO. 2019b. *Innovation niche partnerships - A guide to the coaching process*. FAO, Rome and Agrinatura, Paris. https://www.fao.org/3/ca4754en/CA4754EN.pdf

Consorcio para el Desarrollo Sostenible de la Ecorregión Andina (CONDESAN). 2003. *Alternativas para financiamiento e inversión en ámbitos de pobreza rural.* Cisneros, H. and Mujíca, E. Eds. Consorcio para el Desarrollo Sostenible de la Ecorregión Andina (CONDESAN). Lima, Peru.

FAO & Agrinatura. 2019c. *Organising a Marketplace – A practical guide.* FAO, Rome and Agrinatura, Paris. 28 pp. https://www.fao.org/3/ca4688en/CA4688EN.pdf

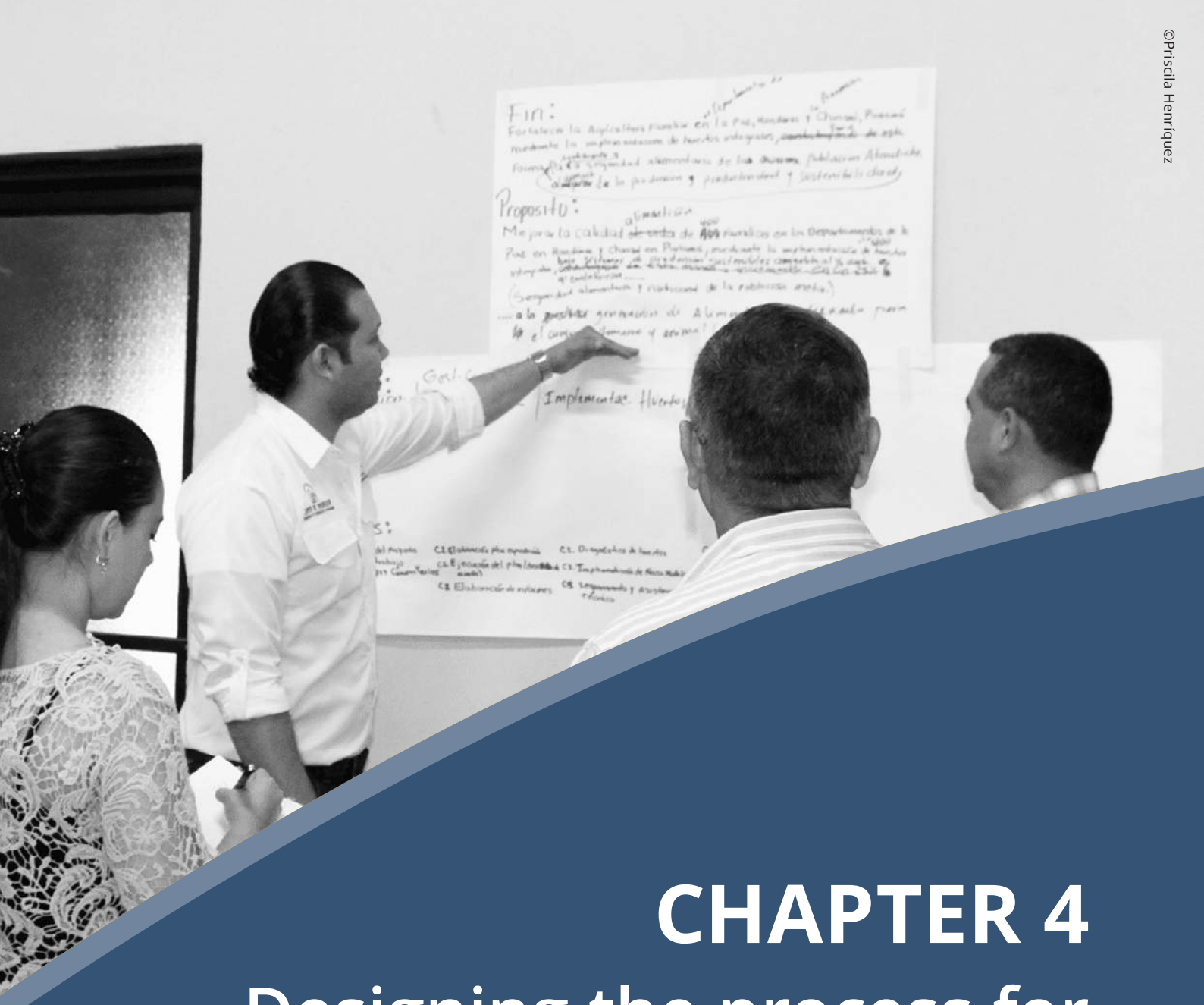
Gildemacher, P. & Wongtschowski, M. 2015. *Catalysing innovation: from theory to action*. KIT working papers. https://www.kit.nl/wp-content/uploads/2018/08/WPS1_2015_online.pdf

IICA (Interamerican Institute for Cooperation in Agriculture). 2013. *Innovaciones de impacto: lecciones de la agricultura familiar en América Latina y el Caribe.* P. Henriquez & H. Li Pun. eds. https://www.fontagro.org/wp-content/uploads/2016/06/innovaciones_impacto_sp-1.pdf

Tropical Agriculture Platform. 2016. *Common Framework on capacity development for agricultural innovation systems. Conceptual Background.* Wallingford, UK, CAB International. https://www.cabi.org/Uploads/CABI/about-us/4.8.5-other-business-policies-and-strategies/tap-conceptual-background.pdf

Finally, we advise you to look for information on the CDAIS project on https://www.fao.org/in-action/tropical-agriculture-platform/projects/cdais/en/, with resources on the following topics:

- How to coach providers of services that support innovation.
- Organizing market fairs as events that connect niche actors and providers of services that support innovation.
- Policy dialogue.
- Systems for Monitoring, Learning and Evaluation (MEL).



CHAPTER 4

Designing the process for strengthening functional capacities

Chapter 4

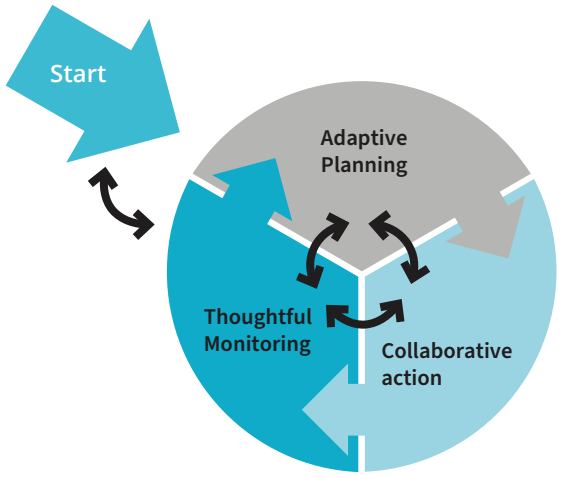
Designing the process for strengthening functional capacities

Multi-stakeholder processes are unique and will follow their own path and logic, but we have to take into account their common phases and other relevant aspects. Here we will focus on a process of four phases that are iterative: start, adaptive planning, collaborative action, and reflective monitoring for capacity strengthening (figure 4).

It must be clear why stakeholders are willing to get together, to carry out a situation analysis of the problems they are confronting, the institutions that govern their relationships and the role of power and politics involved. The wellknown SWOT analysis (strengths, weaknesses, opportunities and threats) can be very useful. FAO and INRAE (2021) offers good advice on how to carry out a SWOT analysis

The governance of the process should be clear; implementing an internal management committee is useful to ensure coordination and communication. Stakeholders support for this committee must be ensured. It is also important to determine the scope and mandate of the MSP. For instance, in an innovation niche decisions might be made about commercializing products locally or internationally or to adopt new technologies instead of embarking on participatory research. Some questions that you could address in this phase to ensure a smooth process might include: Is it clear why this MSP should be put in place? Have the initial dynamics of the situation been explored adequately? Have respected leaders been mobilized? Do we have the support of all stakeholders? Is there a diagram of the process?

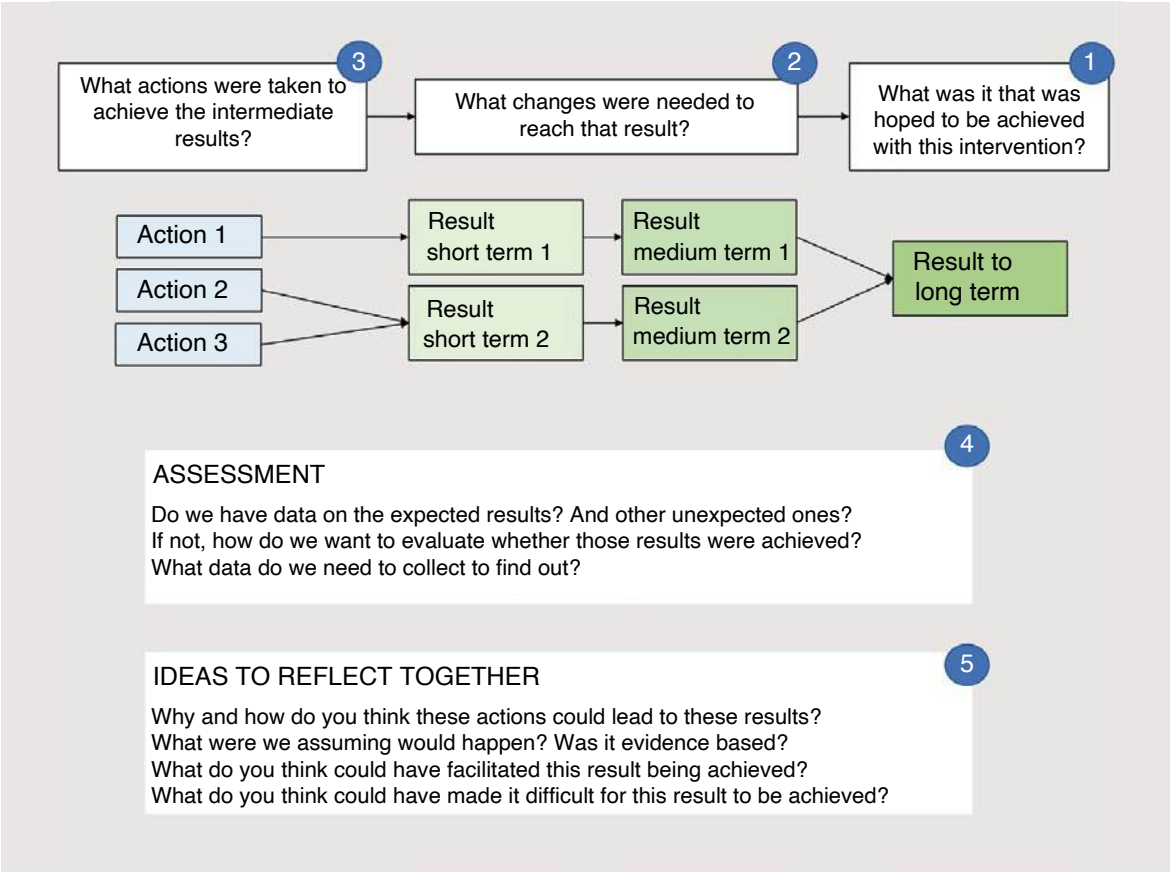
Figure 4. The model of the MSP process.



Source: FAO and INRAE 2021.

In the adaptive planning phase, deep understanding and trust among the members of the MSP are essential, as is making sure that the problems and opportunities are identified. Having consensus on visions for future scenarios by foresight exercises is useful. There has to be joint agreement within the MSP on the strategies for change, the actions and responsibilities of the members, and the way to communicate results. In other words, a theory of change has to be elaborated in this phase, with a roadmap showing all stakeholders roles and the final goal of the process, proposing also several additional ways that can help the MSP achieve its objective. Farmelo (2014) has useful suggestions on how to elaborate a theory of change:

Figure 5. Simplified model of a theory of change exercise in the evaluation phase



Source: Cassetti, V. & Paredes-Carbonell, J.J. 2020. Theory of change: A tool for participatory planning and evaluation in community health. Gaceta Sanitaria, 34(3): 305-307. https://doi.org/10.1016/j.gaceta.2019.06.002

As a facilitator, you could accompany the process by asking key questions such as: Is understanding and trust developing between stakeholders? Have visions for the future been generated? Have problems and opportunities for different stakeholder groups been identified? Have different scenarios been examined? Have strategies for change been agreed upon? Are the results of the process shared and communicated appropriately?

For collaborative action, it is essential to develop detailed action plans and secure resources and support. Here it is crucial to develop capacities for action. It is pertinent to understand if the stakeholders have the technical and functional capacities required for success. Administrative structures must be established, and implementation has to be managed. In the process, stakeholder support must be maintained, so that there is no demoralization, and the MSP does not break down. Making plans is not the same as putting them into action; after the initial enthusiasm, stakeholders may feel burned out, disappointed or confused, and there may not be energy left to put plans and ideas into action. Your role as facilitator includes supporting the work, thus at this stage it is worth asking if action plans been developed, and if the required resources and support been secured. Do stakeholders have the necessary capacity to act? Are the necessary organizational structures in place? Is the commitment of the stakeholders intact?

Finally, reflective monitoring, evaluation and learning (MEL) is about creating a learning culture and environment, identifying the underlying assumptions that guide the process,

defining success criteria and indicators, developing and implementing monitoring mechanisms, reviewing the process, generating lessons, and using those lessons to improve. You can use the following questions to guide MEL: Has a learning culture and environment been created? Have monitoring mechanisms been developed and implemented? Has progress been reviewed and evaluated, and lessons identified? Have the lessons learned been fed back into the implementation strategy and procedures?

We refer you to a guide that shows us how to design and facilitate multi-stakeholder partnerships, with tools to guide this process (Brouwer *et al*., 2016).

You may also find useful the guide to organizing a policy dialogue in the framework of innovation niches (Agrinatura and FAO, 2019a).

The process of capacity strengthening within collaborative action

Let us recall that capacity building process for AIS is important for the ultimate goal of improving the quality of life of small producers and entrepreneurs, in order to ensure an equitable distribution of the benefits, and an enhanced system. This is the expected top-level change. This process needs to be designed and therefore, it is useful to think of innovation niches as places of learning, experimentation and transformation at the micro level, where diverse stakeholders come together, and which have the potential to foster sustainable change.

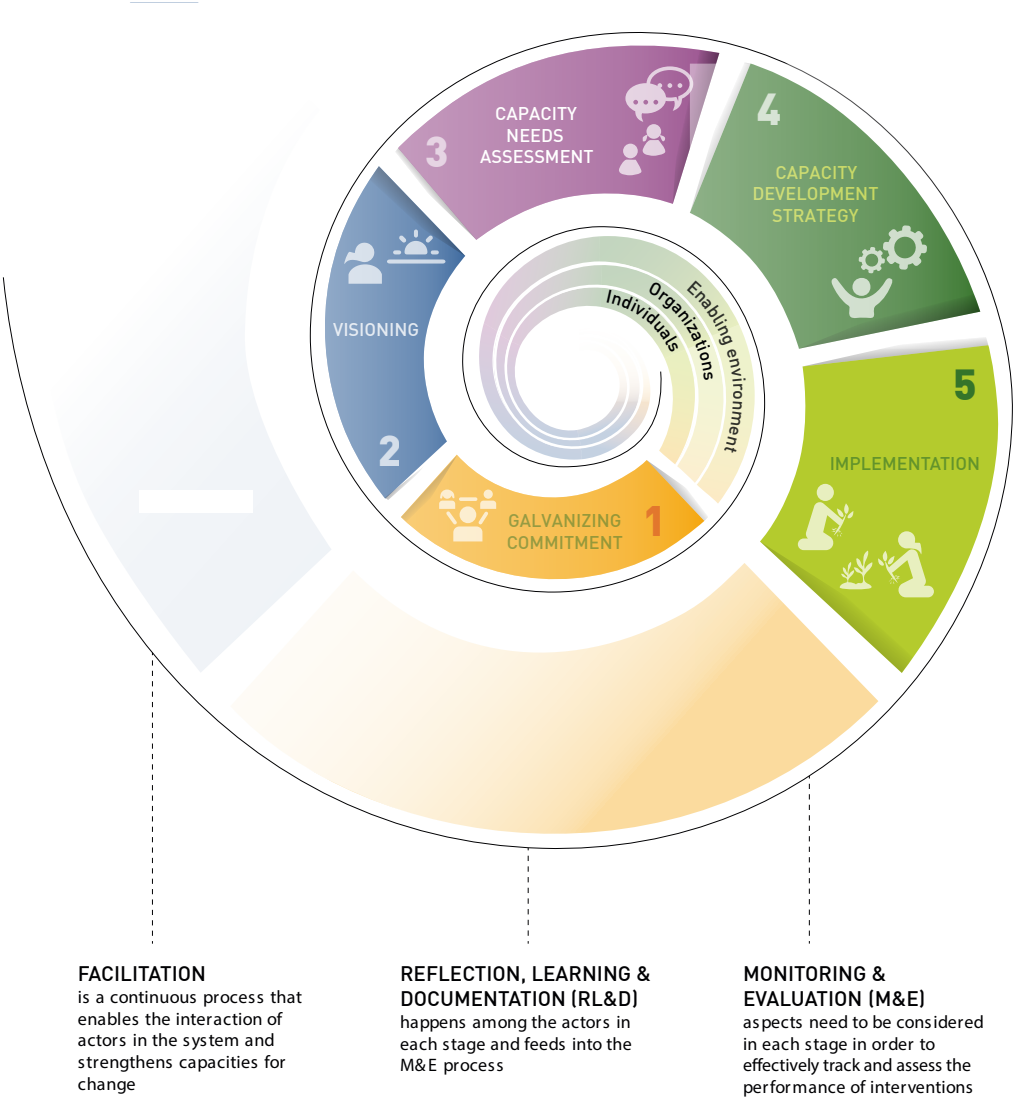
The capacity building cycle for AIS is presented in figure 6. This begins with the creation of a joint vision for the MSP and serves to identify the innovation niches in which to work and promote learning and innovation, and also to communicate learning. It can build on existing platforms around a single product or value chain for example, or it can consist of establishing new MSP by starting processes from scratch. Experience shows that many successful MSPs build on experiences from past projects or initiatives. The niches depend on the circumstances, such as the following, which will surely be familiar to you:

- By their origin, niches can be based on farmers, organizations, projects or associations.
- Depending on their initial purpose, they can focus on a problem, on solutions or on opportunities.
- By the type of niche leader, it could be a farmer organization, a government agency, an NGO or a private company.

Surely, you already worked in an innovation niche, for example, you do participatory research to find the best way to control a crop disease, or perhaps you lead capacity building in an NGO dedicated to connecting honey producers with markets, or you are an extension agent who seeks to improve the production and transformation of cocoa in a region. This means that you will need to design the process by which the stakeholders will create a vision and will work to solve that problem. Remember that for any thematic area, good design is something that works well for the users' needs in a given context. There will never be a simple recipe; rather, we need to follow an iterative process together with the AIS and MSP stakeholders, where they assess the current situation, plan, implement,

review, adjust and plan again. Leadership will be needed to create a vision within a specific institution or organization. It will also be necessary to identify 'champions' in the AIS who are enthusiastic about the approach and who will ensure that the agreed steps are carried out.

Figure 6. The capacity development cycle for the AIS.



Source: Tropical Agriculture Platform. 2016. Common Framework on capacity development for agricultural innovation systems. Conceptual Background. Wallingford, UK, CAB International. https://www.cabi.org/Uploads/CABI/about-us/4.8.5-other-business-policies-and-strategies/tap-conceptual-background.pdf

Your first task will be to do an assessment of the needs to strengthen the functional capacities, which we will discuss in the next chapter. The guide to the organizational strengthening support process, developed for innovation niches, is a very useful resource in this regard. We recommend that you take a break from reading and visit the CDAIS website and read more about the organizational strengthening steps followed in the projects in Guatemala, Honduras and El Salvador[7].

7 See more at https://tapipedia.org/sites/default/files/cdais_m2-org_-_organisational_strengthening_2020-04-10_2.pdf

Successful innovation case:

Sugar Town Organics: healthy beauty products from St. Kitts and Nevis

Anastasha Elliott is an agri-entrepreneur who adds value to her home country's organic and indigenous plant and sea ingredients through her business, Sugar Town Organics. This is a health and wellness company that Elliott started in 2004, specializing in ethical products made from natural ingredients, usually from her garden, the neighboring mountains, or an organic herb farm in her community. The products are 100 percent vegan.

Sugar Town Organics' beauty brands, Yafeen and Marapa Skincare, feature "Caribbean food infused" vegan skin, hair and body care products inspired by the traditional beauty practices, herbal remedies, food and culture of the Caribbean.

Flauriel, Elliott's food and beverage brand, features craft wines, condiments, snacks and Caribbean products and other products using traditional practices. For example, Flauriel Soursop Jelly is made from freshly squeezed juice of Soursop plucked straight from Elliott's garden. Other edible popular products are salad dressings, banana wine and several hot sauces.

Elliott is passionate about the role of natural remedies in the maintenance of good health and wellbeing - and she is equally passionate about entrepreneurship.

Saint Kitts and Nevis, officially the Federation of Saint Christopher and Nevis, is an island country consisting of the two islands of Saint Kitts and Nevis, both located in the West Indies, in the Leeward Islands chain of the Lesser Antilles. With 261 square kilometers of territory, and roughly 50,000 inhabitants, it is the smallest sovereign state in the Western Hemisphere, in both area and population, as well as the world's smallest sovereign federation. The economy is characterized by its dominant tourism, agriculture, and light manufacturing industries. Sugar was the primary export from the 1940s onwards, but rising production costs, low world market prices, and the government's efforts to reduce dependence on it have led to a growing diversification of the agricultural sector. St Kitts and Nevis is heavily dependent upon tourism to drive its economy, a sector which has expanded significantly since the 1970s.

Entrepreneur activities such as Sugar Town Organics thrive with the influx of tourists to the country. In addition, it contributes to the livelihoods of people who provide the company with the inputs for making their products.

Analysis of the story of change:

- Based on the information provided in this story, outline the success factors that make this story a good case.
- Describe how as a facilitator of innovation processes, you and your institution could have contributed to achieving other unanticipated results.

As detailed in the story of change above, capacity development can be built on the structures already existing in a community, taking advantage of proven governance mechanisms and the relationships of trust that exist between the actors. This would make more efficient the efforts to implement a capacity building roadmap in which the steps proposed above are followed.

The first action when organizing capacity building is to carry out a needs assessment, as we explain in the following chapter.

Resources for the chapter

Agrinatura & FAO. 2019a. *Organisational Strengthening - A guide to the coaching process.* FAO, Rome and Agrinatura, Paris. https://openknowledge.fao.org/server/api/core/bitstreams/ams/80e4fbf4-97c8-4888-86b0-f7d195cd3ac7/content

Agrinatura & FAO. 2019b. *Innovation niche partnerships - A guide to the coaching process.* FAO, Rome and Agrinatura, Paris. https://www.fao.org/3/ca4754en/CA4754EN.pdf

Brouwer, H., Woodhill, J., Hemmati, M., Verhoosel, K. & Van Vugt, S. 2016. The *MSP guide : how to design and facilitate multi-stakeholder partnerships*. Wageningen University, CDI and Rugby, United Kingdom, Practical Action Publishing. https://edepot.wur.nl/543151

Cassetti, V. & Paredes-Carbonell, J. J. 2020. *La teoría del cambio: una herramienta para la planificación y la evaluación participativa en salud comunitaria.* Gaceta Sanitaria, 34(3): 305-307. https://doi.org/10.1016/j.gaceta.2019.06.002

FAO & L'institut National de Recherche pour L'agriculture, L'alimentation et L'environnement (INRAE). 2021. *Enabling sustainable food systems. Innovators' handbook.* Rome. [Cited 11 August 2021]. https://www.fao.org/3/ca9917en/CA9917EN.pdf

Farmelo, M. 2014. *Sugerencias para Elaborar una Teoría de Cambio.* William and Flora Hewlett Foundation. [Cited 17 August 2021]. https://orgsefectivas.org/wp-content/uploads/Guia-TOC-v.-Mar-11-2015.pdf

SAGARPA (Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación); IICA (Interamerican Institute for Cooperation in Agriculture); Coordinadora Nacional de las Fundaciones Produce (COFUPRO), n.d. *Innovar para competir. 40 casos de éxito.* Consulted on 28 August, 2021. [Cited 28 August 2021]. https://www.redinnovagro.in/docs/E_BOOK_40_CASOS_EXITO.pdf

CHAPTER 5

Needs assessment for strengthening functional capacities

Chapter 5

Needs assessment for strengthening functional capacities

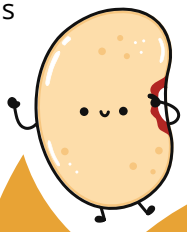
The capacity of individuals refers to the competencies –basic knowledge, skills, attitudes and energy– necessary to work effectively.

The CDAIS project developed a very useful tool called "Performing functional capacity needs assessments. An Instructors' Manual" (Agrinatura & FAO, 2019c). It is an easy to use four-day course with exercises for facilitators of multi-stakeholder innovation processes. In this chapter, we will review some important concepts and give a few ideas for implementing a workshop to carry out needs assessment, and we encourage you to consult the guide for more information. In addition, you can find more information to make your facilitation work more effective in the Service Center for Health and Community Development toolkit, included in the resources in this chapter ("Center for Community Health and Development").

What is an assessment, and why do it?

The capacity building process does not occur de facto; it must be designed. Carrying out a capacity building needs assessment is critical to understand the readiness of the MSP and organize the appropriate interventions. The lack of a clearly articulated checklist of basic competencies for innovation process facilitators affects not only the execution of the processes, but also the quality of the dynamics in the AIS. In addition, there are never enough resources, so it is necessary to establish a baseline or prioritization to know where we stand, and thus be able to draw up a plan that can be executed rationally.

Within the CDAIS framework, the prioritization begins with implementing participatory workshop to train the facilitators of innovation niches. It is important to discuss in the workshop the concepts of AIS and of the strengthening of MSP members' capabilities (figure 7). The objective is that everyone understands the concepts and terminology of the AIS and the partnerships in the innovation niches, and has a common understanding and shared vision, experiences and lessons. The participants also need to appreciate the complexity of a problem and why the participation of different stakeholders is needed to find solutions.



Did you know that...

...while the immediate objective of capacity building is to improve the performance of individuals, organizations and the system to make it more effective and efficient, interventions must develop the capacity to adapt to new and changing environments, as well as the capacity to learn and analyse the internal and external context, and to engage and partnerships.

An effective way of demonstrating and sharing towards this goal is through practical exercises. For example, case scenarios can be presented that describe a given situation and problem, and how it was resolved through the MSP's interaction in a particular environment. The purpose is for the facilitators to internalize the case and be able to answer questions such as the following: what are the limitations that were overcome? Which parties involved should or should not participate? What information will they need to make decisions and prioritize actions? Where will they obtain this information? How will they communicate with each other and who will initiate this communication?

You can prepare your own cases based on your experiences facilitating processes with MSPs and derived lessons for innovation from them. Make sure that you have enough information to help you with the analysis, such as statistics, graphs or diagrams, recorded verbatim, results of interviews, and others. Here we propose to use the following example, presented at an agricultural innovation contest in LAC that denotes functional capacities among smallholder farmers in the Caribbean. At the end, we propose some questions for analysis.

Figure 7. Participatory workshops are a good tool to discover the needs for capacity building for innovation, with the interaction of many parties involved.

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Successful innovation case:

Local farmers' inventiveness: development of innovative agricultural equipment in Trinidad and Tobago

Taken from IICA, 2013.

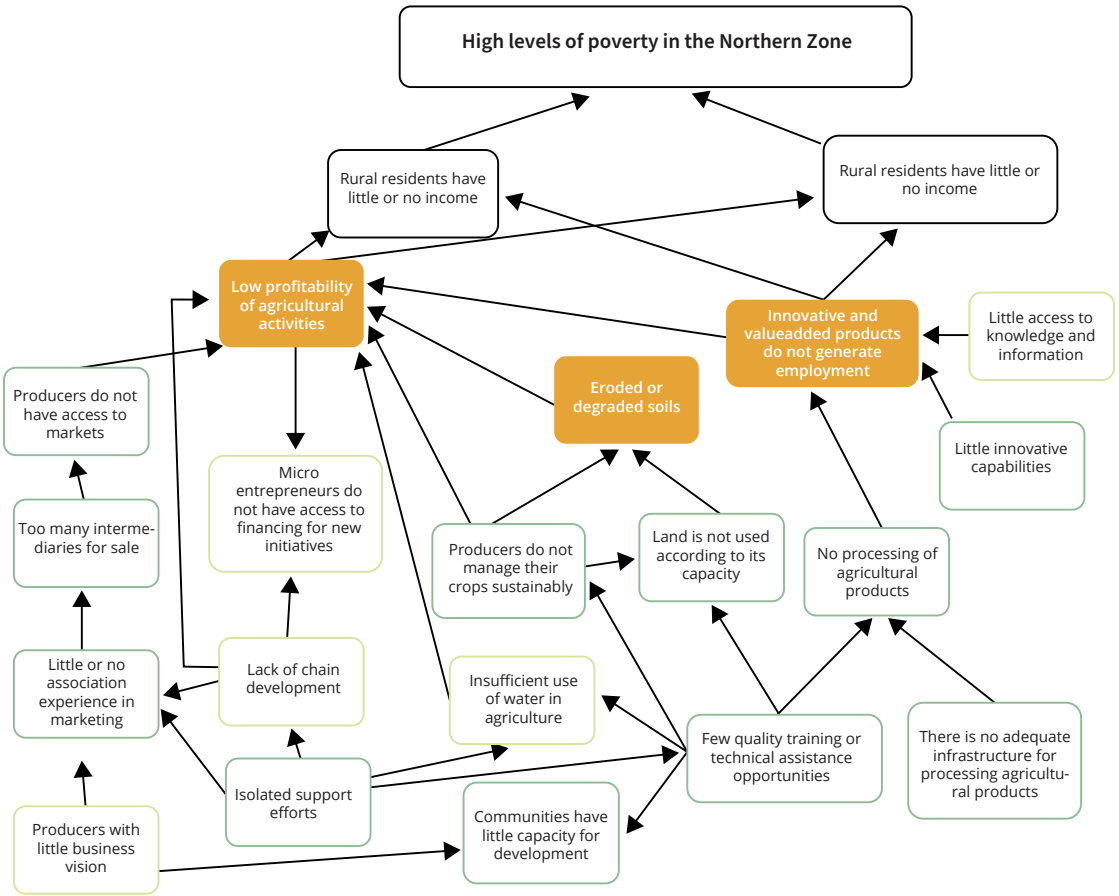
The lack of affordable agricultural equipment and the inadequate management of limited agricultural soils are two key factors affecting the agricultural sector in the Caribbean region in general. The Ramsaroop family is representative of the farming community in Trinidad and Tobago. The family faces the same difficulties of many small farmers in the country, such as a lack of adequate technical assistance, limited agricultural extension services and inability to obtain credit. However, the Ramsaroop family is characterized by remarkable creativity, knowledge of good business management practices, and above all, hard work. With these tools, the Ramsaroops have overcome the disadvantageous situation they found themselves in. In addition, they are highly motivated to help others have a better life. They are true innovators: using scrap materials, parts and fragments of old commercial equipment, they built a series of agricultural machinery including a furrower, a mist sprayer, a planter, a harvester and a sugar cane mill. These technological advances are surprisingly affordable, simple, and easy to maintain and repair. Using these tools, the Ramsaroop family has increased the productivity of their small farming operations. Although this is only a small initiative, it is very successful, and has a potentially enormous impact on the lives of dozens of small farmers in the Caribbean. The creativity of these farmers is already widely known, and several national organizations have publicized their small machinery and tools among farming communities. Despite this relative small success, much more is required to ensure that small farmers in the region learn and can benefit from these implements and from the organizational tools of this family.

Analysis:

- Identify the elements of complexity in the environment where this initiative takes place.
- Mention the protagonists' functional capabilities to solve the problems that they faced in this case.
- In your role as facilitator of innovation processes, how would you contribute to strengthening this initiative?
- What elements of the environment would lead to an innovation like this becoming widespread?
- What functional capacities would be necessary to strengthen in your own organization to help disseminate successful experiences like the one presented?

In this case, we see that the innovations developed by these smallholder farmers are not being utilized beyond their farm. Along the way, during design, testing and validation, some technologies and processes fail simply because they do not work or do not align with the needs of the people who want to use them. Frequently, we are asked how to scale up innovations beyond initial efforts supported by projects. From an execution and risk management standpoint it is important to have a diverse and thriving innovation portfolio that can suit the needs of different groups of stakeholders. Here is a very good resource on Innovation and Scaling, produced by the CGIAR, which in 2.5 hours will give you a basic understanding of how to support scaling up of innovations[8].

Figure 8. Example of a problem tree.



Sourse: Priscila Henriquez, unpublished data.

The CDAIS manual detailing the needs assessment process for strengthening technical and functional capacities, starts with a shared vision. Developing this vision requires several tools, such as field visits, holding workshops with interested parties, drawing up timelines, preparing problem and solution trees with stakeholders (figure 8), and network map analyses that takes into consideration the actors (individuals, groups, organizations) and the links that connect them to each other.

8 See more at https://cdais.net/wp-content/uploads/2019/08/CDAIS-M1-CNA-Capacity-Needs-Assessments.pdf

Carrying out a baseline study using a multi-stakeholder capacity assessment questionnaire could help you as a starting point. This questionnaire might have two components, an individual scoring and a focus group discussion. A structured questionnaire will also help you to identify the gaps in training needs and the actions needed to overcome them.

The process will also be used to assess project performance at the immediate results level, reflected in the changes in capacities due to the specific interventions. The baseline and the results are measured using 25 indicators, in the following categories:

1. Ability to handle complexity.
2. Ability to collaborate.
3. Capacity for reflection and learning.
4. Ability to get involved in strategic processes.
5. Technical skills.
6. A favorable environment for innovation.

We refer you back to the CDAIS manual to familiarize yourself with the tools for assessing capacity building needs[9].

Resources for the chapter

Agrinatura & FAO. 2019e. *Capacity Needs Assessments – A trainers' manual (2nd edition)*. Agrinatura, Paris, and FAO, Rome. https://agritrop.cirad.fr/596185/1/Capacity_Needs_Assessment-a_trainers%27_manual_v2.pdf

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9 https://www.fao.org/documents/card/es?details=CA4276EN/

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CHAPTER 6

Developing leadership that contributes to innovation

Chapter 6

Developing leadership that contributes to innovation

I don't know how to explain to you that you should care for other people.
Dr. Anthony Fauci

Without a doubt, leadership is one of the functional capacities at the base of innovation processes. Both individual and organizational leadership is required to handle the complexity of AIS, by managing relationships and processes at multiple levels, responding to changing agendas and expectations by adjusting processes and actions, unlocking processes, creating incentives, managing alliances, managing joint agendas, and other activities. For these reasons, it is crucial to develop skills for promoting collaboration and processes of reflection, dialogue and learning.

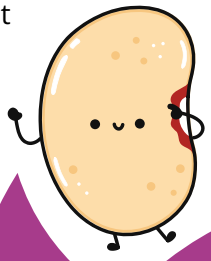
Individual leadership

Throughout our lives, we are impacted positively and negatively by different people because of their leadership or lack of it. We all know people who are capable of mobilizing the will of groups and carrying out amazing actions, with impactful results. The purest leadership is the one that is formed through the influence generated by the trust and respect of others towards you.

Great leaders started out as average people and then learned how to lead. With support, motivation, and the right principles, anyone can become a great leader. The first step is to understand that leadership is more than just a position and make a conscious decision to be someone worth following.

Surely, you already know the main characteristics of effective leaders:

- **They know how to listen with empathy,** putting themselves in the place of others. This is the key to excellent communication.
- **They are constantly learning,** always seeking to learn from the experiences of others, through books and courses, or with mentors.
- **They take care of their health.** Great leaders understand that to improve their



Did you know that...

...whether you're raising a family, leading a team, or running an organization, you need to lead. The question is not "Am I a leader?" It's not even "Am I a great leader?" The question is "Am I being the best possible leader for the current situation, based on the needs of the people who need my leadership?" You must develop strong interpersonal and collaboration skills, which are essential for anyone who aspires to have a meaningful career and life.

contribution, they have to care about their body and mental state, which is essential to staying productive.

- **They are responsible.** Leaders do not blame others for the decisions they make and own the results.
- **They are focused.** Good leaders understand what is most important and channel their efforts towards it.
- **They are empathetic and compassionate:** Effective leaders are emotionally wise and care about helping people in specific ways.

However, there are big differences between being a leader and being an exceptional leader. It is the latter who makes the difference in participation in any MSP. For example, good leaders set goals; but great leaders have unique visions that are meaningful and inspire people. Good leaders are optimistic about the future while great leaders know how to cultivate optimism in others. They are practical thinkers who can go from visualizing to making things happen and see both the big picture and the fine details. Good leaders work within the status quo, but great leaders break with conventional wisdom and see the possibilities for new ways to create and deliver value. Good leaders are committed, while great leaders know that to gain commitment, they must harness passion and show people why and how following them will help others move toward their aspirations.

The first step to become an exceptional leader and collaborate more affectively in an MSP is to know yourself, because great leaders always know how to handle themselves, understand their own motivations, and know where they have more space to learn and grow. A good place to start is by knowing your strengths and weaknesses. Start by taking a self-assessment test to discover how you perform best and where you could make your greatest contribution. How do you learn? How do you communicate? Are you a listener, a writer, or do you communicate through action? Do you work better with large or small groups? Are you a compassionate person?

Then ask some of your colleagues to help you, giving you feedback. Some helpful questions are: What are my strengths? What are my weaknesses? What can you count on me for? What can you not count on me for? What do you think I am the best at doing? The answers to these questions will help you find a leadership style that suits your personality.

The FAO and INRAE "Manual for Innovators" (2021) develops the concept of organic leadership as a lifestyle, where the leader influences others through compassion. This concept is made up of six principles:

1. Relationships shaped by collaboration.
2. A community formed by the narrative.
3. Influence shaped by compassion.
4. The direction shaped by discovery.
5. Authenticity is shaped by responsibility.
6. Networks made up of structures of people.

Think about how you could help implement these principles when you are working on your MSP. People do not necessarily follow a person; they follow a mission. Hence it is so important that they work together to define the mission and vision. And remember to lead by example. Getting your hands dirty is just as important as conducting strategic planning. Putting yourself in the shoes of often marginalized groups, such as youth, women, and the elderly, is one of the most valuable lessons in becoming a good leader and contributor in MSPs (figure 9). Sometimes careful listening and empathy is enough to achieve collaboration. Show appreciation for supporters, recognize the contributions of MSP members, especially the younger ones who will appreciate the encouragement (figure 10). This way, you will have the empathy and compassion to work hand in hand with them and achieve the results they deserve.

Let us talk about personality, understood as the characteristic set of behaviors, cognitions and emotional patterns that evolve from biological and environmental factors. Although there seems to be no general consensus on the definition of personality, most theories focus on motivation and psychological interactions with the environment. Trait-based theories define personality as those traits that predict a person's behaviour. On the other hand, more behaviour-based approaches define it through learning and habits. Thus, those who emerge as leaders tend to be more outgoing, conscientious, emotionally stable, and open to experience (Judge *et al*., 2002).

People with high emotional intelligence are more likely to emerge as leaders, as they have a greater ability to understand and relate to others. These people have skills to communicate and decode emotions and treat others wisely and effectively. Also, they are better able to read the politics of a situation, communicate their ideas more strongly, and are less likely to lose control of their emotions or to be inappropriately angry or critical.

Figure 9. Exercises to strengthen leadership among rural women's groups.

Figure 10. Rural youth in El Salvador leading a process of strategic planning. Source: Photo by Priscila Henríquez, 2021.

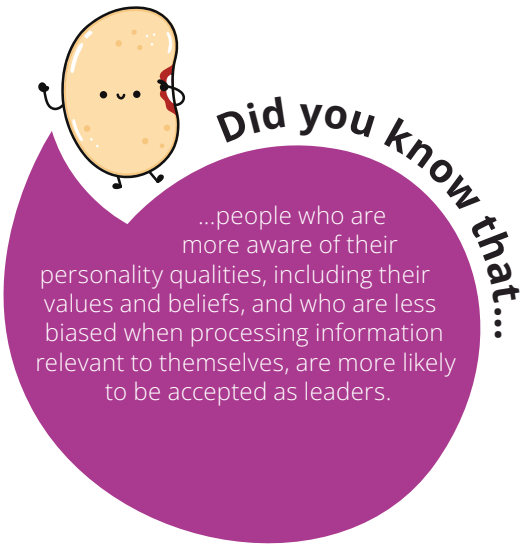
©Priscila Henríquez

There is a personality inventory called the Myers-Briggs Type Indicator® that has four personality components based on the ways individuals prefer to use their perception and judgment. These are: introversion/extroversion, sensory/intuitive, thinking/feeling, judging/perceiving. Identifying basic preferences from each of the four dichotomies gives rise to 16 distinctive personality types[10]. This personality test is free and might interest you[11].

Finally, we suggest that you review the GFRAS manual which is a useful resource for working with communities, and which deals with fostering community leadership (GFRAS, 2016).

Organizational leadership

Innovation support services tend to be very diverse. For example they may include the support for: the emergence and structuring of an innovation community or an MSP, the organization of partnerships, experimentation and development for innovation, advocacy for policies, search for funding for certain activities, or even intellectual property issues of a new technology that may be causing mistrust in MSPs. Many organizations, partially meet these needs even



10 See more at https://www.myersbriggs.org

11 https://www.16personalities.com/free-personality-test

though they perform roles of facilitators. Frequently there is insufficient coordination between supporting organizations, sometimes leading to duplication or even inconsistency in the support offered.

Strengthening the organizational capacity of these facilitating institutions is important to contribute to their leadership and enable support for innovation and AIS niches. In order to play a better role, internal changes may be required in the organization, for example in human resource management, knowledge management and relations with partners, including customers, suppliers and others. The process of strengthening these organizational capacities could raise sensitive issues, such as the challenge of the organization's management style or strategic options; therefore, adequate planning and direct consultation with the management team is required, especially in the definition of the objectives, limitations and possible results. The questions that could be asked to begin an analysis are: are the AIS, the niches to be served (or prioritized) and the potential clients well identified and defined? Is the organization committed to strategic thinking about its services? Is the management style conducive to realizing participatory diagnostic approaches? Depending on the situations encountered, it will be possible to focus on certain aspects of the organization's operations or services using the appropriate participatory diagnostic tools.

To think about:

As a leader, develop a deep sense of wonder for every human being. Educate yourself to honour and treat everyone you come across with the utmost respect. Anyone who can feel the effects of their/your position or position deserves your full attention. This is a matter of deliberate practice, as well as spiritual disposition.

Have you ever felt what it means to be ignored by your boss or anyone else with a higher social status than you? Such an experience may have not only hurt you, but also weakened your sense of self-esteem. Just remember not to ignore whoever may be waiting for your help or recognition. Others feel just as hurt when ignored. We must be attentive to all the people we meet.

People will seek to associate with you if they know you will honour their story and truly listen to it.

Source: Kalunga-Bunda, M. 2007. Leading like Madiba: Leadership lessons from Nelson Mandela. Double Storey Books.

For organizational diagnosis, CDAIS has used the organization map developed by Stanfield (2000), which uses eight variables to differentiate four types of organizations and provides a quick overview of the current and potential status of an organization (figure 11). Ideally, the most effective organizations in AIS or those supporting MSPs tend towards netarchy, that is, they are characterized by being better adjusted to their present and future needs, and are flexible. These organizations must be able to operate in a more networked world, with small teams or subunits capable of solving problems autonomously given their high connectivity and non-linear performance. The culture and behaviour patterns of this type of organization include collaborative learning, teamwork, mobilization of collective intelligence, encouragement of entrepreneurial behavior, and high levels of experimentation and autonomy with clear limits. Another characteristic is

that they establish conditions and processes in order to be agile, and show a high degree of adaptability with rapid prototypes and feedback, but without sacrificing the structure of the support services and the support for quality standards.

In general, organizations that support innovation processes and show good performance in this activity have three main capabilities (see figure 12):

1. **Organization:** this is the internal operation in relation to its identity (raison d'être, vision, values, memory), its capital (financial and material human resources), and its formal and informal structures (routines, procedures, systems for information exchange).
2. **Relationship:** refers to the organization's relationships with the outside world. Is the organization dependent or independent of others? Does it influence them? Does it have an affirmed legitimacy? Does it routinely exchange information with the outside world, and what is the nature of these exchanges?
3. **Delivery:** refers to the organization's services and products, for example, the technical knowledge and the relevance, effectiveness and sustainability of the AIS developed by the organization.

Key elements of participatory organizational analysis needed to anchor capacity building in the CDAIS experience

Participatory organizational analysis anchors the support process to allow organizations to develop or strengthen their innovation support services.

Purpose: The purpose of the organizational analysis is to help the organization achieve an understanding of the strengths and weaknesses of an AIS in the national context, and a common vision of opportunities to develop or improve its AIS and corresponding capacity-building needs.

Methods for implementation: the analysis is carried out by an external team of facilitators in close collaboration with the organization's management. These national innovation facilitators, as can be called, work on the basis of the agreed objectives and the desired process results.

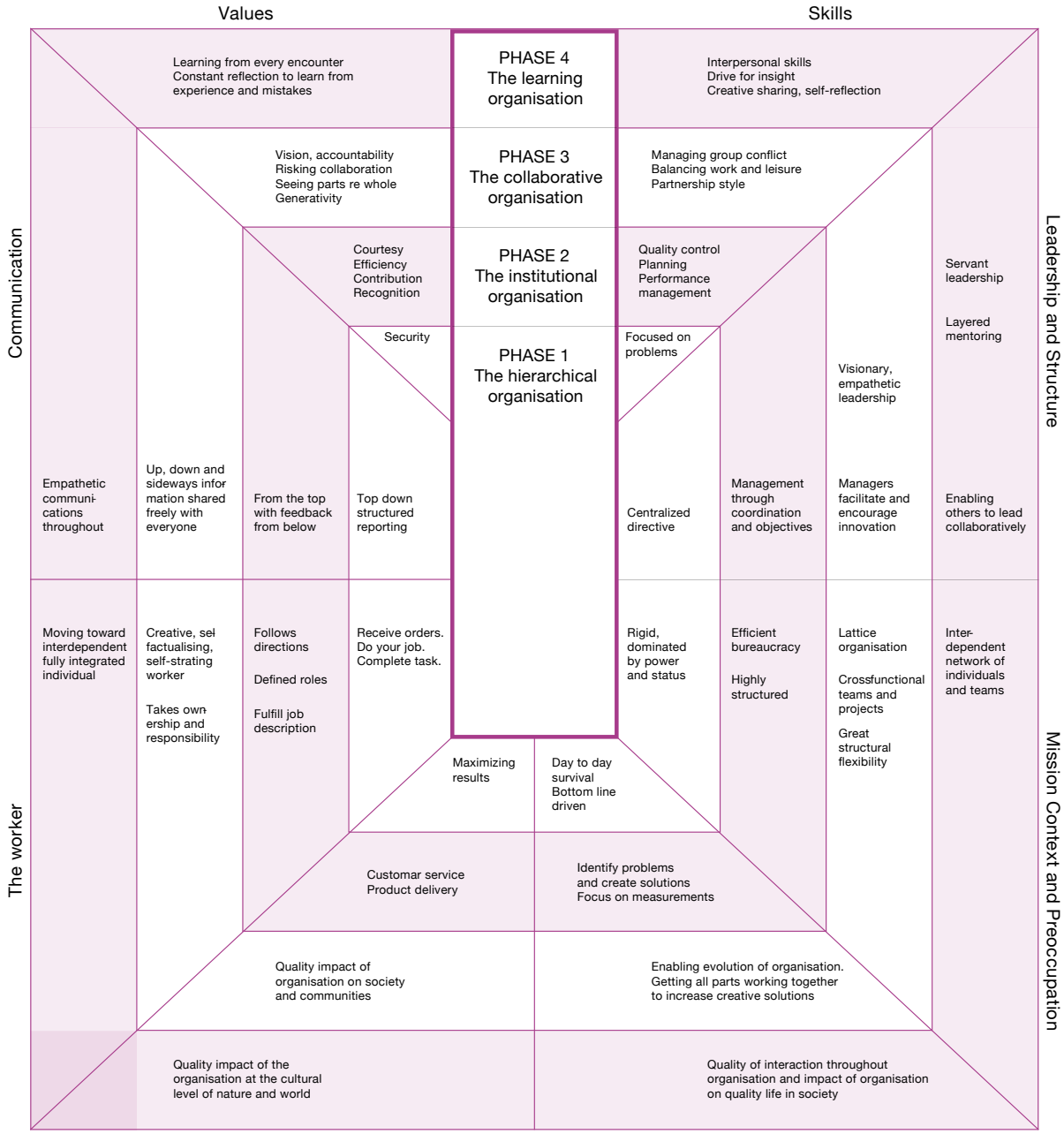
Contractual relationship: the organization must adhere to the approach, validate the tools to be used, and commit to providing the necessary information and human resources to carry out the process. In turn, the external team validate the stages of the process with the management team and make abailablethe results.

Key principles: involvement of the management team from start to finish, as well as trust placed in the team of facilitators,the choice of tools, and the steps to follow are essential to achieve the objectives and guarantee ownership of the results.

Outputs: The main output is an internal action plan for the organization that can be implemented by stakeholders, and an accompanying support plan.

Source: FAO. 2020. Evaluation of the project "Capacity Development for Agricultural Innovation Systems (CDAIS)". Projet Evaluation Series, 06/2020. Rome. [Cited 20 August. 2021]. https://openknowledge.fao.org/server/api/core/bitstreams/fab76563-dd66-41fb-a4c6-4fee18bc4bfe/content

Figure 11. Map of organizations.



Source: Stanfield, B. 2000. The Art of Focusing Conversations: 100 Ways to Access Group Wisdom in the Workplace. Chicago, IL, US, The Institute for Cultural Affairs. [Cited 6 September 2021]. https://srinathramakrishnan.wordpress.com/wp-content/uploads/2017/12/the-art-of-focussed-conversation.pdf

Source: FAO. 2020. Evaluation of the project "Capacity Development for Agricultural Innovation Systems (CDAIS)". Projet Evaluation Series, 06/2020. Rome. [Cited 20 August. 2021]. https://openknowledge.fao.org/server/api/core/bitstreams/fab76563-dd66-41fb-a4c6-4fee18bc4bfe/content

To be effective in accompanying the organizations supporting AIS and MSPs, we recommend that you review the guide that discusses the different stages: preparation of the process, organizational analysis, joint planning of actions and finally, action, reflection and adjustments[12].

Finally, let us also remember that higher education institutions are important facilitators and collaborators in many innovation processes in agriculture, as they are an essential

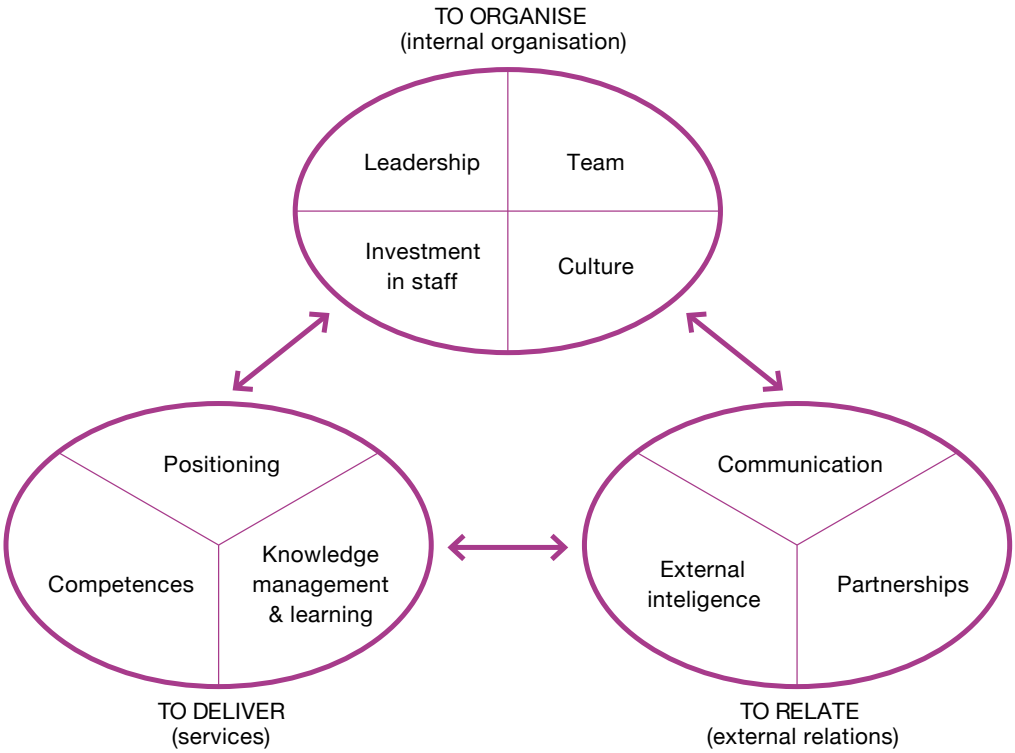
12 https://www.fao.org/documents/card/es/c/CA4858EN/

component of many MSPs and AIS. It is crucial that these organizations have tools to prepare their as ethical leaders, capable of solving problems in creative and innovative ways. This change can be achieved by integrating five key elements into the educational system of universities, which are listed below:

1. Experiential/participatory learning.
2. A university that shows commitment with the communities.
3. Solving problems and conflicts by means of dialogue.
4. Ethical leadership, based on values.
5. Social entrepreneurship training and business development.

These elements are developed in detail in the project "Transforming Higher Education", This link provides material that may be of use[13].

Figure 12. The three capabilities of an organization needed to deliver support services for innovation.



Source: FAO. 2020. Evaluation of the project "Capacity Development for Agricultural Innovation Systems (CDAIS)". Projet Evaluation Series, 06/2020. Rome. [Cited 20 August. 2021]. https://openknowledge.fao.org/server/api/core/bitstreams/fab76563-dd66-41fb-a4c6-4fee18bc4bfe/content

13 https://transforminghigher.education/

A successful innovation case:

Bringing young blood to agriculture[14]

La John Jones is a young farmer in Barbados. Jones started farming at a young age. He recalls growing crops like lettuce and tomatoes in his backyard and selling them for "extra pocket money". He grows and sells over 25 different crops to anyone who wants to grow them in Barbados." John Jones has an impressive seed library with nearly 700 likes from his rapidly growing fan base. Jones is the 30-year-old director of Thirteen Acre Farms Ltd who has become an authentic Bajan celebrity since acquiring his own farm in 2021.

He believes in giving back to the community that spawned his success and, in this regard, has added an educational component to his farm – teaching others to implement good practices, and how to farm and keep their books properly... He wants to reduce his country's food import bill by growing crops such as broccoli, which Barbados specializes in imports directly. He also hopes to open farms throughout the Caribbean that will support 25 of the region's initiatives by 2025.

Jones, a well-traveled former college basketball star who graduated from Illinois State University with a bachelor of science degree in agribusiness, wants to foster engagement and participation in the production of local foods from Barbados. For more than a year, he has been providing hands-on farming training to both children and adults. "Teaching my people to farm and sharing the knowledge has always been a big thing for me," he says. "Let's all grow together."

Jones is the founder of "Farm like a Bajan", an initiative designed to foster engagement and participation in the production of local foods to keep people healthy. The curricula is designed to be interactive and the goal is to educate as many young persons as possible, through hands on training. The classes include Beginners Gardening (for Adults), Kids Gardening Class 1 (Ages 3 – 16), Advanced Farming (Adults) and Father & Son Farming (All Ages).

This initiative demonstrates how invention, motivation and goodwill can contribute to consumer awareness on the nutritional value of local foods. Barbados has a high incidence of chronic non-communicable diseases such as diabetes, stroke, high blood pressure, heart attacks and obesity. Food production efforts such as those of Thirteen Acre Farms Ltd contributes to local availability of fresh foods, food safety and quality, and general food security in the country. Moreover, the production and consumption of more local foods produced by this and other farms contributes to the modernization and growth of the sector.

Questions

- Identify the main actors and the role they played in the experience.
- What functional capabilities were essential to the success of this initiative?

14 https://biz.crast.net/these-five-caribbean-young-farmers-are-redefining-cool/

- Identify drivers, specific roles and activities in terms of empowerment, motivation and knowledge.
- If you were to embark in coaching an organization towards a more effective leadership role in an MSP, what steps would you take? Who would you involve?

Resources for the chapter

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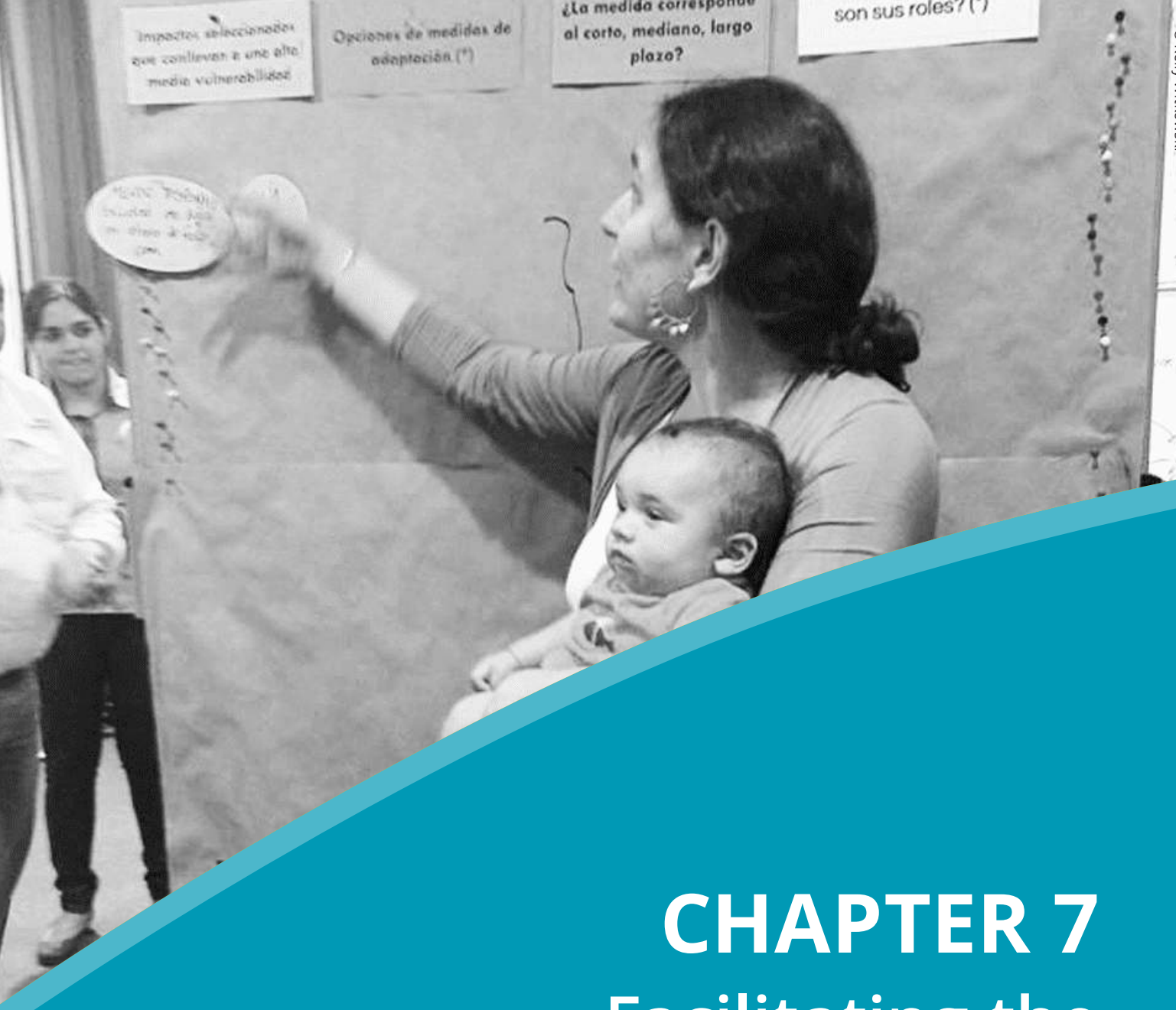


CHAPTER 7
Facilitating the participation of multiple stakeholders

Chapter 7

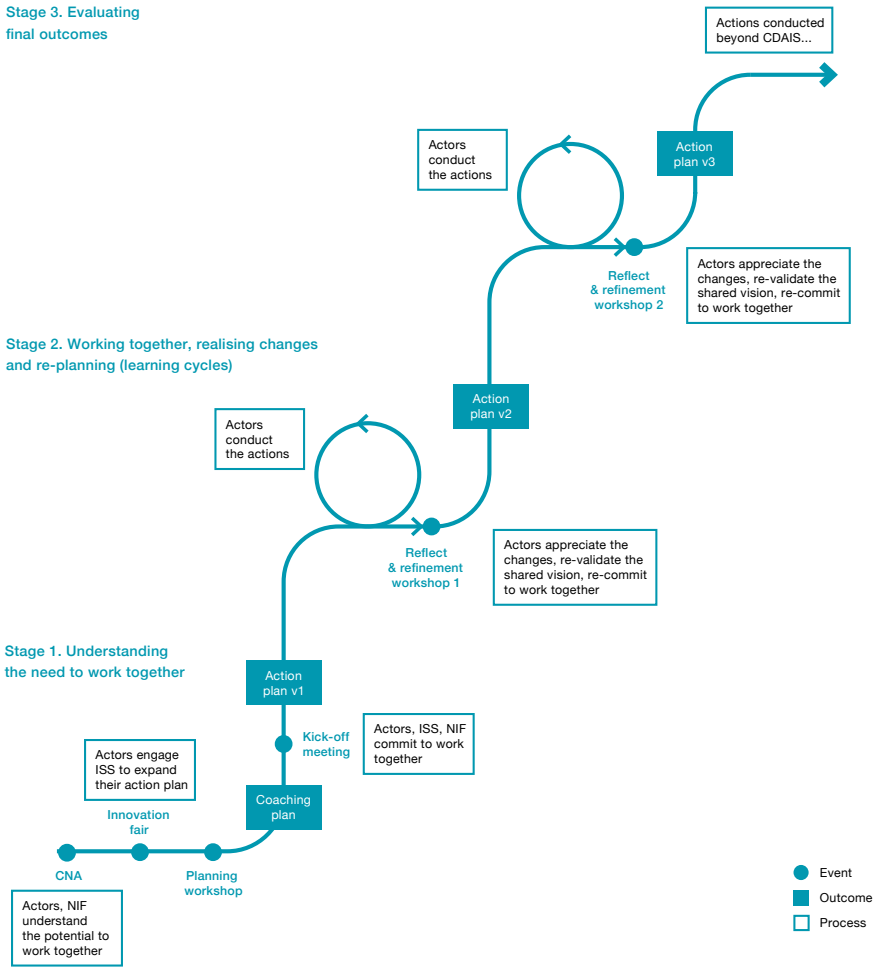
Facilitating the participation of multiple stakeholders

Involving everyone - participation cannot be imposed or restricted!

Throughout this guide, we have stressed that to help unleash innovation processes in agriculture it is equally important to strengthen functional and technical capacities. In the previous chapter, we dived into individual and organizational leadership. A second extremely important functional skill is that of facilitation, which, coupled with leadership by institutions, is conducive to positive outcomes for all involved.

Research organizations, extension organizations, NGOs or academic institutions usually have facilitation functions in MSPs and niches with complex characteristics and objectives (figure 13). Effective group facilitation requires appropriate tools, including some visualization tools that many of us are already familiar with, such as the use of whiteboards and cards (figure 14). After the COVID 19 pandemic, the use of several online platforms has allowed us to participate remotely in participatory exercises.

Figure 13. Essential actions in the facilitation of processes for innovation in niches.

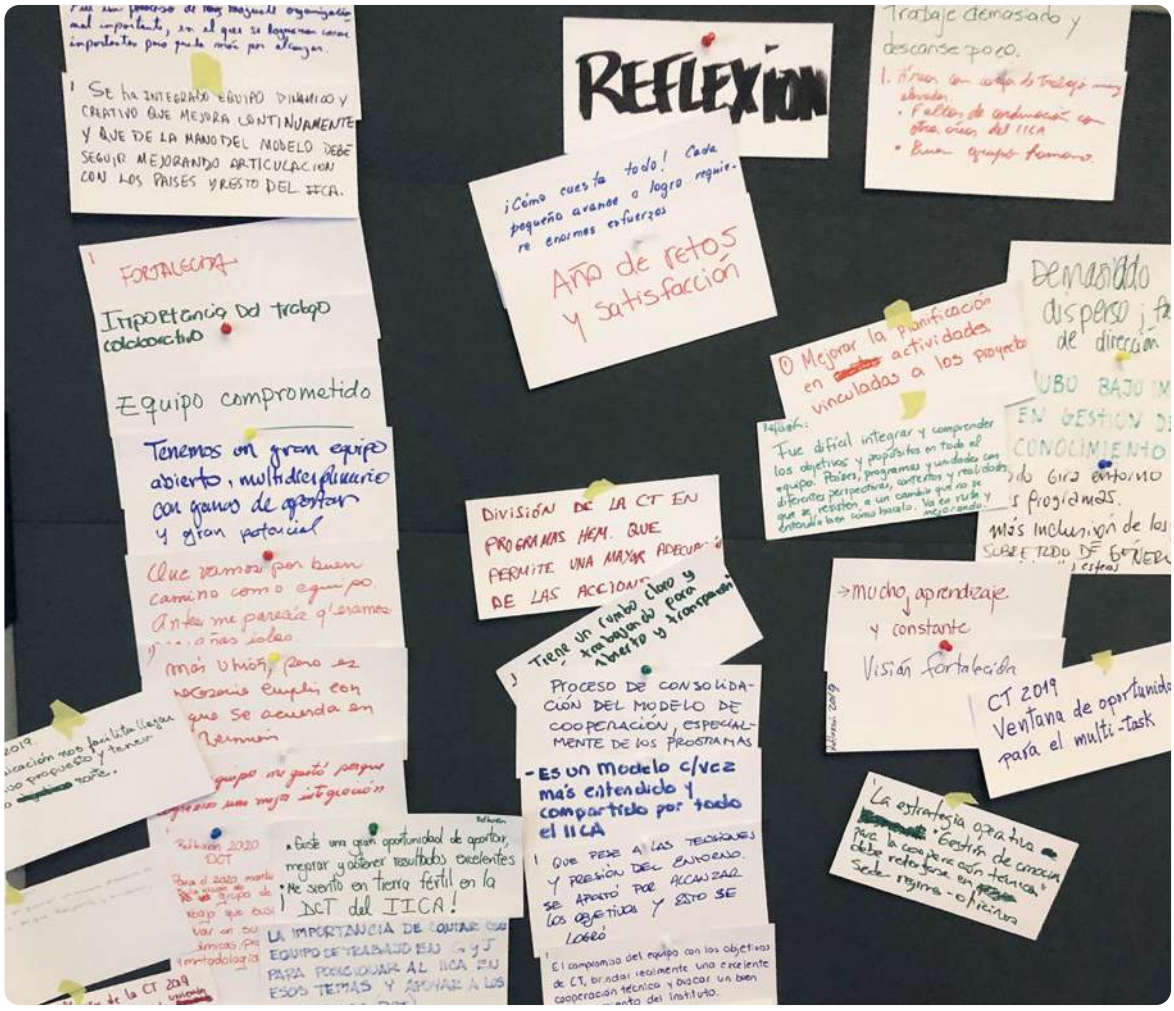


Source: FAO. 2020. Evaluation of the project "Capacity Development for Agricultural Innovation Systems (CDAIS)". Projet Evaluation Series, 06/2020. Rome. [Cited 20 August. 2021]. https://openknowledge.fao.org/server/api/core/bitstreams/fab76563-dd66-41fb-a4c6-4fee18bc4bfe/content

Facilitation

The concept of facilitation is important in strengthening capacities for innovation, since it refers not only to communicating and sharing information, but also to fostering synergies between people and resources, and improving capacities to make collective decisions. Facilitation strengthens interactions and relationships between individuals, organizations and their social, cultural and political structures, through the construction of networks and social learning that occurs through dialogue and negotiation. This guide is intended for facilitators of this process, be they individuals or organizations.

Figure 14. The use of good tools should encourage everyone to share successes and failures, "the good, the bad, the ugly".



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We have seen that the results of innovation depend on the iterative and evolving interaction and learning between the actors.

When working with any MSP, you often facilitate processes, including face-to-face or virtual meetings, workshops, roundtables, and other events. The virtual modality proved its effectiveness in times of the COVID-19 pandemic, and allowed for collaboration in times

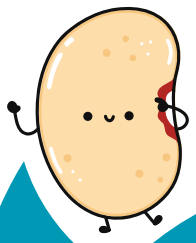
when it was impossible to meet face-to-face. Nowadays, virtual tools are becoming the norm as alternatives for expensive face-to-face meetings. Managed well, these tools can provide an excellent means of facilitation process for innovation. They are practical, free or cheap, easy to use and available everywhere where Internet services exist. We encourage the reader to get familiar with video conferencing software that enables you to arrange virtual events, principally zoom[15], klaxoon[16] and padlet[17].

Facilitation can be defined as the set of skills, techniques and tools to create the conditions that allow a satisfactory development of group and personal processes, both in terms of achieving objectives as well as realizing a vision. Facilitation is key for the creation of a relational climate with trust and fluid, empathetic and honest communication. As its name indicates, facilitation consists of enabling understanding between different parties with a common objective in a specific process.

Surely, many of us have carried out facilitation processes in our organizations, when we work with MSPs searching to solve a problem, or when we programme activities, design projects, evaluate or follow up. From experience, we know that each process is different in each case and requires adapting the tools to work with MSP or in innovation niches. Here we will give some tips on how to strengthen your individual capabilities as facilitators, which also contributes to strengthening the capacities in your organizations.

Figure 15. Many MSPs manage to resolve sticky issues with a good facilitator who, using visualization tools, guides the discussion to find consensus.

©Kelly Witkowski



Did you know that...

...there is an internal and an external perception of behaviour. Most people make rational decisions based on the information available. The emergence of 'irrational' behaviour only means that there is a misunderstanding. When facilitating, you have to be prepared to take action and accommodate all opinions, rather than simply gather information.

15 https://zoom.us/

16 https://klaxoon.com/

17 https://padlet.com/

In negotiation events, participatory meetings and other group events

A good facilitator focuses on how the meeting is structured and takes steps to make sure everyone can participate. This includes actions such as the following:

- Understanding the goals of the meeting and the organization.
- Making sure everyone feels comfortable participating, keeping the group on the agenda and ensuring moving forward.
- Developing a structure that allows everyone's ideas to be heard and decisions to be made democratically.
- Making sure the group feels that the ideas and decisions are theirs, not just those of the leaders. Therefore, support everyone's ideas and do not criticize people for what they have said.
- Involving everyone in the meeting, by promoting the participation of shy people and controlling the participation of those who tend to dominate te conversation. On other words, facilitators strive to make all members of the group feel good about their contributions to the meeting.

Figure 16. The facilitator must have the ability to establish, and focus on, the objectives and results of a group and to give clear orientation, even in the face of more dominant voices.

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The facilitator interacts effectively with the stakeholders to facilitate capacity development through a series of learning cycles. The conventional tasks of a facilitator include, among others: communication, information exchange, active listening, getting actors together to collaborate and carrying out logistical activities (figure 16).

Quick steps for facilitating inclusive meetings and workshops:

STEPS FREQUENTLY NEEDED	Why?
Planning a workshop session	
• Establish objective and expected results.	People are here for a reason.
• Design an agenda.	This helps to guide the workshop, to be aware of the general plan, and to keep time.
• Check the accessibility of the workshop.	Ensures that your session can include participants with different accessibility needs.
Presentations	
• Welcoming the participants to the meeting	This puts people at ease.
• Introduce yourself	To build trust and legitimacy.
• Present the purpose of the event.	To have agreement on why people are here and to have shared objectives.
• Explaining how the session will proceed.	So that the participants understand the rationale of what they are asked to do. It generates agreement on how to achieve the goal of the meeting.
Building trust	
• Develop dynamics with names and surnames, breaking the ice.	This takes away anxiety and nerves. It helps people to get to know each other before kicking off.
Participation and discussion	
• Give clear instructions (the explanation can take different forms).	People will feel included. Trust increases.
• Memorize and use the participants' names and surnames.	This makes people feel that they belong. It builds trust.
• If mistakes are made, admit them.	This shows integrity, and commitment to the group. It makes people feel at ease.
• Ask questions. • Questions should be as open as possible.	This makes the conversation livelier. This ensures that people are not just heard, but also listened to.
• Observe participants who talk a lot or those who are silent, try to include them all.	Gives a sense of belonging. Orients power dynamics Increases meaningful participation. Leads to better results.
• Be receptive to the energy and mood of the group.	It builds trust. Shows commitment to the group. Makes people feel included. Leads to better results.
• Keep the time.	This keeps the process on track. Leads to better results. It builds trust.
Closing	

• Recapitulate the results of the event and the next steps.	This makes sure that the opinions of all participants are included, and that people are not just heard, but also listened to. It guarantees that there will be a follow-up.
• Make sure that all participants understand the steps agreed upon.	This builds trust. It allows for smoother and more realistic processes.. It shows purpose.

In the innovation niches

Facilitation in innovation niches promotes willingness of people to innovate or work towards a shared goal. This association constitutes a space where a group of actors becomes part of a learning process. According to the common TAP framework, there are three defined stages that or critical events in the evolution of a *partnership*:

Stage 1. Actors commit to working together.

Stage 2. The actors take steps to carry out a first set of actions, appreciate the changes that occur due to joint work, and commit to teamwork

Stage 3. The second set of actions is carried out. Here the changes are appreciated and the actors again commit themselves to work together. At each stage, relationships and trust in joint work are strengthened. The organizations acting at bridges in the process must have leadership and the ability to facilitate these steps for the MSPs to achieve their goals, and therefore to contribute to more functional AIS.

Let us review a story of change that exemplifies institutional leadership to support agricultural producers who move from low-profitability activities in extremely difficult agroecological environments to the production and marketing of products with considerable value added.

Successful innovation case:

Grants for innovation: The Critical Ecosystem Partnership Fund (CEPF)

The Critical Ecosystem Partnership Fund (CEPF) is a joint initiative that provides grants to civil society organizations in island countries to protect nature in the fight against climate change. The fund is a joint programme of l'Agence Française de Développement, Conservation International (CI), the European Union, the Global Environment Facility (GEF), the Government of Japan and the World Bank (WB).

In the Caribbean countries, properly managing natural resources and natural ecosystems has an immediate and direct influence on human well-being. This includes using nature-based solutions to prevent and reduce the impacts of severe weather. For instance, in Haiti, CEPF funded a project where people are restoring mangrove forests to create a buffer for future storms, including setting up a nursery to grow an initial 10 000 mangrove trees. Mangroves form a natural barrier between the ocean and the people who live on land, breaking waves

and limiting the impact of heavy winds. If your village is on a beach without mangroves, the winds and waves come straight to your community, and you lose your roof, your house, your crops. People tend to forget nature's power to both protect and destroy, and as a result, mangroves have been cleared in a large number of places. Since 2007, the six areas where the fund invested in Haiti have seen a 17 percent increase in forested land. When communities are given the chance to work on reforestation, these initiatives are very effective because communities know they will be the first to benefit.

Watersheds can be damaged or destroyed by heavy winds, so if a forest is heavily fragmented, it is more prone to be destroyed. Maintaining large blocks of forest increases the resistance of forests to extreme weather. These watersheds are the main source of fresh water for many people, which is even more important during a hurricane when fresh water resources can be scarce. Without forests, rainwater runs off on bare soil, flows into the ocean along with sediment and makes the water turbid, killing coral, reducing the productivity of fisheries, and producing degradation and erosion of the land that people rely on for their livelihoods.

In the Dominican Republic one of the grantees developed the country's first protected area management plan, focusing on the Humeadora Mountain National Park. This park provides 70 percent of the water for Santo Domingo, the capital city of the Dominican Republic and home to nearly one million people. Implementing this management plan has helped the Dominican Republic minimize harmful impacts on this critically important watershed. In Jamaica, another grantee did a climate change risk assessment that identified a decrease in freshwater supplies as a potential future problem. As a result, Jamaican civil society groups are now taking proactive steps to restore forests.

Before starting investing in a region like the Caribbean Islands, the fund runs a locally led consultation process where they talk to NGOs, the private sector and governments. The way the fund operates is unique, because these partners are the ones who actually define where we should invest the resources to conserve biodiversity. CEPF is supporting projects implemented by local communities, for local communities.

Questions:

- What makes this case a successful innovation?
- Which elements of the environment facilitated achieving the goals?
- Identify two lessons learned in terms of the speed of progress in innovation processes.

The experience described in the previous cases includes aspects of participatory research that lead to innovations when there is strong leadership, funding, involvement of the communities and good bridging or facilitating organizations.

To obtain positive changes in the territory, it would first be necessary to break with institutional and organizational inertia that sometimes occurs in these initiatives when things do not move at the pace that people want. Government commitment and political will is necessary, as well as community leadership for the projects go beyond the individuals, and to ensure sustainability. These conditions facilitate links between various actors and their

joint interests based on scientific knowledge integrated with traditional knowledge, where the perspectives of policy makers converge with the expectations of the communities. Sustained financing and the promotion of synergies has a multiplier effect, allows sustainability of the actions and contributes to impact. Let us remember that facilitating organizations frequently take the lead in the management funding for development and innovation projects. For this reason, organizational leadership and a clear institutional policy that allocate resources are required, especially for strengthening negotiation capacities, strategic planning, priority the setting, among other tasks at, in addition to foster participatory planning processes with the local organizations. Burin (2017) offers useful suggestions to facilitate business innovation processes that can be beneficial for linking producers with markets.

Structures that contribute to facilitation

Traditionally, support for facilitation processes has been given through structures where there is more or less flexibility, exchange, and the entrance or exit of a facilitator. Conventional microstructures help us guide the way we can organize routine interactions and joint work, including that with MSPs. We are used to presentations, facilitated discussions, status reports, open discussions and brainstorming, which also shape our conversations and dominate activities in organizations. A common set of techniques for facilitating and motivating participation known as liberating microstructures can be very useful for facilitators. These microstructures are easy-to-learn interaction methods that improve the way of relating and building trust, promote active participation of groups of any size, and allow everyone to unleash their potential (Lipmanowicz and McCandless, 2013). The liberating structures provide 33 additional options to conventional facilitation and make it possible to build a type of organization and MSP to which we would all like to belong, because they make it possible to generate small changes in the way meetings are held, and in planning, decisionmaking and relationships.

What are Liberating Structures?

Many leaders know that they could achieve better results in their teams if all team members were fully involved in their organization. To avoid unwanted practices, we can use microstructures, which consist of practical methods of structuring specific short-term working groups where a small or large number of people can participate and contribute.

Here we refer to five liberating structures that you could use to contribute new ideas, solve a problem, unleash inventiveness and help improve communication and understanding in an MSP. In other words, their use can facilitate these processes. You can try the 33 microstructures, and we suggest that you start with the following five. You can find the information on their website[18].

Here are some structures that you may find useful in your work with MSP.

18 https://www.liberatingstructures.com/

1-2-4-All

This liberating structure involves everyone at the same time in generating questions, ideas, and suggestions.

Duration: from 10 to 12 minutes.

What does this achieve? It allows you to simultaneously include everyone, regardless of how large the group is. More and better ideas can be generated quickly. You can take advantage of the knowledge and collective creativity that is distributed in the least expected places. But most importantly, the participants own the ideas, so follow-up and implementation is easier. There is no need to "sell them the idea" or convince them to apply it! It is simple and elegant.

What are Liberating Structures?

©Liberating Structures

How does it work?

Invitation: Ask a question about a problem to be solved or a proposal. For example: what opportunities do you see to solve this challenge? How would you handle this situation? What ideas or actions do you suggest? The question invites participation from one's own perspective and is validated in a group.

How is the space arranged, and the materials? There is no limit to the number of groups. Design the room for participants to work face to face in pairs and groups of four. Chairs and tables are optional. Provide material for participants to record observations and ideas.

How is participation distributed? Everyone participates in some group (usually the only people not included are the facilitators of the activity, but this is also optional). Everyone has the same opportunity and time to contribute.

How are groups set up? They start responding individually, then in pairs, then in quartets, and finally as a full group in plenary.

Sequence of steps and times: each person begins by reflecting on and answering the question on the invitation and writing down his/her ideas (1 minute). They get together in pairs, share their individual reflections and identify similarities, generate new ideas or define conclusions (2 minute). Each pair joins another to form a quartet where each pair shares the ideas generated together, and take note of similarities and differences (4 minute).

15 percent Solutions

Useful for discovering and focusing on the freedom and resources each person has in the present moment.

Duration: 20 minutes.

What does this achieve? Actions are revealed, however small they may be. This will build momentum and make a big difference.

The *15 percent Solutions* liberating structure shows that there is no reason to wait, feel helpless or afraid. It helps people level up. It makes people and the group focus on what they can propose instead of what they cannot change. With a very simple question, you can transform the conversation about what can be done and find solutions to big problems that often occur prominently in places where people d not know each other.

How does it work?

Invitation: in relation to your personal challenge or the challenge of your group, ask: what is your 15%? Where do you have space and/or freedom to act? What can you do without more resources or permission?

How is the room arranged, and the materials? There are chairs for people to sit in groups of two to four; tables are not required.

How is participation distributed? Everyone is included, everyone has an equal opportunity to contribute.

How are groups set up? People start individually and then work in pairs or small groups.

Sequence of steps and times: first individually, each person generates their own list of 15 percent Solutions. (5 minutes). People share their ideas with a small group of two to four members (3 minutes per person and one person at a time). Group members consult with each other and offer advice (5-7 minutes per person, one person at a time).

Discovery and Action Dialogue (DAD)

Discover, invent, and unleash local solutions to chronic problems.

Duration: from 25 to 70 minutes.

What does this achieve? It makes it easier for groups or communities to discover practices and behaviors that allow some individuals (without having special resources and with the same limitations) to find better solutions (than their peers) to common problems. These practices and behaviors are called positive anomalies (Positive Deviance – PD). DAD allows a group of people, a unit, community or other group to discover these positive anomalies for themselves. DAD also creates conditions that stimulate the creativity of the participants in spaces where they feel safe to invent new practices. Resistance to change fades as participants freely choose which practices to try and adopt, and which problems to face. It allows participants to have leading roles regarding the solutions attained.

How does it work?

Invitation: ask people to reveal unspoken or latent solutions to shared problems that are hidden among the members of a MSP. Ask anyone interested in solving the problem to get together in a small group and participate in a DAD. Once they are assembled as a group, ask these seven questions:

1. How do you know that problem X occurs?

2. How do you effectively contribute to solving problem X?

3. What prevents you from doing this or taking these actions all the time?

4. Do you know someone who can often solve problem X and overcome barriers? What behaviours or practices make this success possible?

5. Do you have any ideas on how to solve the problem?

6. What has to happen for it to materialize? Any volunteers?

7. Who else should be involved?

How is the space arranged, and the materials? Groups can stand or sit around a table. Paper, flipchart or some technology tools that allows recording the findings.

How is participation distributed? The facilitator presents the questions. Everyone is invited to join and participate. Everyone in the group has an equal opportunity to participate.

How are groups set up? The facilitator works with another person as rapporteur. Groups can have from 5 to 15 people. Diversity in roles and experiences is important.

Sequence of steps and times. Describe the purpose behind the initiative and describe DAD. Invite the participants to introduce themselves one at the time (5 minutes). Ask the seven questions one by one in the order given in the invitation. Ask the questions to the entire group and give everyone an opportunity to answer

each question. Make sure the rapporteur captures key findings and actionable ideas when they emerge – great ideas can pop up when you least expect them (15–60 minutes). Ask the rapporteur to recap the findings, actionable ideas, and who else should be included (5 minutes).

Improved prototype

Develops effective solutions to common challenges while having some serious fun.

Duration: 20 minutes.

What does this achieve? Engaging a group to learn and improve rapidly by touching three levels of knowledge simultaneously: a) explicit knowledge shared by the participants; b) tacit knowledge, discovered by observing the performance of the other; and c) latent knowledge, that is, new ideas that arise and develop together. This powerful combination can be the source of transformative experiences and, at the same time, it is a lot of fun. Participants identify and act on solutions to chronic or daunting problems. Several people are invited to act out simple elements that work to solve a problem. The innovations represented in the improved prototype are gradually assembled from the union of the parts.

How does it work?

Invitation: Invite participants to identify a common and frustrating challenge in their work, and then to experiment, invent, and discover better ways to address the challenge by role-playing a situation and its possible solutions.

How are the space and materials arranged? An open space or stage at the front or in the middle of a room. If necessary, use props for the scenes. Small groups of chairs to accommodate all participants.

How is participation distributed? Everyone is included as a player or observer. Some volunteer to be "players." Everyone else acts as observers and evaluators, then as co-creative players.

How are groups set up? A small group of players on “the stage”. Everyone else, the observers, in small groups in front of or around the stage.

Sequence of steps and times: explain what will be done and describe the sequence of steps (2 minutes). Set the scene by describing the scenario to be enacted and the various roles (3 min). Players on stage act out the scene (3–5 minutes). Each small group of observers performs a retrospective consultation with the liberating structure 1-2-4-All, they identify successful and unsuccessful “fragments” of the scene they just observed (5 minutes). Each group of observers then puts the successful pieces together into a new prototype and volunteers in the group represent the new prototype for their own group only (5 minutes). The participants

of one of the groups of observers make an improved volunteer prototype, they go on stage and present their version in front of the whole group (3 to 5 minutes). Continue with as many rounds as it takes to come up with one or more prototypes that are good enough to put into practice.

User experience fishbowl

Shares the knowledge gained from the experience with a larger community.

Duration: 35-70 minutes.

What does this achieve? A subset of people with direct experience in a field can quickly foster understanding, spark creativity, and facilitate adoption of new practices among members of a larger community. Fishbowl sessions have a small inner circle of people surrounded by a larger outer circle of participants. The inner group is made up of people who have made concrete progress on a challenge of interest to those in the outer circle. The fishbowl design makes it easy for people in the inner circle to share what they have done by commenting on their experiences while chatting with each other. Informality breaks down barriers with direct communication between the two groups of people, and facilitates the flow of questions and answers back and forth. This creates the best conditions for people to learn from each other by discovering answers to their own concerns within the context of their working groups. You can stop imposing someone else's practices! You can find tools designed specifically for extension workers in “Module 2: Extension Methods and Tools” and “Module 7: Introduction to Facilitation for Development”, both from the Global Forum for Rural Advisory Services (GFRAS), added for your reference in this chapter.

Remember that strengthening facilitation skills to stimulate more effective participation of people in any process and better understanding of MSPs are likely to enable facilitators to have a beneficial impact on other innovation alliances. Do not limit your vision to the MSP. Eventually, by participating in networks, you will be able to put the tools into practice in broader spaces for interaction. In addition, with information technologies being used routinely, there is a new world of facilitation tools at your disposal. Be prepared!

How does it work?

Invitation: Ask those in the fishbowl (inner circle) to describe their experience: the good, the bad and the ugly, in an informal, concrete and open way. Invite them to converse with each other as if the audience was not there and they were sharing stories around as if they were stuck in traffic on the way to the airport. Firmly tell them not to present themselves to the audience. Invite people outside the fish tank (outer circle) to listen, observe non-verbal exchanges, and ask questions within their small groups.

How are the space and materials arranged? Three to seven chairs in a circle in the middle of a room. Inner circle microphones if the entire group is larger than 30 or

40. If possible, a podium or bar stools make it possible for people in the outer circle to better see the interactions. As many chairs as needed in an outer circle around the inner circle, in groups of 3–4 chairs. In large groups, have extra microphones ready for questions.

How is participation distributed? Everyone in the inner circle has an equal opportunity to contribute. Everyone in the outer circle has an equal opportunity to ask questions.

How are groups set up? An inner circle of 3 to 7 people. One outer circle in multiple small satellite groups of 3–4 people. The 1–2–4–All liberating structure frame configuration can be used, with the 'All' for retrospective reference.

Sequence of steps and times: explain the fish tank setup and steps (2 minutes). The inner circle conversation continues until it ends of its own accord (10–25 minutes). The groups of satellites in the outer circle make observations and questions (4 minutes). Questions sent to the inner circle are answered, and back-and-forth interaction between inner and outer circles continues as needed until all questions are answered (10–25 minutes).

Resources for the chapter

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CHAPTER 8

Commitment to capacity building in Agriculture Innovation Systems (AIS)

Chapter 8

Commitment to capacity building in Agriculture Innovation Systems (AIS)

There are many functional capacities for innovation that are complementary to the 4+1 we have mentioned previously in this guide, and which are fundamental to promote for making a sound contribution to functioning of the innovation niches. However, besides the need to strengthening facilitation abilities of individuals and organizations committed to development, to empower producers several complementary capacities are key. Capacity to participate and collaborate:

- Capacity to develop and manage an innovation agenda.
- Capacity to deliver results.
- Capacity to expand the innovation niche.
- Capacity to improve the niche environment.

In light of the opportunities that are often present, it is worth asking what are the aspects that drive strengthening capacities in AIS?

An analysis carried out on global experiences of capacity building for innovation (Toillier et al., 2020)) found three different drivers of commitment to drive innovation: motivation, knowledge and empowerment. The following are the functions of each of these capabilities:

Empowerment:

- Build trust through collaborative activities, such as field days, capacity-building workshops, participatory planning sessions.
- Give support through coaching and mentoring by people with experience (figure 17).
- Create opportunities, especially for the development of the capacities of youth, women and other groups that may be under-represented or invisible in the MSP.
- Access material resources such as financing, expertise, equipment.
- Create partnerships with service providers to facilitate access to technical and other knowledge necessary for the activities of MSP.

Motivation:

- Provide incentives, such as through a reward system.
- Coercion, such as evaluations.
- Make good use of experiences, in order to generate results from implementing methodologies, such as in the improvement marketing schemes or increments in the participation of minority groups in the governing bodies of MSP.

Knowledge:

- Advice generated from peer mentoring, counseling services and experience.

- Information through activities to share experiences, field days, learning from peers, and Internet access.
- Training on technical issues.

Figure 17. Advisory and coaching services are very valuable for knowledge sharing and empowerment in LDCs. Here fruit producers analyse business opportunities with buyers, improving their negotiation skills.

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In chapter 10 of this guide, we discuss knowledge management, as it is a central topic in niches and AIS.

There are other factors that influence the success of the process of strengthening capacities and functionality of MSPs, such as focusing on adaptive management, solid information and knowledge management processes, and incorporation of measures to improve sustainability during programme and MSP design.

Successful innovation case

Partnership initiative for sustainable land management (PISLM))

The Partnership Initiative for Sustainable Land Management (PISLM) was formulated as a part of the Technical Programme of the Caribbean small island development states (SIDS) Programme – an initiative that was adopted at the 14th Session of the Forum of Ministers of the Environment for Latin America and the Caribbean, Panama, November 2003. PISLM was endorsed by the Caribbean Community (CARICOM/COTED) on the Environment in 2008 to provide a framework for assisting Country Parties for the implementation of the United Nations Convention to Combat Desertification and Drought (UNCCD), and for addressing the land management component of the Barbados Programme of Action (BPOA) and the Mauritius Strategy (MSI) in Caribbean SIDS. Further, it was decided at COP10 that PISLM shall act as the reporting entity for Caribbean SIDS with regards to the preparation and submission of reports on the implementation of the sub-regional programmes referred to in paragraph 2 of decision 8/COP8.

Partnership Initiative for Sustainable Land Management serves as a mechanism to facilitate exchange of good land management practices between participating countries, and for stimulating the replication of approaches, tools and methodologies throughout the region. PISLM acts as the Executing Agency for several projects, and work in close collaboration with the Environmental Coordinating Unit (ECU), which addresses some of the pressing challenges posed by climate change in the Caribbean countries. Projects include combating land degradation due to severe weather systems, advancing participatory conservation of forests with agroforestry and ecotourism in the Maya Golden Landscape of Southern Belize, and training of women farmers. PISLM also carried out capacity development activities such as open dialogue sessions of the UN Convention to Combat Desertification Sessions. It also awards scholarships for postgraduate students on themes relevant its mission. In addition, in related activities, staff from the Ministries of Agriculture from eight Caribbean nations received training in Digital Soil Mapping as a collaborative effort by PISLM, the Food and Agricultural Organization of the United Nations (FAO), and The University of the West Indies, St. Augustine Campus (UWI).

The high level forum meetings promoted by PISLM facilitate the adoption of groundbreaking decisions such as a recently formed Caribbean Soil Laboratory Network; SOILCARE Phase 2 with around USD 17 million in funding to extend capacity building, soil survey and digital soil mapping by creating Geographic Information Systems (GIS) maps and a regionwide soil organic carbon database. This has been implemented for the rehabilitation of approximately 20 000 hectares of land across the Caribbean. PISLM was directed to finalize a concept note of the Caribbean Land Degradation Neutrality (LDN) Transformative Project aimed at using LDN methodology to avail approximately USD 90 million to enhance climate smart Sustainable Land Management (SLM) to launch this project in 2025. Decision making within the PISLM is working towards the establishment of an LDN financial mechanism to bring relief, opportunities and assistance to farmers, communities, youths, and indigenous people for mainstreaming SLM.

Here, we highlight some important issues that can be taken into consideration for knowledge co-creation in a niche:

1. A key aspect in the case is the effective participation of all interested parties in the initiatives to add value to a traditionally family business, which required examining the traditional social and gender differentiation roles from the beginning. The coordination throughout the phases of co-creation of knowledge to improve the chain allowed for the, design and implementation of key activities. The key points to support an inclusive agenda in an innovation niche or MSP could be summarized as follows: the development of capacities for social and gender analysis is important for professionals and technicians working at all levels in any organization that promote innovation, especially to innovation facilitators working in niches.
2. Gender and social inclusion issues must be integrated starting, from the needs identification and the knowledge co-creation phase (research, adaptation, validation) and not be an afterthought incorporated in later phases of the project.
3. In research processes, a participatory approach supports co-created knowledge and more accurately reflects the different needs, challenges and opportunities of women, men and vulnerable groups.
4. Information should be disaggregated by sex (where relevant) to recognize women as individual farmers and their roles, rather than just counting them as members of a household.
5. The type and level of social differentiation that is used must be grounded in the objective of the study and the development programme on which it is based.

You can find a useful toolkit in the manual "Toolbox for gender and inclusion: participatory research on climate change and agriculture" (Jost *et al*., 2014) designed for the needs of practitioners working in socially inclusive and gender-sensitive climate change diagnostics and action research projects. The lessons can be applicable in facilitating processes in any MSP or AIS.

Resources for the chapter

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CHAPTER 9

Management of strategic partnerships for innovation

Chapter 9

Management of strategic partnerships for innovation

Successful innovation invariably involves a range of associations, alliances, networks, and similar arrangements that connect all interested parties, either as users or as producers of knowledge to foster innovation. These dynamics occur in specific contexts, where laws, regulations, incentives, intellectual property rights, standards and norms, and other institutions favor or discourage innovation.

In the past, it was thought that technological innovation came only from research activities. However, nowadays we understand that to be really effective, public agricultural research organizations need to strengthen their links with a broader set of actors, from the private sector and civil society entities and, of course, with the farmers themselves. Many research institutions are designing strategies to link their programmes with the private sector, naturally including the producers, to disseminate the results and achieve impact (figure 19). This transformation has required researchers to develop functional skills in which they have not traditionally been strong. This is evidence of the changing times in those organizations, to benefit functional AIS.

Figure 18. Managers facilitating interactions between producers, extensionists and researchers in Honduras.

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On the other hand, traditionally, public agricultural extension services have played the role of linking farmers with technology providers generated by research or even captured from other sectors. However, to be effective, these intermediary tasks also require a series of management skills that go beyond simply linking producers to sources of research-based knowledge. For example, extension providers also carry out tasks to connect the farmers with input and output markets, to develop networks, to manage and contribute to solve disputes that occur at the MSP, and to negotiate and help navigate changes in policy environments, labour practices, rules and regulations, and financial settlements.

However, we can ask who should carry out the taks of linking the various actors in a niche or AIS, and what forms of intermediation really matter? This is where innovation managers come into play. Innovation management is a function that is often carried out by NGOs, development organizations, academia or a private entity. The tasks of the managers can be summarized as follows according to Klerkx *et al*., 2009:

- **Articulation of the demand:** understanding and articulating the needs for innovation, contributing to create a vision of the innovation, as well as demands related to technology, knowledge, financing and policies, through diagnosis of problems and foresight exercises.
- **Composition of networks:** this is about facilitating the links between the relevant actors, the MSPs, the niches and other pertinent actors in AIS. The manager analyse, defines, filters and establishes relationships with possible collaborators.
- **Management of the innovation process:** seeking alignment in heterogeneous networks made up of actors with different institutional frameworks, who themselves are linked to particular systems of norms, values, incentives and rewards. The continuous "management of interconnections" is required for the management to be effective, with dynamic exchanges between the different actors.

In addition, a range of facilitation tasks are necessary to ensure that network dynamics are maintained and that they stay productive. Some activities that are necessary are building trust, establishing working procedures, facilitating learning, managing conflicts and managing intellectual property issues.

A successful experience with alliances and innovation management

Adapta Sertão was one of the first multi-stakeholder coalitions in Brazil that joined forces to create a solid and replicable strategy to help smallholder and family farmers adapt to climate change, in the Caatinga (semi-arid), one of the most fragile biomes in Brazil. Since 2006, Adapta Sertão has recognized as an effective network in support of famers, and has received the support of various entities in its efforts to test different productive arrangements for chain improvement. Some areas of work to provide a concrete solution to local families have included bovine milk production, lamb meat production, and fruits and vegetables production. What

started as experiments gradually evolved into an increasingly clear and integrated programmes. Between 2014 and 2018, Adapta Sertão obtained several national and international grants thanks to its solid reputation, which allow it to consolidate its practices into a corporate and institutional programme called the Intelligent and Sustainable Agroclimatic Module (MAIS, by its Portuguese acronym). In 2018, Adapta Group evolved and transformed the MAIS programme into an impact business. The objective of the MAIS programme is to implement sustainable and resilient climate change practices in the most diverse biomes and agricultural value chains in Brazil, with global expansion. Today the programme is available to corporate clients, public and financial institutions, and non-governmental organizations.

More information on https://adaptagroup.com

Source: FONTAGRO (Fondo Regional de Tecnología Agropecuaria Manual). 2016. Innovaciones de impacto lecciones sobre adaptación al cambio climático de la agricultura familiar en América Latina y el Caribe. Washington D.C. [Cited 27 August 2021. https://publications.iadb.org/es/innovaciones-de-impacto-lecciones-sobre-adaptacion-al-cambio-climatico-de-la-agricultura-familiar

In general, innovation processes do not develop in a direct and planned way, but are the result of the actions of networks that self-organize, evolve irregularly and are influenced by unforeseen events outside the direct scope of the MSP. Consequently, it is essential that innovation management functions are applied flexibly as the process evolves.

An innovation niche alliance is a unique situation in which people are willing or open to innovate or work together towards a shared objective or goal (Tropical Agriculture Platform, 2016). They are spaces in time where a group of actors become part of a learning process. Innovation niches are usually facilitated and require individual and institutional coaching and leadership.

Some potential private and public benefits (e.g. public goods) to stakeholders of working in partnerships are presented in Box 1.

Box 1. Potencial benefits of partnership.

	Innovation	Alliance
Public benefits	• Environmental or social benefits due to the sustainability of innovations. • Contribution to economic growth. • Contribution to the knowledge economy. • Increased employment opportunities.	• Joint/social learning. • Maintains research infrastructure and capacity. • Improves research relevance through contact with real problems. • Increases innovative capacity. • Reduces delays in technology adoption. • Complementary (private) financing. • Access to knowledge, technology and other partners. • Complementary (public) financing. • Publicity. • New distribution channels and markets.
Private benefits	• Increases in production and productivity. • Reduction of costs and risks. • Development of new products and market opportunities.	

Source: Hermans, F., Geerling, F., Potters, J. & Klerkx, L. 2019. Public-private partnerships as systemic agricultural innovation policy instruments – Assessing their contribution to innovation system function dynamics. Sciences, 88: 76-95. https://www.sciencedirect.com/science/article/pii/S1573521418300332

Figure 19. The creation of spaces for dialogue contributes to the establishment of alliances and the emergence of joint public and private projects, both through the contact between actors and the collective construction of solutions.

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It is clear that the functional capacities that are associated with the implementation of strategic alliances for innovation include collaboration, the management of incentives for joint work, the promotion of collaborative work dynamics, leadership, and advocacy for policy dialogue. The CDAIS project we have cited before has put together resources for the promotion and execution of alliances in innovation niches, and you can access them on their website[19].

19 https://cdais.net/home/

As a facilitator of an innovation alliance, you should be aware that each partnership has its own governance regarding rules and authority structures, decision-decision making, the kinds of contributions expected from the partners, and expectations of what to get in return (figure 20). In addition, each alliance has its own composition, as exemplified by the range of public and private actors involved in it. A broad definition of a partnership includes not only government agencies, research, and business, but also community and voluntary organizations. Each of the different actors in an alliance has its own logic and institutional values and these differences can be a source of frustration and problems, but they can also lead to creative ideas and possible solutions (Beers and Geerling-Eiff, 2013).

Successful innovation case

AgriMan: the superhero on a mission to fix food

©Linus Sundahl-Djerf

Farmer Alpha Sennon known as *Agriman* is turning agriculture into agri-coolture by starting WHYFARM to get youth involved in agriculture. At the beginning of COVID-19, food insecurity shook the Caribbean region; the dependency on others for food was apparent. However, the predicament shed light on existing commendable and innovative regional initiatives that address this pressing issue. One of these initiatives is WHYFARM – (We Help Youth Farm), a not-for-profit organization based in Trinidad and Tobago focused on promoting the importance of sustainable agriculture among youth and children. WHYFARM was founded by Alpha Sennon, a young, millennial *agripreneur.* The goal is to make the agricultural sector an attractive, viable option to youth. He uses something he calls agricultural, educational education such as poetry, drama, music and comics. These efforts are sparking some serious youth engagement in agriculture around the world through his creative approach on food, health and climate. The *AgriMan* character is the first food and nutrition superhero.

Mr Sennon is an advocate for nutrition, food security and the role of youth in *'agripreneurship'*. He believes the agricultural sector region-wide needs to "refocus" by prioritizing youth engagement. He has frequently reiterated that any long-term agricultural programmes without the involvement of youth would not be sustainable and that meaningful youth engagement in all agriculture-focused conversations are critical. This level of engagement creates a sense of ownership by youth and allows policymakers an opportunity to understand the issues and potential solutions that this generation of farmers may experience and offer. In addition to creating spaces for youth to be involved in decision-making, he emphasized the need to support youth-focused agricultural programmes, financial and otherwise, and prioritize agri-education, especially within secondary schools.

Alpha also reiterated the need to create an enabling environment for *agripreneurs*, which includes removing existing trade barriers within the region. His personal experiences where he had numerous challenges trying to purchase animals and produce from other islands made him realize that these challenges can serve as a major barriers for *agripreneurs*, especially those who are young and new in the business. An environment, conducive to growing and trading produce freely within the region is needed for sustainability.

WHYFARM has provided numerous capacity-building opportunities for youth within the agricultural sector. In 2019, WHYFARM hosted its first Agripreneur Mastermind Programme Summit in Trinidad and Tobago in partnership with Regency Trinidad and Tobago. The summit featured progressive youth focused on strengthening the agri-value chain and the economy. Fifteen young *agripreneurs* were trained and given the tools to grow their business. This venture was funded by the Bill and Melinda Gates Foundation.

Alpha is also excited about a Farmers Collective, an initiative that brings together farmers across Trinidad and Tobago to help one another to reap and grow one another's crops. The farmers exchange labour, ideas, wisdom and motivation, then market their products and share the profits. This collaboration is the perfect example of what is needed for a sustainable future in the region.

The organization has also been contributing to policy development. Their collaboration with the FAO aims to strengthen digital agriculture in Trinidad and Tobago. WHYFARM's role is to conduct research within the agriculture community and inform a policy framework that would create an enabling environment for digital agriculture to be adopted easily in the country, with special provisions for youth.

Ultimately, strengthening the agricultural sector requires a multisectoral approach and everyone has their role to play – policymakers, NGOs, education, trade sectors and the youth

themselves. Alpha states *"everyone may not become a farmer, but they must know why (one should) farm".* He implores all to recognize the value of this sector and the critical role of youth, especially as we collaborate to "build back better", together.

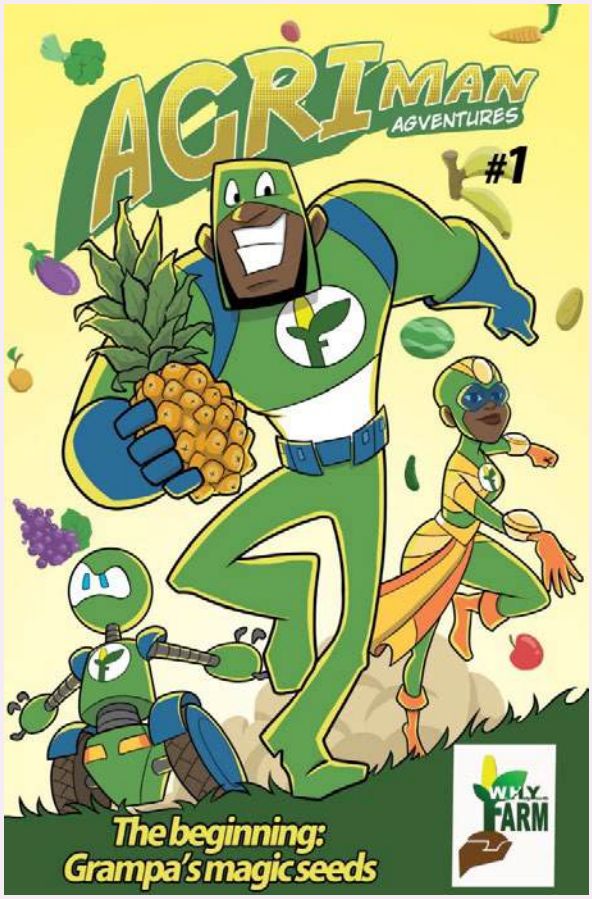
Growing up on his family's farm in Saparia, a rural region in Trinidad, Alpha did not enjoy taking part in. It was after Alpha went to the university and learned about food security, that he realized the power of growing his own food.

"I often speak of food freedom, because a lot of people in the Caribbean still thinks that farming is slavery," Alpha states. "But who feeds you controls you, and now, at this point of time, if you are not feeding yourself today, then maybe you are still being enslaved."

Youth continue to prove that they have a right to have a seat at the table when discussing the build back better blueprint for the Caribbean region. Their strategic thinking and ultimate desire to collaborate for effective and sustainable change is what is needed to build back and achieve the 2030 sustainable development goals.

WHYFARM has launched in Trinidad and Tobago, and there are similar efforts in Zambia, Rwanda, Nigeria, Kenya, Colombia, Cameroon and Haiti.

Adapted from: https://www.healthycaribbean.org/whyfarm-shifting-the-agricultural-focus-to-youth/ and https://eatforum.org/learn-and-discover/agriman-the-superhero-on-a-mission-to-fix-food/



Analyse the story of change and answer the following questions:

- Which actors do you think were the drivers of the implementation of this case?
- What functional capacities do you consider essential for the success of this story?
- What recommendations would you give to someone who would like to replicate this story in his/her own context?

Resources for the chapter

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CHAPTER 10
Multistakeholder knowledge management

Chapter 10

Multistakeholder knowledge management

We have seen how innovation is a phenomenon that emerges in complex systems, the result of non-linear and iterative processes that require adapting to frequent changes. In this type of process, agricultural knowledge management for innovation (AKMI) must be adaptable and should not be governed by inflexible linear frameworks. That is why we require very specific functional skills, which include at least collaboration, networking and network management, reflection and learning, and participation in strategic and political processes to make a meaningful contribution to knowledge management.

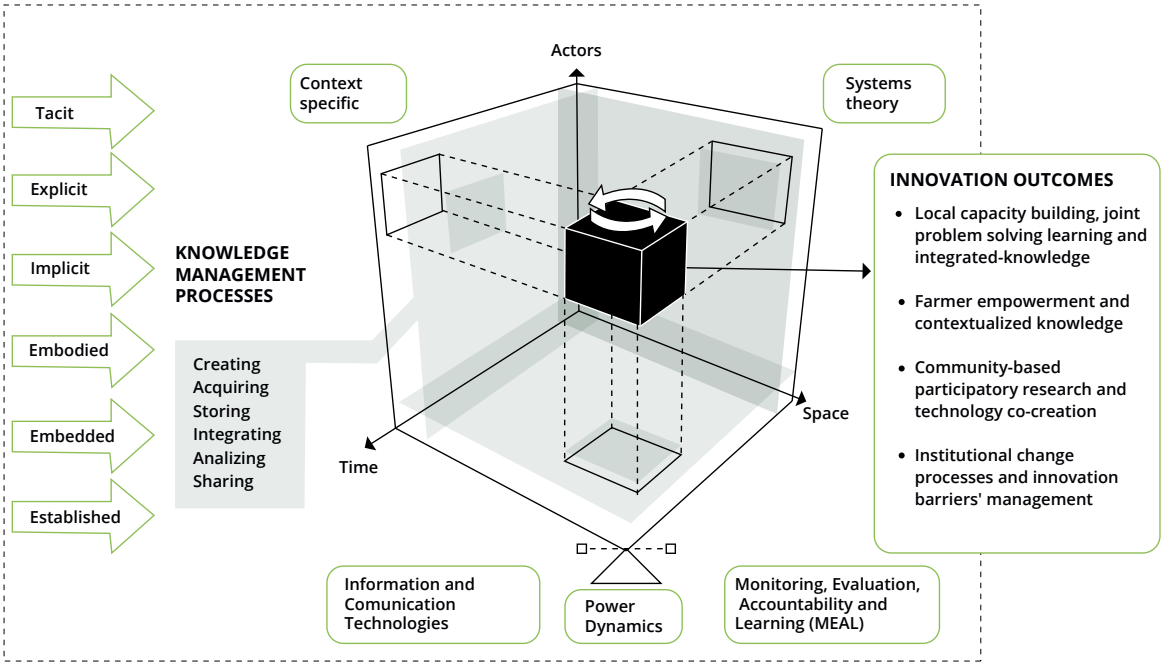
In figure 20 we see how many forms of knowledge enter the context of a AIS, such as tacit, explicit, implicit, incorporated and established knowledge (Gardeazabal *et al*., 2021). These various forms constitute the basis of the management process that involves creating, acquiring, storing, integrating, analyzing and sharing these forms of knowledge in a specific system context, involving many different parties. Essentially, what is highlighted here is the importance of information and communication technologies (ICT) for agriculture, the existing power dynamics that govern these interactions, the processes of monitoring, evaluation, responsibility (accountability) and learning (MEAL). If reciprocal relationships exist between actors in time and space, a process takes place that can produce results that lead to innovation, such as:

- Development of technical and functional capacities at the local level, joint problem solving, joint learning and integrated knowledge solutions.
- Empowerment of producers and others in MSPs.
- Participatory research and co-creation of community-based technology.
- Processes of institutional change and overcoming barriers to innovation.

In innovation processes where agricultural research plays a leading role, we see how implicit and tacit knowledge must co-exist and potentially merge for the benefit of innovation through mechanisms of socialization, internalization and externalization and combination, as shown in figure 22.

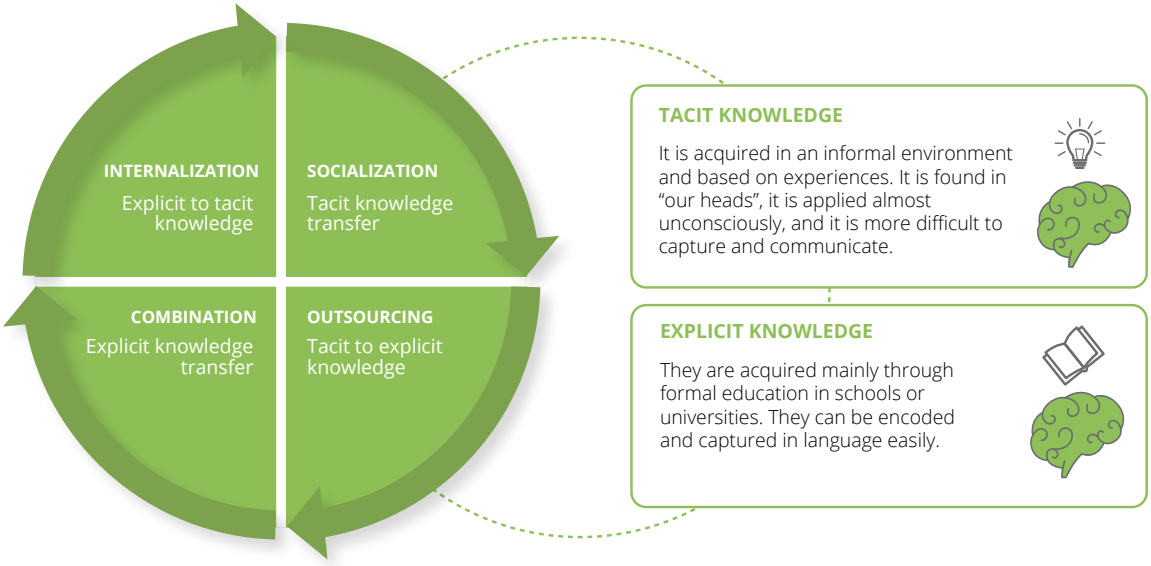
We can clearly see the relevance of an adequate AKMI process that also contributes to strengthening functional capacities for innovation. In this process of learning and sharing together, the AKMI should consider whether agricultural research meets specific local needs, whether peer-to-peer knowledge sharing is cost-effective, and how information flows back and forth between farmers, researchers, extension systems, governments, the private sector and other stakeholders.

Figure 20. Knowledge management process in an AIS.



Source: Gardeazabal, A., Lunt, T., Jahn, M.M., Verhulst, N., Hellin, J. & Govaerts, B. 2021. Knowledge management for innovation in agri-food systems: a conceptual framework. Knowledge management Research and Practice. [Cited 10 September 2021]. https://repository.cimmyt.org/bitstream/handle/10883/21276/63409.pdf?sequence=3

Figure 21. Forms of knowledge and the management process.



Source: Nonaka, I.. & Takeuchi, K. 1995. The Knowledge Creating Company. New York, NY, Oxford University Press.

Remember that a key challenge for agricultural researchers is to move away from the traditional approach based solely on research, as this is likely to perpetuate the divide between agricultural research and extension, and acknowledge other sources of knowledge (figure 23). In addition, we must recognize the power dynamics that influence MSPs that could hinder or increase the advantages of knowledge management. For

example, if an MSPs or other knowledge networks are initiated by decision makers or experts, they could be used to legitimize specific political interests, which may lead to the knowledge of some actors being overlooked and, ultimately, to undesired results. The AKMI process increases the value of farmer experimentation and observation, and tacit knowledge gained from carrying out applied agricultural research in specific settings. We know that farmers' observations and experiences constitute an expanded knowledge base that is more actionable and adapted in a diversity of local conditions, contributing to farmers' decision-making (figure 24).

Digital agriculture, defined as the incorporation of digital technologies in the processes and stages of agricultural activity, has developed rapidly and has further accelerated as a result of the COVID-19 pandemic. Digital agriculture has the potential to increase agricultural production, help adaptation and mitigation to climate change, achieve a more efficient use of natural resources, reduce risks and improve resilience in agriculture, and make agrifood value chains to be much more efficient. At the same time, it entails a series of risks, including the possibility of generating greater inequalities within rural communities and even accelerating the exclusion of those who fail to incorporate these technologies, as well as generating changes in the roles of actors and in the types of relationships that lead to changes in power relations. The effective implementation of these digital tools offers opportunities to promote innovation and contribute to responding to many challenges, but the management of these innovation processes requires rethinking the AIS to reach agreements and actions between various actors that have not traditionally been part of the AIS.

Figure 22. Researchers share with stakeholders the knowledge generated on new tools to measure fruit quality in Michoacán, Mexico.

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Historically, technical information developed by research was communicated through a combination of mass and interpersonal media, such as through agriculture extension and advisory services. Although the means of communication may have changed, ICT applications in agricultural extension still provide much the same type of information to farmers. In addition, extension organizations already use virtual platforms to improve organizational processes through a better record keeping of farmers and their activities, and through internal reporting. They also make it possible to provide updated weather and market information, which is one of the best known utilizations of ITC in agriculture. Therefore, knowledge management for agricultural systems can take advantage of ICT advances to facilitate a continuous exchange of knowledge generation processes, localized practices, collective needs and research results between farmers, development experts, researchers, citizens and policy makers (Hartwich *et al*., 2007). In addition, data-mining techniques make it possible to extract integrated knowledge associated with farmers' experiences from large observational data sets to identify practices that we can implement in MSPs. However, promoters of digital innovation processes in agriculture must be aware of the risks of the digital divide.

The digital revolution also fuels an evolution in monitoring and evaluation systems that can now collect, organize and analyse large amounts of data in a very efficient way.

Facilitators, knowledge brokers and communication tools play increasingly important intermediary roles between stakeholders in knowledge management and crucially enable feedback mechanisms. In addition, creativity and innovation increase with the diversity of the members of a system or MSP, and levels of learning and adaptation increase with the intensity of communication within the system.

Figure 23. The relationship between the different stakeholders is essential for the creation and incorporation of knowledge, since it allows an exchange of questions, needs, practices, methods and research findings.

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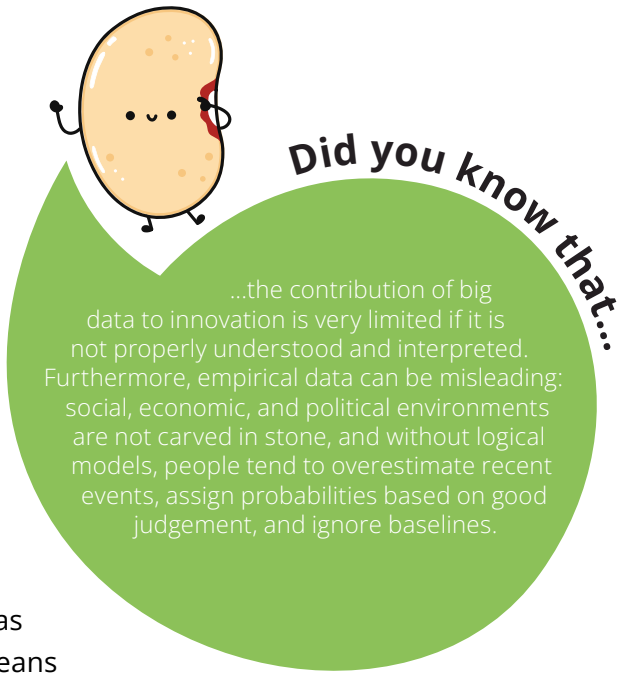
AKMI strategies



Motivation: One of the knowledge management strategies is motivation, which provides incentives and rewards in exchange for certain behaviors. Typically, the first step is to implement a change management programme to align the culture and values of the MSP that you facilitate. When we talk about designing the capacity-building process, we include the importance of developing a shared vision in the MSP, which can be done in a participatory workshop. Above all, what is important is to create ideals that include knowledge sharing as a form of personal enrichment, as well as a means to create a more powerful collaborative environment for all. The construction of these ideals in people is a task that can take a long time, but it will be more effective, because it promotes self-motivation and does not always depend on external incentives. Thus, in a business setting, one can agree on the means to motivate employees and communicate what is expected of them in terms of sharing their information and knowledge, setting goals and even giving recognition to those who put in the most effort. Similar processes can take place in niches and AIS settings.

Networking: Among the main knowledge management strategies available, we also find the construction of a network of contacts that allows creating opportunities for the MSP. The COVID-19 epidemic unleashed tremendous opportunities for online networking. Building and expanding a knowledge network with contacts beyond the MSP will help us create valuable links between individuals and groups.

Documentation and repositories: Documents, videos, infographics and files should be collected, information and work products captured, in order to store this explicit knowledge in repositories that are easily accessible and navigated by MSP members. Tacit knowledge must also be captured and made explicit by recording conversations and presentations, noting what people say and do, and collecting stories of change and lessons learned (figure 25). This knowledge management strategy can materialize through project databases, skill inventories, and document repositories. Remember that it is crucial that the knowledge is understandable and easily usable by MSP members. Issues of intellectual property management need to be discussed and agreed upon before these repositories are put in place.

Analysis: Once there is a supply of captured knowledge, for instance in a repository, it will be possible to analyse it so that it can be usefully applied. Before drawing any conclusions from what has been collected, the content should be thoroughly reviewed to verify its validity. Review of the information collected may reveal patterns or trends that can be utilized, expanded, or corrected. Also, by extracting the essence of each document or

interaction, you can discover new ideas and learn how to improve them. Knowledge can be collected in the form of lessons learned, proven practices, and rules of thumb.

Codification: After the knowledge has been analysed, it can be codified to produce methodologies, reusable material, and repeatable processes. Briefs can be prepared after discussions with many actors, to inform policy for innovation, for example. Data are consolidated, the content is collected, and the processes are integrated to achieve better results in the MSP. Codifying knowledge also involves adding metadata to documents stored in repositories so they can be easily screened and found, and tagging content so users discover useful views, connections, and collections.

Dissemination: Even if the captured knowledge has been analysed and codified, it will be of no value unless potential users are aware of its availability. Therefore, its existence must be disseminated on a large scale to inform all parties involved. You can think of using different means of communication to distribute knowledge, face-to-face activities such as field days, field schools, farmer-to-farmer exchange of techniques are essential for learning, but also manuals, websites, emails, blogs, communities of practice, wikis and podcasts that can be accessed online. Nowadays almost every organization has a knowledge management platform where all the knowledge is concentrated, and these platforms present the content in an organized way and have various search methods. They also allow other options such as a pool of experts or a way to grant recognition to those who collaborate the most in the constant effort to exchange and use knowledge. Needs assessment and readiness for the implementation of such platforms must be carried out within the MSP, since everyone must be committed to its maintenance. Otherwise, it may become an extra task for the person or organization facilitating the innovation process.

Figure 24. Field days are very effective for sharing knowledge in an MSP dedicated to promoting innovation in agriculture.

Successful innovation case

Story of change: the southernmost rice in the world adapts to climate change

David Castillo and Washington Hernández are rice farmers in Parral, a town in the Maule region, about 350 km south of Santiago, Chile. For more than 20 years, they have produced rice with the traditional flooding method, which has one of the highest water footprints in the world, as it takes about 1 700 liters of water to produce half a kilogram of rice. This is unsustainable in the context of climate change in the Maule, located on the edge of an area hit by a mega-drought that has been going on for 12 years. David and Washington recognize that they must adapt and use best practices to continue producing this crop, crucial for food security.

In the search for options to improve the sustainability of rice production in the Americas, IICA identified the System of Rice Intensification (SRI) as a viable option for rice producers. Since 2014 IICA has worked in Nicaragua, Costa Rica, the Dominican Republic, Venezuela, Colombia and other countries to promote, adapt, and validate SRI methodologies, as an alternative to conventional rice production, and in the process fostering a more productive, competitive, resilient, rice sector, with low greenhouse gases emissions.

The System of Rice Intensification (SRI) practice is supported by Cornell University (United States of America), as an innovation towards reorienting sustainable crop production. SRI contributes to reduction in the use of agrochemicals, eliminates the use of herbicides and, at the same time, saves a significant amount of water. SRI promotes four basic principles: early cultivation (flexibility in planting date), reduced competition between plants through mechanical control of weeds, maintenance of healthy soils with aeration and root oxygenation, and alternation between dry and humid soils. These principles, in addition to the use of high-yield seeds of better milling quality, and short-lived cultivars adapted to the water scarcity, have allowed the creation of a climate-smart rice cultivation system that, after two years testing and experimentation, is available for use on a large scale in Latin America and the Caribbean.

The System of Rice Intensification (SRI) is a global innovation. More than 10 million farmers in 54 countries are currently benefiting from SRI, which emerged through the work of farmers in Africa, expanded beyond that continent, and has been successfully introduced to the countries in the Americas. It is particularly a relevant innovation for rice production in areas with increasing hot temperatures. The challenge for the platform was to adapt it to a temperate climate, like that experienced in Chile.

Karla Cordero, the researcher in charge of the Rice Genetic Improvement Programme at the Chilean Agricultural Research Institute (INIA, by its Spanish acronym) became interested in testing SRI after interacting with IICA technicians promoting the system. Karla had many doubts about SRI at the beginning. However, after several tests and seeing the favorable results, she has spearheaded the implementation and promoted the adoption of SRI in her

country. SRI is proposed as a concrete solution for producers, since it allows them to use intensive and direct dry-planting practices and conserve inputs. Karla has worked with producers for over four years in generating relevant and valuable data and information to adapt SRI in the region. In the present phase of testing, it is necessary to push the right buttons to facilitate the implementation of this system and devise marketing strategies that highlight the value of a more sustainable productive system and that at the same time represent the best of the rural world

Interamerican Institute for Cooperation in Agriculture (IICA) supports field days and assistance to producers, the promotion of SRI at various levels through the use of ICT, and invests institutional resources to facilitate the SRI innovation process in many countries. This includes exchanges between countries to facilitate knowledge exchanges about what works in the different contexts (figure 26). The challenge is to continue the participatory research with farmers, extension agents, researchers and development agents to validate, and adapt and contribute to the adoption of the best practices that producers find relevant in their context. In summary, the process of innovation continues.

Questions:

- In this case, what strategies do you identify to further divulge the SRI in Chile and other countries?
- Do you consider that the case exemplifies the terms of interrelationships between tacit knowledge and knowledge that is being achieved through validation and experimentation?
- What type of repository would you recommend to analyse the knowledge in Maule and be able to use it in other areas of Chile?

Source: IICA (Interamerican Institute for Cooperation in Agriculture) (on line). 2021. Parral, Chile. [Cited 20 Augus t2021]. https://iica.int/es/prensa/noticias/el-arroz-mas-austral-del-mundo-se-adapta-al-cambio-climatico

When we facilitate innovation processes with MSPs, we must ensure that the commitment is sustained and that tacit knowledge on the subject is not lost. People who start MSPs often move on and, in their places might be taken by people who lack the skills to meet the challenges to manage these complex platforms and the interactions. This rotation is certainly a risk, as facilitators should regularly check that participants are satisfied with their roles, are sufficiently challenged, and have sufficient support to carry out their functions. Functional skills such as good communication, good foresight of potential difficult group dynamics, and leadership are essential for the facilitator. As a check up point, you might want to include the question "Are you still happy with your role in this team?" when doing a MSP progress review (Brouwer *et al.*, 2016). Answers can help you as facilitator drive the group towards a change in direction to solve a problem or take advantage of an opportunity while recognizing the challenges that members of the group might be facing.

Remember also that distant stakeholders must be informed to maintain, or rebuild, their engagement in the niche or MSP. Make sure that plans and results are communicated

to all stakeholders. In other words, make sure that knowledge management is a living mechanism in MSPs and AIS and not a repository of outdated information.

It is essential to maintain the commitment of the participating organizations through proper knowledge management. Sometimes an organization decides to join a MSP and allocates a certain budget and staff time to the MSP activities, however, this commitment on itself does not mean that decision-makers in the organization will be fully cognizant of the progress of the MSP. Therefore, it is important that as facilitator, you create information packages that MSP leaders can take back to their organizations, so that they can continue to advocate for the MSP and AIS to their peers. This clarity in communications will contribute to the transparency of the innovation process and will generate more support. In the end, your job as a facilitator will be less difficult.

Figure 25. Knowledge exchange on SRI in Latin America, facilitated by IICA.

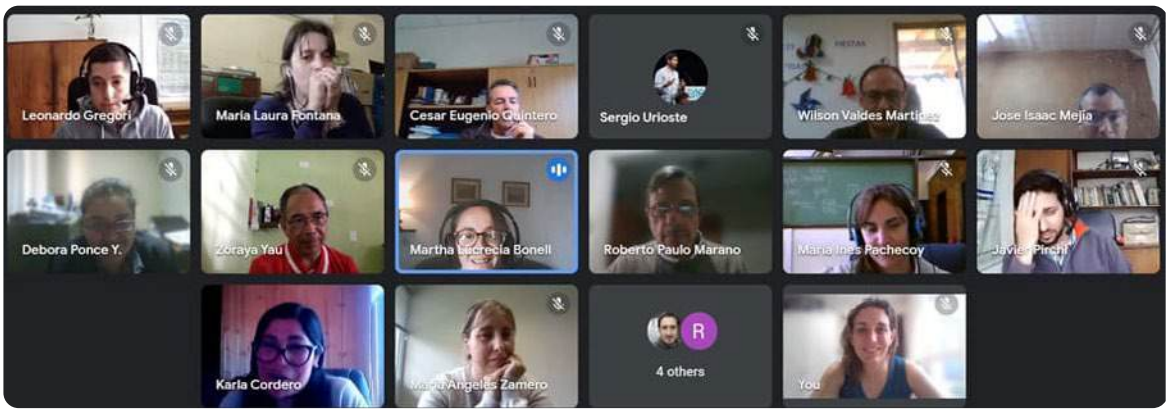


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Figure 26. Supporting MSPs to achieve their objectives requires not only tools, but also personal and institutional commitment, because the environment changes and the interactions between people are positively or negatively affected. Good communication of progress will help keep MSP members motivated.

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Resources for the chapter

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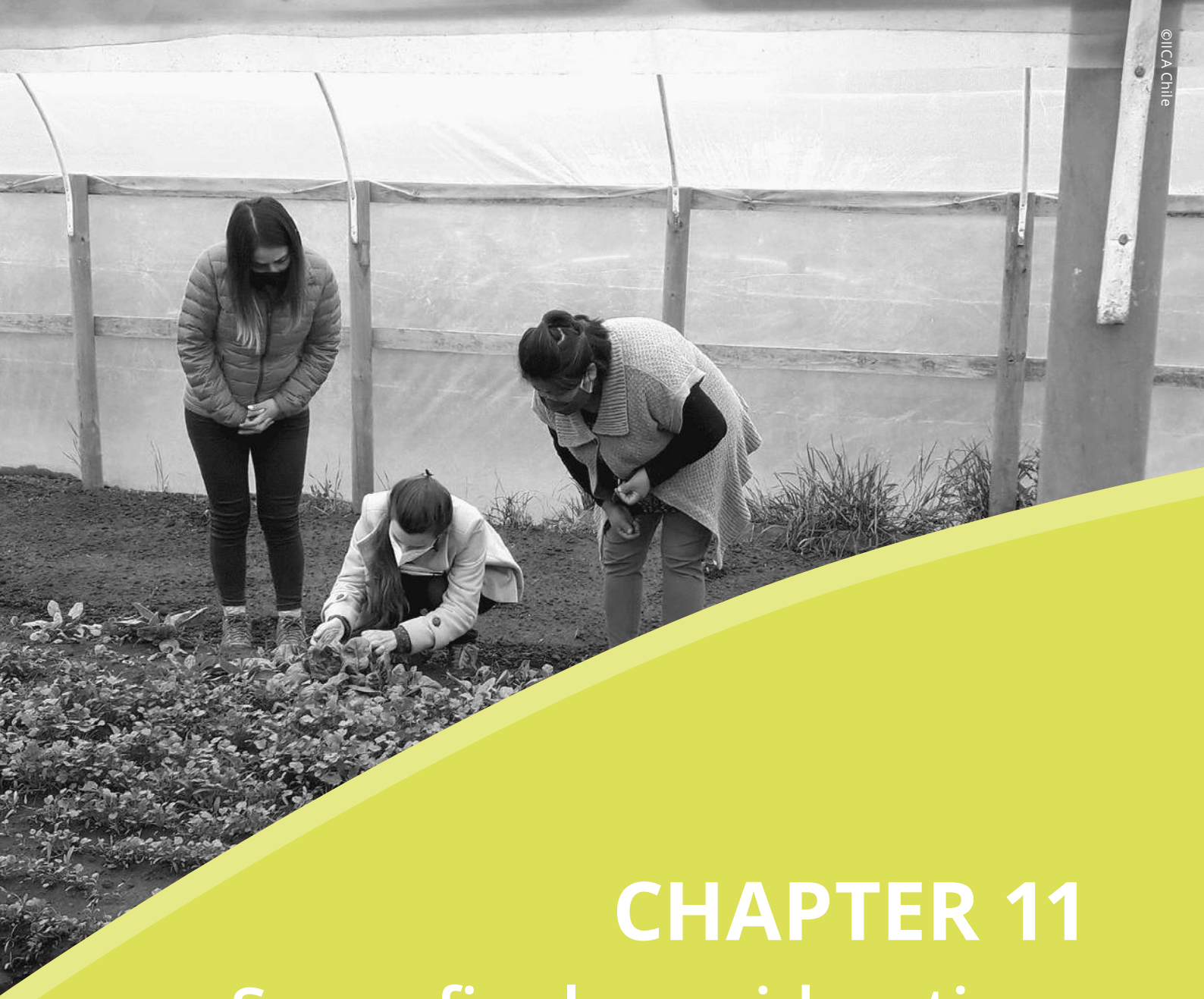

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CHAPTER 11
Some final considerations

Chapter 11

Some final considerations

Possibly your interest in this guide lies in the challenging task of facilitating interactions in innovation niches or AIS, within MSPs, where strengthening functional capacities to achieve the objectives and provide support is of key importance. This is not an easy task, because functional capabilities are still perceived as secondary to technical abilities, and could even be regarded as a vague concept to implement. Strengthening of technical capacities, on the other hand, occurs routinely in projects and allocating funds for this purpose is not questioned in the projects. Many initiatives tending to innovation in agriculture take for granted that negotiation round tables between producers and buyers are held successfully, or that there is reflection and analysis on the potential impact of policies on family farmers, to cite two examples that require soft skills from facilitators. However, there is still not enough awareness of the need of strengthening the functional capacities of teams to ensure the success of these processes (i.e. tables, reflections) within the context of a time-limited project.

Years ago, TAP members and many other AIS stakeholders around the world, concerned with improving rural livelihoods through agricultural innovation, developed and approved the TAP common framework. Several efforts are underway to strengthen functional capacities for innovation, such that of the DeSIRA LIFT initiative[20] funded by the European Union, that provides on-demand and predefined support services to 70 DeSIRA project holders in Africa, Asia, and Latin America and the Caribbean.

However, we know that in the Caribbean countries, farmers and those who work with them still lack the functional capabilities necessary for change to occur, such as the ability to engage with others, negotiate and participate in political processes, establish good communication, and lead processes in their organizations, to mention just a few.

We have stressed in this guide the functional capacities promotes in AIS by the TAP, called 4+1:

- Ability to manage complexity.
- Ability to collaborate.
- Ability to reflect and learn.
- Ability to participate or get involved in political and strategic processes.

Strengthening these four capacities leads to a fifth functional capacity: the ability to adapt and respond, in order to harness the potential of innovation.

This terminology can feel complex, but these functional abilities are traditionally known as soft skills. In individuals these abilities are a combination of interpersonal skills, social skills, communication skills, character or personality traits, attitudes, professional attributes, social intelligence quotients, and emotional intelligence, among others, that

20 https://www.desiralift.org/

allow us to navigate our environments, work well with others, perform well, and achieve our goals by complementing our technical capabilities. We know exceptionally intelligent people who never reach their potential because they lack "something." That “something” may be a functional skill, such as the ability to communicate, be empathetic, build relationships, overcome challenges, lead a team, or champion a vision. These skills should be strengthened during schooling, and particularly during college years, particularly for those carriers when it is necessary to interact frequently to provide people with a service such as those in agriculture. Unfortunately, apart from a few business careers, academic training still pays very little attention to strengthening functional capabilities. When we start a career in agriculture, a great emphasis is placed on building our technical skills. Of course, these are essential, but functional capabilities are necessary to enhance skills and all other areas of personal development. We know that these capacities are not always innate; they must be developed, built and strengthened. They must first be understood and then known, just as one learns the physiology of a crop or the design of an irrigation system.

Some of the concepts involved in strengthening functional capacities may have seemed complicated to you, but you are not alone. In the evaluation of the CDAIS project (FAO, 2020), it is indicated that “several of the capacities turned out to be somewhat abstract and difficult to understand, particularly at the country and niche level. Differences of opinion arose about the meaning of terms and how to develop capacities in practice. However, the evaluation team believes that much of the confusion and frustration was unavoidable as the Common Framework challenged the dominant capacity-building paradigm.” Also, among the lessons learned from the CDAIS project, it was highlighted that when working in niches, the development of functional capacities was not enough in itself to "reveal the potential of innovation" and that it was necessary to simultaneously strengthen technical capacities, especially in topics that producers know less about, such as value addition and

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marketing (Toillier *et al*., 2020). However, we should not be discouraged and learn as we go facilitating collaborative processes, as you are doing by using this guide.

You will notice that functional capabilities are uniquely intertwined, just as 'hard' capabilities are, for example, biology and chemistry are linked together for good soil health. Employing functional capabilities can make all the difference for an individual on a farm, a small business, or a rural organization, by allowing them to distinguish themselves and achieve success, individually or as part of a team, and being able to support a MSP.

In this guide, we have covered key aspects that can help you strengthen your functional capacities to promote innovation, and given you some additional resources that you can read to continue your learning.

We hope that the process of accompanying innovation processes shows you the most effective learning path to achieve impact in your work, because after all, innovating is a social construction.

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ANNEX

Matrix of functional capacities for Agriculture Innovation Systems (AIS)

Capabilities/abilities/competencies					
	4				+1
	Complexity (Priority 1)	**Reflection and learning (Priority 2)**	**Collaboration (Priority 3)**	**Participation in strategic and political processes (Priority 4)**	**Ability to adapt and respond, in order to harness the potential of innovation (Priority 5)**
Description (reinterpretation)	It involves a change in mindset, attitudes and behavior to understand the broader system and to understand the system as a whole. Moving from a reductionist understanding of the parts to a systemic understanding of the relationships between the parts. Consider change as an emergent property that cannot be predicted or planned in a linear fashion.	It involves bringing stakeholders together, designing and leading critical reflection processes, and following a two-way learning process that leads to action and change. Respect for different opinions and an atmosphere of trust are required so that those other opinions can be expressed. Systematic monitoring of processes and progress is also required to allow for reflection. Interventions must be sufficiently flexible and adaptable to changing conditions, and analysis must be carried out iteratively to promote experimentation and adaptive capacities as new learning opportunities emerge.	It implies making it possible for actors to understand each other's points of view, to manage their conflicts, to manage diversity in order to combine individual skills and knowledge and to create awareness of their complementarity. It is also about building alliances and synergetic networks to improve collaboration and communication skills and strategies, both internal and external. It requires empathy, knowing how to listen.	CD for transformational change is inherently political and involves questioning the status quo. Power relations must be understood at various levels, including economic interests, the balance of power between elites, and relations between the state and civil society. Understanding and influencing political and power relations between individuals, within organizations and in society as a whole is crucial to generating new forms of interaction between the parties involved. This capacity is also about the deliberate empowerment of vulnerable and often marginalized groups. Participation supposes equality among all AIS actors. It is highly relevant to develop and facilitate tools for AIS actors to participate in the political dialogue in an informed manner.	This is to harness the potential for innovation, shifting the focus from reactive problem solving to co-creating the future. Facilitative leadership is needed and requires the skills to manage conflict, listen carefully and ensure meaningful participation.

Capabilities/abilities/competencies					
	4				+1
	Complexity (Priority 1)	**Reflection and learning (Priority 2)**	**Collaboration (Priority 3)**	**Participation in strategic and political processes (Priority 4)**	**Ability to adapt and respond, in order to harness the potential of innovation (Priority 5)**
Individual dimension **(Capabilities and topics)**	Systemic thinking. Analysis of all stakeholders. Gender and diversity. Theory of change. There are four governance capacities that are essential to deal with "wicked problems" (problems that are difficult to solve because they are ill-defined, ambiguous and controversial, and also present multi-level interdependencies and complex social dynamics): (a) reflexivity, or the ability to deal with multiple frameworks; (b) resilience, or the ability to adjust actions to unpredictable changes; (c) responsiveness, or the ability to respond to changing agendas and expectations; (d) revitalization, or the ability to unblock stagnation.	Understanding of processes at the organizational level Experiential learning and documentation, for example Participatory Action Research, monitoring of change processes, reflective monitoring and evaluation.	Team formation. Listening skills. Conflict resolution. Leadership skills. Emotional intelligence. Participatory methodologies.	Policy analysis; providing evidence. Working in networks. Negotiation. Listening.	

Capabilities/abilities/competencies					
	4				+1
	Complexity (Priority 1)	**Reflection and learning (Priority 2)**	**Collaboration (Priority 3)**	**Participation in strategic and political processes (Priority 4)**	**Ability to adapt and respond, in order to harness the potential of innovation (Priority 5)**
Organizational dimension	Strategic planning. Facilitative leadership. Creation of incentives in response to innovation needs/ challenges/ opportunities.	Promote dialogue and voice for all. Promote honesty and transparency. Reward creativity. Document the processes and learning from joint actions. Use participatory M&E processes. Understand the strengths and weaknesses of other organizations.	Accept, manage and build on the inherent diversity of the organization. Create enthusiasm and shared responsibility, ability to catalyze collective leadership in others. Encourage joint decision-making. Facilitate interdisciplinary exchange and learning. Provide incentives for collaboration, networking and partnerships. Facilitate a supportive environment with interactive learning processes where people can go beyond their own ideas and fixed positions in order to see things differently and from the perspective of others.	Build relationships and partnerships with external stakeholders through linkages and knowledge sharing. Creation of legitimacy in the organization as an expert in its field. “Influencing” others, including the capacity to provide evidence and influence policy to inform the enabling environment. Understand the processes of policy elaboration and political decision-making.Dedicate resources (time, budget) to joint activities. Produce information and use different communication channels (written, audio, video, social networks). Recognize power asymmetry within the organization and take specific actions to address it. It is needed to work in associations and networks to support negotiations.	Learn together in an interactive way, promote spaces where people can speak and be heard, and where everyone's ideas can be adapted to drive innovation and find ways forward that are better for all.

Capabilities/abilities/competencies					
	4				+1
	Complexity (Priority 1)	**Reflection and learning (Priority 2)**	**Collaboration (Priority 3)**	**Participation in strategic and political processes (Priority 4)**	**Ability to adapt and respond, in order to harness the potential of innovation (Priority 5)**
Dimension of the enabling environment	Ability to deal with different sectoral policies and to create coherence. Learning from past experiences. Ability to operate within the inherent and unpredictable complexity of social systems. Recognize the interconnectivity of policies, ability to follow and evaluate the broad effect of policies on society and to adapt accordingly when needed. Willingness to try a range of interventions, to collect evidence of their effectiveness, and to scale up those that prove effective.	Ability to take a long-term view or perspective. Ability to have a holistic vision. Ability to effectively communicate and explain policies and strategies. Responsibility. M&E systems that capture lessons learned.	Create mechanisms to bring together various stakeholders and facilitate their interaction. Create incentives for multi-stakeholder interaction and for the corresponding allocation of resources. Identification of joint solutions and generation of commitment of the actors for their implementation. Participation of social actors to ensure the empowerment of citizens. Periodic planning, information sharing and discussions with the stakeholders in the system.	Capacity for inclusive and transparent political engagement. Consideration of historical and political perspectives (e.g., original, indigenous, tribal farming practices). Promote multi-stakeholder processes. Ensure mechanisms for collective decision-making.	The previous four capacities must contribute to a favorable environment to create joint learning experiences for the multiple AIS actors, in which they feel safe, understood, inspired and motivated; At the same time that it raises critical questions, it challenges the old assumptions and uses new ideas and information for innovation.

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