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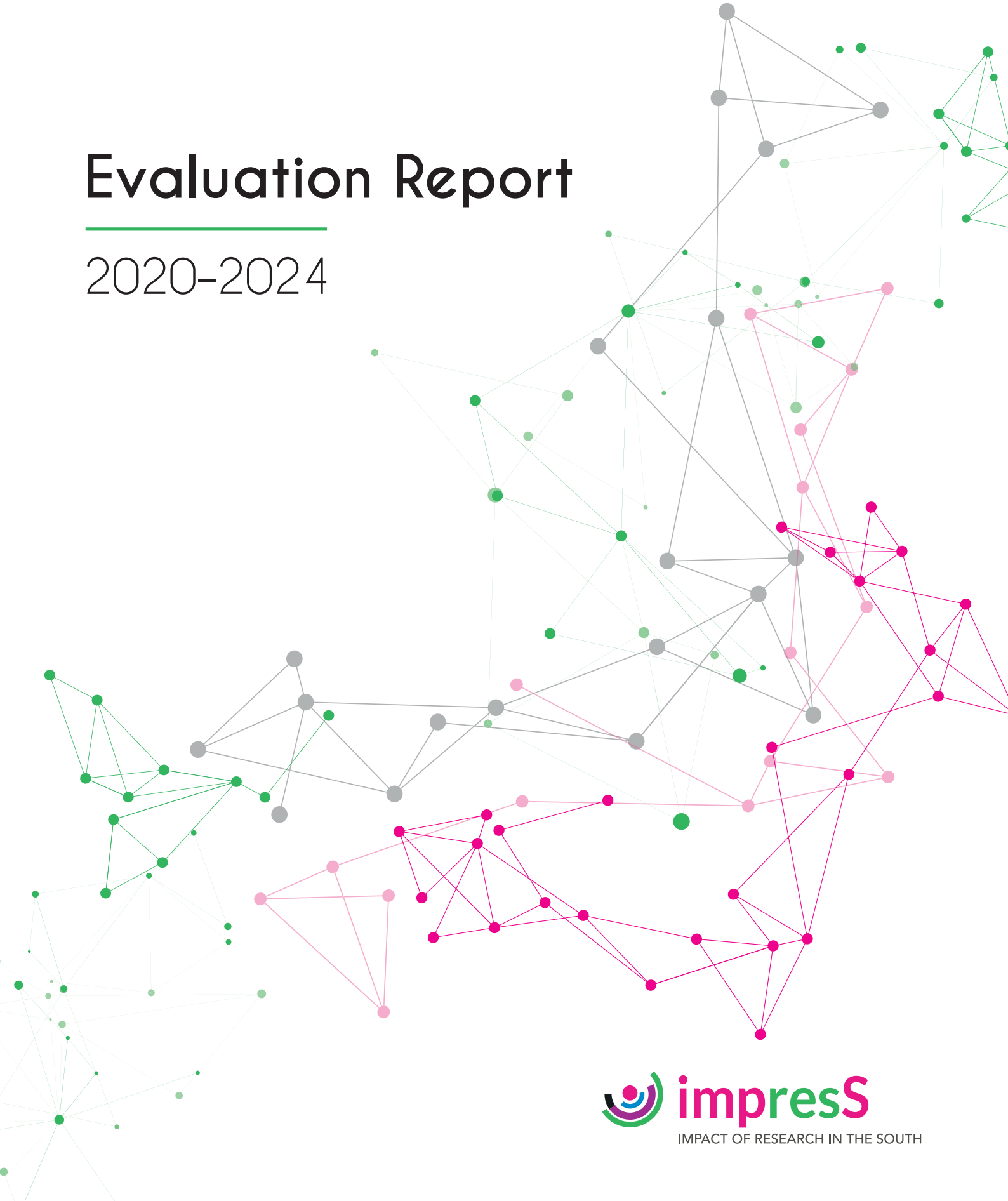
Evaluation Report

2020-2024



impresS
IMPACT OF RESEARCH IN THE SOUTH

Evaluation Report

2020-2024

impresS

IMPACT OF RESEARCH IN THE SOUTH

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Translated from French

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Impact evaluation for innovation and sustainable development

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**By Élisabeth Claverie de Saint Martin,
Chief Executive Officer of CIRAD**

Through its ambition to develop and establish a culture of impact within the organization, CIRAD has positioned itself as a key player in analysing and learning from its interventions aimed at transforming agricultural and food systems. For CIRAD, fostering a culture of impact means placing impact at the heart of the institution's research strategy and practices, supported by the development of unique tools and methods. It also requires commitment and ownership by all organizational staff, as well as partners. This culture enables us to go beyond traditional scientific results and, together with our partners, to assess the extent of changes generated on the ground among communities, producers and ecosystems.

Through this report, we want to share the lessons learned, as well as the successes and challenges that have shaped our journey. This document is an invitation to collective reflection and continuous improvement in research–for–development practices.

By highlighting both the successes and the challenges associated with our research interventions, the impact evaluations provide a comprehensive overview of our interventions and what remains afterwards. The results of these evaluations serve as strategic management tools, shedding light on the complex dynamics of our activities. They help identify effective levers for action and adapt our research approaches according to local realities and the needs expressed by stakeholders. These evaluations also remind us that paths to change are rarely linear; they require constant adaptations, ongoing dialogue with partners and a deep understanding of the specific contexts in which we operate. This critical approach leads us to question our assumptions, to identify the unintended consequences of our actions, and to be accountable not only for what we do, but more importantly for the change our interventions introduce in a territory.

The studies presented in this report illustrate different types of interventions carried out at CIRAD. They encompass the many dimensions of their impacts: improving agricultural yields, strengthening food security, preserving biodiversity and empowering local communities. Each path is unique, but they all share a common ambition: to contribute to a more equitable world, where scientific knowledge is combined with diverse forms of know–how to address major global challenges.

Finally, through this report, we want to share the lessons learned, as well as the successes and challenges that have shaped our journey. This document is an invitation to collective reflection and continuous improvement of research–for–development practices. It demonstrates our commitment to making our work more relevant, more effective, more transparent and more responsive to the aspirations of the people we serve.

We would like to thank all individuals, partners, researchers and stakeholders who have contributed to these evaluations. Their active participation is key to the relevance and the quality of the analyses presented. Together, we will continue to learn, innovate and increase our impact for a sustainable future. CIRAD is firmly committed to this path and is convinced that impact evaluation is an indispensable tool for directing our research towards tangible and transformative results. ●

Putting the culture of impact at the heart of research

© RR

**By Sélim Louafi, Deputy Director for Research and Strategy,
Institutional Coordinator of the ImpresS Team at CIRAD**

Since 2010, CIRAD has been actively evaluating the impact of its research in order to develop a culture of impact, both within the organization and with its partners. This culture is based on a better understanding of the multiple roles and contributions of research in complex innovation processes, which drive sustainable social and environmental change.

Methods and resources

To analyse the contribution of its research to societal impacts and to encourage its teams to reflect more deeply on these pathways, CIRAD first developed the impact evaluation method known as "ImpresS *ex post*" in 2010. Using this method, CIRAD has carried out 13 impact evaluations of long–term innovation processes in different thematic areas. The organization then sought to strengthen its culture of impact by introducing an approach, "ImpresS *ex ante*", to build the impact pathways of research for development projects and interventions. The aim of this approach is to work with partners, to encourage reflection on change pathways in a participatory way, and to build "outcome–oriented" monitoring and evaluation systems tailored to each intervention.

In addition to these methodological tools, CIRAD has set up a support team and funding mechanisms to strengthen the culture of impact at various levels within the organization (projects, partnership platforms, sectoral collectives, etc.) and with its partners. The support provided is particularly relevant and robust because the tools and methods have been refined over time through ongoing research conducted by the ImpresS team and have been continuously adapted to suit different needs and contexts.

Impact as an institutional driver for CIRAD

Impact is an aspirational goal that drives the design of CIRAD's new strategic scientific and partnership objectives. It is particularly critical in a world facing multiple crises and increased fragmentation of international collaboration – collaboration that remains essential to meet these challenges. Developing a culture of impact is vital, as it enhances understanding of the specific contributions of each research operation or technological innovation. It also fosters dialogue and learning between different stakeholders and strengthens partnership strategies to find solutions that lead to greater change. By developing this culture of impact, CIRAD strengthens its capacity to assess its actions and to draw lessons at the individual, collective, institutional or partnership level. As a result, the organization is better equipped to fulfil its scientific mission and to act as a change agent.

Developing a culture of impact is vital, as it enhances understanding of the specific contributions of each research operation [...], fosters dialogue and learning between different stakeholders and strengthens partnership strategies.

This report summarises the lessons learned from a series of evaluations carried out at CIRAD between 2020 and 2024, supported by an internal incentive mechanism that provided financial and methodological support to encourage the voluntary implementation of evaluations. These include four outcome evaluations focusing on short–term interventions (4–5 years), and six ImpresS *ex post* impact evaluations assessing longer–term innovation processes (10 to 30 years). A cross–cutting analysis of the six ImpresS *ex post* impact evaluations provides insights into these inspiring experiences and trajectories. An appendix lists the other evaluations carried out at CIRAD between 2020 and 2024 on projects and partnership platforms, highlighting the broader evaluation efforts that also contribute to CIRAD's culture of impact. ●

Proven methodologies for impact

Since 2010, CIRAD has been working on developing a culture of impact within the organization. To this end, it has initiated an institutional dynamic aimed at supporting research teams in reflecting on how their activities contribute to societal impact. In recent years, theoretical frameworks for assessing the impact of research have been developed and translated into methods and approaches. The ImpresS team, whose institutional mission is to develop and strengthen this culture of impact at CIRAD, has carried out scientific and methodological work to improve and adapt impact evaluation methods. Its goal is to promote reflexivity, learning and accountability along the research–impact continuum. The chosen methods are tailored to the objectives and contexts of each evaluation, but share the following principles:

- Actor–centred and theory–based: evaluations aim to identify changes in practices, behaviours and interactions among actors involved in or influenced by a given intervention or innovation process, whether positive or negative, intended or unintended. They seek to understand the causal links and mechanisms underlying these changes;
- Participatory: by involving actors who have participated in or have been influenced by the interventions, evaluations take into account a range of perspectives, views, and experiences, and promote ownership and reflexivity of the findings of the evaluation;
- Structured around the consideration of complexity: the recognition of the complexity of the systems in which interventions are implemented and the emergent and unpredictable nature of some outcomes guide and justify the reflective, iterative and adaptive character of the chosen approaches;
- Utilization–focused: the explicit formulation of the expectations of teams and stakeholders serves as a starting point for the evaluations. It is intended to promote ownership and utilization of the results of the evaluation.

Three approaches are used by the team, each addressing different needs and objectives in terms of research and intervention.

- ImpresS *ex ante* works upstream of interventions. It involves the development of theories of change that analyse the plausibility of research intervention approaches and facilitate the design of the associated outcome–oriented monitoring and evaluation systems. This report does not present any cases of ImpresS *ex ante* design*.
- ImpresS *ex post* is an impact evaluation method used to evaluate the contribution of research interventions to socio–economic impacts within the framework of long–term innovation processes (duration > 10 years).
- Outcome harvesting is a method used for the mid–term or final evaluation of outcomes generated by projects or interventions (duration < 5 years).

Details of the ImpresS *ex post* and the outcome harvesting methods are presented below.

Impact evaluation	Outcome evaluation
• ImpresS *ex post* method (alone or combined with other methods)	• Primarily through adaptation of the outcome harvesting method
• Assessment of a cluster of research interventions, long–term innovation processes (10 years or more)	• Evaluations of interventions lasting three to five years, either ongoing or completed
• Duration of evaluation: 12 to 15 months	• Duration of evaluation: 6 to 12 months

* For an example of a project that used the ImpresS *ex ante* method, see: https://impress-impact-recherche.cirad.fr/our-activities/impress-ex-ante/impress-ex-ante-case-studies/biostar

While these methods and their respective steps have been implemented in the most rigorous way possible, they have been adapted to each specific case presented in this document in order to consider the specific contexts and the users' needs.

ImpresS *ex post* impact evaluation: what is it?

The ImpresS *ex post* method is characterized by being participatory, case–study–based, iterative, and with a focus on analysing capacity building and the contributions of agricultural research to societal impacts. Six ImpresS *ex post* evaluation case studies are presented in this document, all of which share the following features:

- Case study analysis: the method is based on in–depth case studies to capture the evolution and the complexity of the innovation process studied. In total, 19 different cases have been selected by CIRAD since 2015 to reflect a diversity of geographical areas and research activities.
- Contribution analysis: this method assesses the ways in which research contributes to impacts, rather than the direct attribution of its actions. It examines the multiple internal and external factors that contribute to the generation of outcomes and impact, by developing an impact pathway and clarifying the underlying assumptions.
- Iterative and participatory development of the evaluation tools: stakeholders involved in the innovation process are also involved in the assessment. Assumptions, impact indicators, stakeholder maps, impact pathways and innovation stories are developed and adjusted with the participation of stakeholders throughout the study. This ensures that diverse and complementary experiences and perspectives are taken into account and discussed.

This method relies on two main tools:

- The innovation story: This story details the timeline and interactions between stakeholders throughout the innovation process. It highlights the development of stakeholders' networks, the co–production of innovations and the key stages of the process.
- The impact pathway: inspired by the theory of change, the impact pathway represents the causal logic of an intervention. It includes four main elements:
  - Inputs (resources and means): resources used to generate the outputs or products associated with the innovation.
  - Outputs / products: knowledge, training, technologies, protocols, platforms, networks, etc., generated by the research and associated with the innovation.
  - Outcomes: changes in practices, interactions and behaviour implemented by stakeholders as a result of the appropriation of the outputs.
  - Primary and secondary impacts: long–term social, economic, environmental and political effects resulting from these changes. Primary impacts are related to stakeholders and secondary impacts result from the scaling up of innovations.

Assessing outcomes by adapting the "outcome harvesting" method

Outcome harvesting is a qualitative evaluation method. Utilization–focused, it is aimed at producing knowledge for action. It is particularly useful in the case of complex interventions, when the effects of an intervention are not known or identified in advance, or when the implementation of an intervention has changed significantly since its inception. This document presents four applications of this outcome evaluation.

Outcome harvesting mobilizes participative and collaborative approaches for:

- Identifying the outcomes influenced by an intervention, whether they are intended or unintended, expected or unexpected;
- Investigating these changes to determine how they occurred and whether, and how, the intervention contributed to them;
- Validating these findings by gathering and analysing empirical evidence, then comparing and discussing these findings with stakeholders.

Since the outcome harvesting method is not prescriptive in terms of tools, the evaluations presented in this report allowed for experimentation. Depending on the conditions and opportunities specific to each case, impact pathways and intervention timelines were used, among other tools, to enhance and adapt different steps of the method. Semi–quantitative data analysis and perception analysis were also carried out.

All of the evaluations presented in this report were funded or co–funded by an internal evaluation incentive mechanism set up by CIRAD, and were supported by the ImpresS team. ●

References on the ImpresS ex post methodology:

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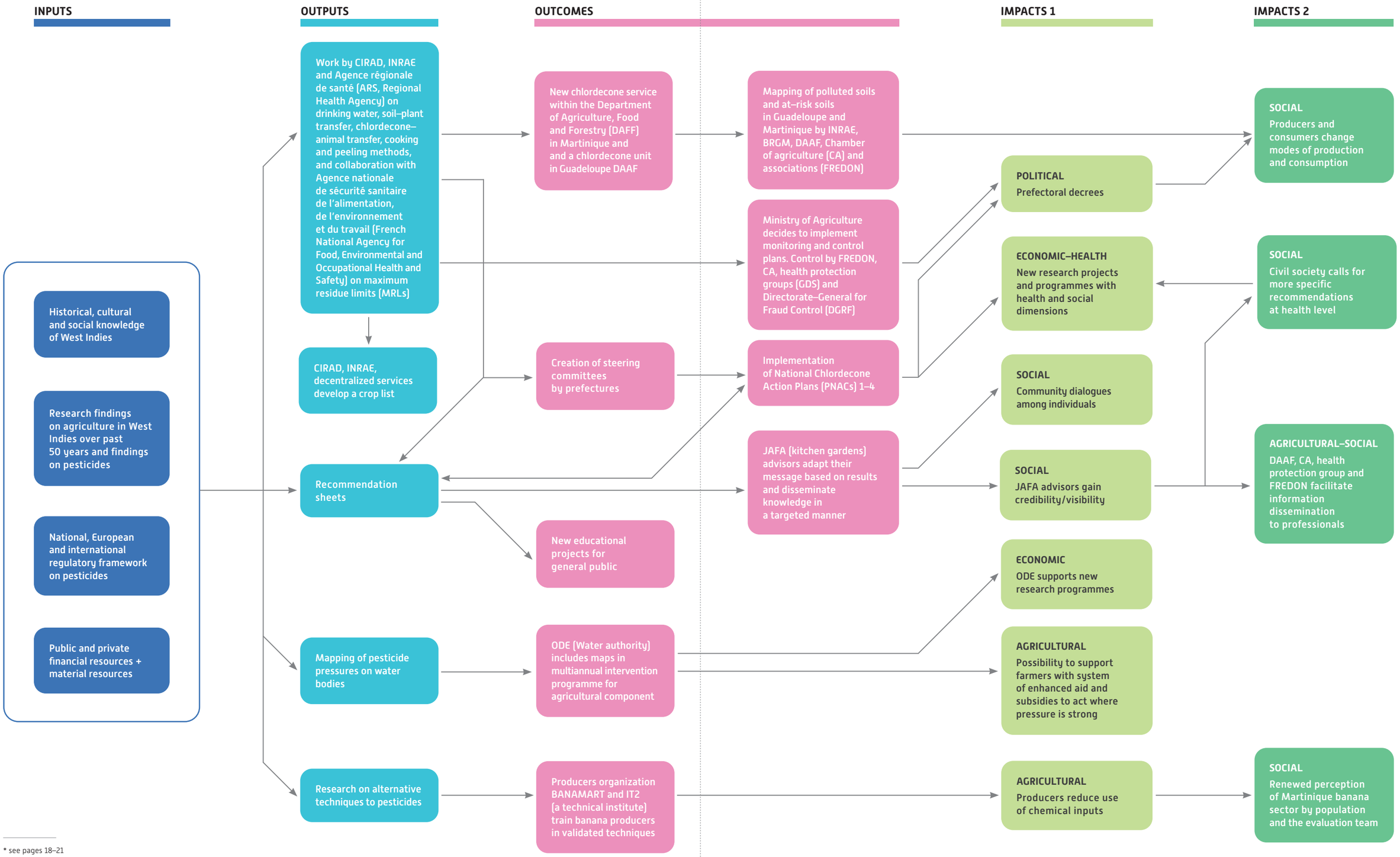
References on the outcome harvesting methodology:

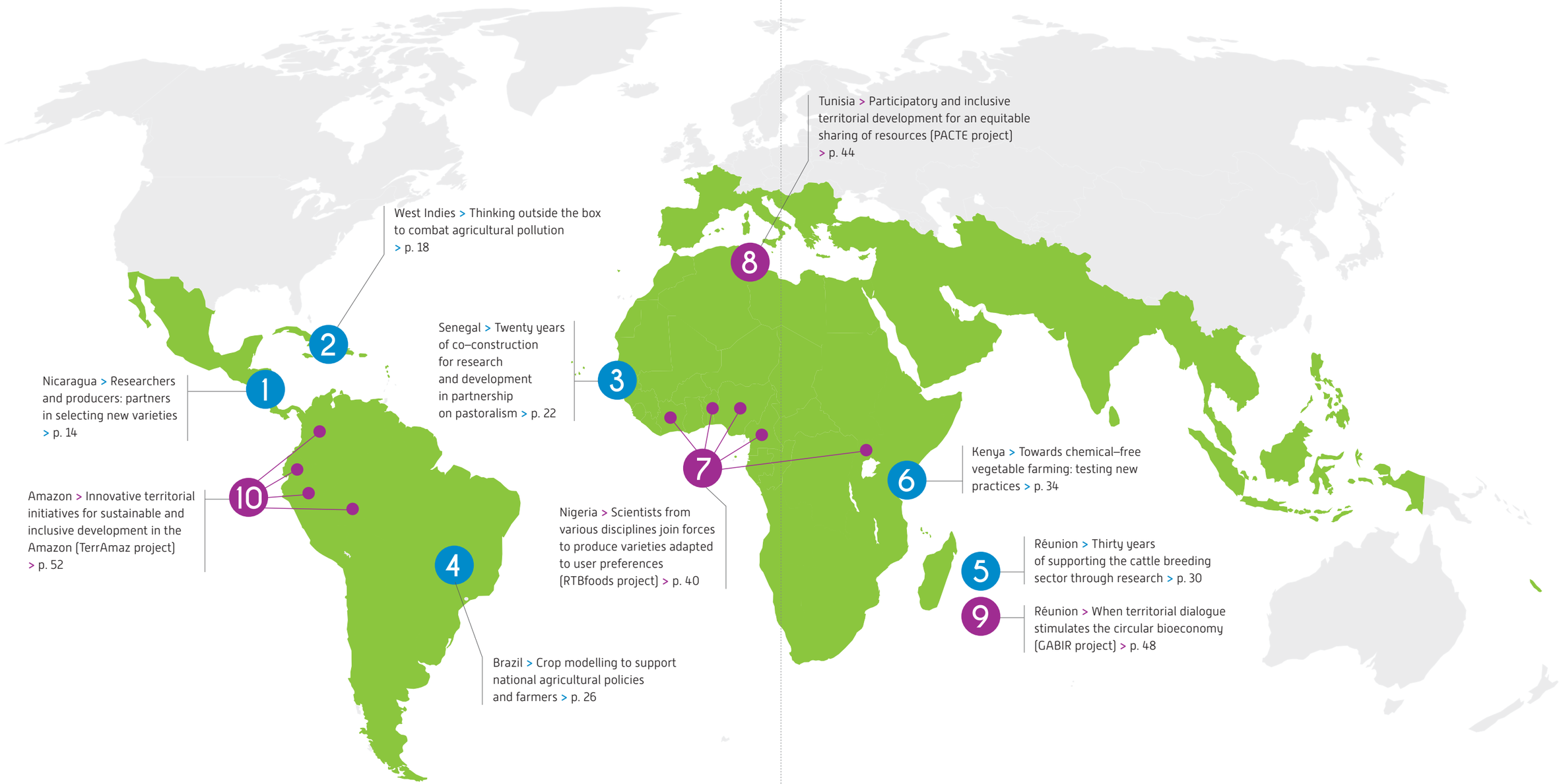
Wilson–Grau R. (2015). Outcome Harvesting. Better Evaluation.

Blundo Canto G., Récolte d'incidences, LIEPP Fiche méthodologique n°45, 2023–07.

Understanding the logic of an intervention: impact pathway of the ImpresS *ex post* impact evaluation of the support for managing the chlordecone crisis in the French West Indies*



* see pages 18–21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ImpresS *ex post* impact evaluations
Outcome evaluations

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Nicaragua

Researchers and producers: partners in selecting new varieties

Name of intervention: Participatory breeding for sorghum, beans and rainfed rice

Area of intervention: Nicaragua and Costa Rica, Guatemala, Honduras, El Salvador

Study period: 2002–2020

The assessment in brief

Start date/end date: December 2020 – December 2022

Authors: C. Bervis (FECODESA), B. Castro Briones, R. Herrera (CIPRES), G. Trouche (CIRAD), G. Blundo Canto (CIRAD, methodological advisor)

Contact: Gilles Trouche gilles.trouche@cirad.fr

Assessment documents: https://agritrop.cirad.fr/609408/
https://agritrop.cirad.fr/610144/

Context and intervention

Beans, maize and sorghum are the staple food crops for farm households in the Nicaraguan dry corridor. A participatory breeding programme began in Nicaragua in 2000, focusing on beans and maize. Two years later, CIRAD and CIAT formed a partnership with the National Agricultural Technology Institute (INTA) and the NGO CIPRES, expanding the programme to sorghum and rainfed rice. From 2002 to 2020, a series of projects were implemented. They were focused on conserving and characterizing local varieties, as well as improving them through participatory approaches. The goal of these projects was to develop and select varieties suited to local farming systems and to the preferences of farmers in the marginal and vulnerable areas of Central America.

The main innovation of this participatory breeding approach is the integration, at various stages of selection, of the knowledge and expertise of different stakeholders such as farmers, NGOs, traders, consumers and researchers. The preferences of the different stakeholders in the sector are thus better considered for evaluating the proposed varieties, resulting in better acceptance, greater utilization and higher impact in production systems.

At the end of the initial projects, CIPRES and the federation of agricultural cooperatives FECODESA, in collaboration with grassroots organizations in the northern part of the country, took a central role in leading the process. They continued the research and varietal selection work on all the targeted crops, with occasional support from the partner research centres.

Main changes and impacts

The various participatory research, training and experience–sharing processes have had an impact on the living conditions of the farm households involved in the projects, as well as on the agricultural research, education and training institutions. Local farmers' organizations, particularly the network of multisectoral cooperatives and their national federation, FECODESA, have been strengthened and their capacities were better acknowledged by public organizations engaged in participatory breeding and seed production. The intervention has also fostered recognition by the National Agricultural Technology Institute (INTA) of the skills of FECODESA technicians and farmer leaders involved in participatory breeding and seed production activities.

The sustainable use by farmers of varieties selected through the participatory programmes has been a major change. Among the farm households surveyed in this assessment (127), 20 years after the start of the programmes and approximately 15 years after the dissemination of the first varieties produced by these programmes, 75 farmers are growing sorghum varieties developed by the programme (59%) and 32 are growing bean varieties from the programme (25%). The more attractive characteristics of the two best–performing sorghum varieties from this programme, *Amarillo Norteño* and *Blanco Tortillero*, include higher grain yields (+30 to 40% compared to local varieties), good adaptation to mixed cropping systems, high drought tolerance, strong resistance to pests (aphids) and diseases, good grain quality for making tortillas and other local pastries and beverages, and better yield stability.

Nearly 60% of the farmers surveyed believe that the programme has helped them to better meet their food needs by reducing production losses and improving grain quality, including for commercial sale. Despite this, adverse climate events in recent years have also affected the performance of the new varieties, and 60% of respondents reported being unable to fully meet their food needs in 2021.

Finally, an impact felt by two thirds of the farmers surveyed is the recognition they have gained in their community due to their participation in the programme. This has contributed to creating a leadership role for some of them and closer exchanges with other farmers and researchers. ●

Perspectives

Compared to the conventional breeding approach, decentralized participatory breeding has proven effective in producing varieties that combine better agronomic performance under smallholder production conditions with desired quality traits.

Long–term interactions between professional breeders, motivated groups of farmers and stable NGOs or agricultural organizations, as well as a series of projects providing funding for a long–term trajectory, were crucial for achieving lasting impacts. Additionally, the programme has enabled the development of genetic material, varieties and populations that have proven useful for other environments with high climatic stress, particularly in Madagascar and Cuba. ●

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« While it was frustrating to coordinate this work remotely due to travel restrictions imposed by the COVID–19 health crisis, conducting this impact study in Nicaragua was very insightful. It allowed us to confirm and quantify some of the expected changes and impacts of this research, but also to identify other unexpected changes and impacts. Among these, the study highlighted a "lever" effect of the actions taken on sorghum varietal innovation for some of the country's poorest farming communities, on the evolution of their production practices (the adoption of agroecological farming practices), and the strengthening of their individual and collective capacities mobilized across many fields, well beyond varietal selection and seed production, to improve the living conditions of these communities. »

Gilles Trouche, sorghum breeder, CIRAD,
Deputy Director of the AGAP Institut Joint research unit

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West Indies

Thinking outside the box to combat agricultural pollution

Name of intervention: Support for managing the chlordecone crisis in the French West Indies

Area of intervention: Martinique and Guadeloupe

Study period: 1999–2020

The assessment in brief

Start date/end date: February – November 2021

Authors: A. Tonoian (CIRAD), P. Cattan (CIRAD), M. Lesueur–Jannoyer (CIRAD), G. Blundo Canto (CIRAD, methodological advisor), K. Nunes (CIRAD)

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Assessment document: https://agritrop.cirad.fr/609761/

Context and intervention

Between 1972 and 1993, chlordecone, a highly persistent pesticide with toxic effects on humans, was used massively in Guadeloupe and Martinique to control the banana weevil, a major pest of this crop. The consequences in terms of soil and water pollution remain significant to this day, with negative impacts on human and ecosystem health, as well as on the economy of these two territories.

Focusing on the period 1999–2020, this participatory impact evaluation analysed how research has contributed to identifying ways to manage this pollution with the French West Indies populations, particularly in Martinique. During this period, water contamination by chlordecone was documented through initial analyses. These results led to various complementary testing campaigns and studies, mainly conducted by CIRAD, INRAE and IRD. These studies aimed to characterize the transmission and persistence of pesticides, as well as to propose alternatives to chemical control of the weevil and to support those affected by this contamination.

In the early 2000s, the inclusion of environmental issues in the national policy agenda and the revelation of persistent water and soil pollution by chlordecone changed the focus of research questions and approaches on this issue in the French West Indies. The scientists engaged with local stakeholders to build more balanced interactions between humans, cultivated crops and the environment. As a result, they recommended solutions such as fallowing, crop rotation, the use of in vitro plants and service plants, as well as biological control for the control of the banana weevil.

Main changes and impacts

The contribution of research to managing the chlordecone crisis in the French West Indies can be divided into three major phases.

The first phase is marked by the identification, through scientific findings, of the diffuse pollution caused by chlordecone. It was characterized by initially slow public action, of a legislative and preventive nature.

The second phase was more active, where new stakeholders (civil parties, media, whistleblowers) or public authorities implemented economic, fiscal and informational measures, particularly targeting family gardens.

The third phase was characterized by inclusive, territorial research projects, including co–construction workshops and serious games (e.g. the Resyst project* in Martinique) for the collective design of innovations.

Three pathways have shaped the contribution of research to public policies in response to the chlordecone environmental crisis in the French West Indies:
(1) the prevention pathway: research contributed to changes in agricultural production practices and strengthened social and community dialogue, particularly through collaboration between different stakeholders to produce appropriate knowledge;

* RESYST: Resistance of tropical agricultural systems to the reduction of pesticide pollution pressures at the watershed scale; https://ecophytopic.fr/sites/default/files/2022-09/Update_Projet-RESYST-20220901.pdf

(2) the outreach pathway: research stimulated capacity building for these stakeholders and improved the accessibility of scientific results. Research also provided information on the state of environmental contamination (water, soil, plants, animals) and explained the environmental transfer mechanisms (soil/river, soil/plant, soil/animals), which led to changes in regulatory procedures;

(3) the public action pathway: research informed and influenced decisions on new regulations and public investments (research and other programmes).

Among other notable elements, media coverage of this contamination reinforced these mechanisms and these three pathways.

The changes and impacts generated by these actions include:

- The creation of specific units dedicated to chlordecone within the decentralized State services;
- The establishment of new consultation bodies by the *préfets* (regional administrators);
- The evolution of public action planning on pollution issues;
- The adaptation of scientific results for targeted communication;
- The formalization of new professional interactions between institutions concerned with the issue. ●

Perspectives

The role of research goes far beyond the production of knowledge and the design of innovations. When engaged in supporting territorial stakeholders, these roles included creating networks, as well as co–designing and contributing to planning long–term actions.

The key criteria for this contribution are the involvement of scientists at the interfaces between science and policy at different levels, the strengthening of technical and functional capacities for the different stakeholders concerned, as well as the accessibility and readability of scientific results. Impact is built over the long term and in partnership, in a multisectoral and interdisciplinary manner, by providing systemic responses at the territorial level. ●

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« The study helped identify the range of impacts generated and confirmed that the research was not limited to the technical domain, where it had been expected in the West Indies in the past. From my viewpoint, it primarily revealed the mechanisms and conditions leading to impacts. The importance of networks and the quality of partnerships are key variables raising questions about how these could be explicitly integrated into research projects, with what metrics to assess their quality, and what implications for the allocation of funding. »

Philippe Cattan, agronomist,
hydrology and pesticide dispersion in the environment, CIRAD,
TETIS Joint research unit

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Senegal

Twenty years of co-construction for research and development in partnership on pastoralism

Name of intervention: Platform in partnership for research and training – Pastoralism and drylands hub in West Africa (PPZS)
Area of intervention: Senegal and neighbouring Sahel countries
Study period: 1998–2021
Site: https://www.ppzs.org

The assessment in brief

Start date/end date: November 2020 – February 2022
Authors: M. Reynaud (CIRAD), I. Touré (CIRAD), C. Corniaux (CIRAD), K. Nunes, M. Ferré, G. Blundo Canto (CIRAD, methodological advisors)
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Ibra Touré ibra.toure@cirad.fr

Context and intervention

Established in 2001 as a scientific interest group, the main objective of the platform in partnership PPZS is to facilitate multi–stakeholder dialogue, knowledge and skills sharing, as well as innovation in pastoralism in drylands. It aims to understand pastoral systems, recognizing their crucial role in the Sahelian drylands, and to work towards their development and their integration into national economies and policies. The platform encourages collaboration between researchers, practitioners, policymakers and local communities through an inclusive and participatory approach. This approach, based on research in partnership that is multidisciplinary and co–constructed, aims to co–develop appropriate and sustainable solutions for the development of the Sahelian drylands. The PPZS brings together scientists from Senegalese research institutes, including the Centre de Suivi Ecologique (CSE – Ecological monitoring centre), Cheikh Anta Diop University, Dakar (UCAD) and the Institut Sénégalais de Recherches Agricoles (ISRA – Senegalese Institute of Agricultural Research), and from CIRAD.

The evolution of the PPZS involved two main phases. The first phase (1998–2021) was marked by activities needed to prepare for the creation of the "pastoralism and drylands platform" itself. This involved reaching out to research and development organizations, establishing a multidisciplinary team and presenting a governance model as well as a four–year scientific programme to the supervisory authorities. In this phase, the aim was to build a national base around the Ferlo region, with gradual integration into scientific networks through participation in inter–institutional projects. Multi–disciplinarity and participatory approaches underpinned all actions aimed at renewing knowledge on these ecosystems and building decision support tools. At the same time, the PPZS was actively involved in academic and technical training within higher education institutions and with professional and livestock farming organizations. During this initial phase, the PPZS developed an extensive network of partners working in research, education, development, professional livestock farmers' organizations, NGOs and intergovernmental organizations.

The second phase (2013–2021) was marked by efforts towards the consolidation of the established partnerships and, at the same time, the exploration of new collaborations within the sub–region (e.g. prospecting activities in Burkina Faso, Mali, Mauritania and Niger). The renewed interest in pastoralism from policymakers is also to be noted during this period. Some major collaborative projects were implemented around pastoralism, with support from the PPZS, reflecting increased interest from regional and international public actors in this livestock model and its enhancement. The strategic direction of the new PPZS scientific programme has increasingly focused on understanding and supporting the sustainability of socio–ecosystems in drylands in response to the different global changes underway. During this second phase, the network expanded and intensified over time, particularly with local authorities, research and education structures, farmers' organizations and NGOs. Political ties remained limited, mainly within the context of specific projects or expert consultations, but links were strengthened within regional networks (Inter–State Committee for Drought Control in the Sahel, CILSS) and with international institutions (FAO, World Bank) that are increasingly engaging with and leveraging research.

Main changes and impacts

The appropriation of the knowledge and outputs produced by the PPZS and the implementation of structural projects launched by the platform (50 structural projects were identified for the period assessed) have resulted in various types of changes for different stakeholders:

- Agropastoralists and municipal authorities in Ferlo, a semi–desert area in north–eastern Senegal, have adopted new regulations to organise agropastoral zoning and land tenure;
- The Ministry of Livestock and Animal Production has developed a "Pastoral Code" and a livestock census methodology;
- Livestock farmers' associations have adapted mapping tools, facilitating negotiation with investors and technical partners in the municipalities of Thiel, Vêlingara Ferlo, and those around Lake Guiers;
- New organizational strategies have also been established, such as integrating knowledge on dairy economics at the "Laiterie du Berger" – a family–owned social enterprise created in 2006. New collaborations have emerged focusing on industrial strategies and dairy policies between dairy sector stakeholders and public stakeholders;
- Producer organizations co–produced policy recommendations with the PPZS and strengthened their advocacy through a platform entitled "Transverses – Information on livestock farming and pastoralism in West and Central Africa", created and promoted by the PPZS. Civil society organizations thus progressed from making demands to making counter–proposals;
- Around 250 students trained by the PPZS reported having used the knowledge they acquired through the PPZS within their new environments.

The platform also significantly contributed to societal impacts. It conducted advocacy actions, transmitting the demands of agropastoral communities to high–level bodies. Research recommendations were taken into consideration by regional institutions (CILSS, ECOWAS, UEMOA) and technical and financial partners (World Bank, Agence Française de Développement [French Development Agency], European Union, FAO, etc.) in the implementation of structural regional projects (PRAPS 1 & 2, PREDIP, etc.). Furthermore, the PPZS contributed to the evolution of the political discourse and public policies on pastoralism in Senegal and the sub–region, in particular during the Ndjamena Conference in May 2013 and the High–Level Forum on Pastoralism in Nouakchott in October 2013. Communication by these institutions on pastoralism and agro–sylvo–pastoral issues became more relevant and freer from stereotypes. Interactions between dairy and meat sector stakeholders at the national and regional levels have been improved, helping to ease certain conflicts. Pastoralism is now recognized by states and regional institutions as a sustainable activity requiring land tenure security in order to contribute to food sovereignty and nutrition in West and Central African countries.

In summary, the use of the knowledge, tools, exchange arenas and services produced by the PPZS platform stakeholders and their partners has contributed to i) enhancing the skills of a network of professionals, ii) driving a shift in the position and discourse of public actors, iii) increasing legitimacy for stakeholders by shaping solid arguments, and iv) facilitating networking among actors working on pastoralism. This has been made possible in particular through studies and support for research, greater media coverage and greater visibility of related issues. ●

Perspectives

The organizational model of the PPZS platform (which is co–constructed, multi–institutional and multidisciplinary) enables scientists and field actors to join forces in order to address national and regional needs. The findings of this evaluation study show that the range of different actors interacting with the PPZS (directly or indirectly) and the co–production of outputs and results through field actors and partners helps to generate diverse impacts. This study has highlighted the importance of specific public actors and policymakers in designing or scaling policies aimed at securing agropastoral systems. ●

> The PPZS ImpresS *ex post* study explores 20 years of research on pastoralism in the Sahel. For the members of the PPZS, it [the study] has particularly raized awareness of the extent of the work accomplished. Beyond the number of projects, publications and conferences resulting from this scientific partnership, it is the large number of students and doctoral candidates trained that emerges as a major strength of the PPZS, and which ultimately forms the basis of its impact for the coming decades.
>
> Christian Corniaux, animal scientist, CIRAD,
> Deputy Director of the SELMET Joint research unit

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Brazil

Crop modelling to support national agricultural policies and farmers

Name of intervention: Development and appropriation of modelling tools in Brazil

Area of intervention: Brazil

Study period: 1970–2021

The assessment in brief

Start date/end date: March 2021 – February 2022

Authors: K. Nunes, C. Baron, X. Augusseau (CIRAD), M. Ferré and G. Blundo Canto (CIRAD, methodological advisors)

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Context and intervention

Brazilian agriculture underwent significant changes in the 1960s, alongside the industrialization of the country. The agricultural transition was largely financed by public resources, through low–interest loans aimed at supporting farmers in their modernization efforts. The Agricultural Activity Guarantee Programme (known as PROAGRO), created by the Central Bank of Brazil in 1973, granted farmers the right to be exempted from their financial obligations related to loan operations in the event of crop loss. However, in 1993, declared rates of agricultural losses were found to be very high, thus resulting in substantial loan repayment requests, causing PROAGRO to face an important financial shortfall (estimated at 255 million euros). This pointed to the need for a regional tool to define high–risk geographical areas and appropriate agricultural practices (along with varieties used and sowing windows). The SARRA water balance model was developed by CIRAD to simulate the daily water balance of a crop based on soil, crop and climate parameters. This model was adopted by Brazilian stakeholders (particularly EMBRAPA) and integrated into the Brazilian agricultural policy instrument "Agricultural climate risk zoning" (ZARC).

The processes to develop, adapt and implement the BIPZON and SARRAZON crop models involved various stakeholders from 1970 to 2021.

This process included several stages: from 1970 to 1987, researchers from CIRAD developed a model to perform agro-climatic zoning, in order to identify agricultural practices and varieties that are suited to these zones and to estimate, during agricultural seasons, yields and areas facing severe water deficits.

The BIP model was thus introduced to simulate the water balance and to calculate the water requirement satisfaction index relative to the different phases of crop development. In 1992, this model was extended to the regional scale (BIPZON version). Between 1987 and 1993, BIP4 and BIPZON were introduced in Brazil. Through a partnership between EMBRAPA, the "Institut de Recherches Agronomiques Tropicales" (IRAT – Institute for Tropical Agronomic Research) and CIRAD, Brazilian researchers, including a former CIRAD doctoral student working at EMBRAPA, applied these models to estimate the risks of water stress and to identify the best periods for sowing rice. Between 1994 and 2020, the team from EMBRAPA and members of the Ministry of Agriculture (MAPA) extended the development of climate risk zoning to the entire country and created a national instrument to support the definition of regional agricultural calendars, and thereby reduce agricultural losses. BIPZON was initially chosen and later replaced by SARRAZON as the tool to support PROAGRO, as part of the ZARC scheme: Agricultural Climate Risk Zoning. Based on climate risk index maps, recommendations for cropping calendars and agricultural practices were produced and disseminated through ministerial decrees.

Main changes and impacts

The evaluation study identified the changes that emerged for these stakeholders.

In terms of contributions to Brazilian agricultural policies:

- EMBRAPA researchers adopted the models and included in their agroclimatic zoning projects the concept of climate risk zones related to rainfall variability on decadal timescales;
- EMBRAPA researchers and regional research institutes worked together to establish a zoning instrument in response to the request from the Ministry of Agriculture (i.e. the emergence of ZARC), which resulted in new collaborations between research institutes;
- Regional stakeholders developed alternatives to ZARC for the management of specific climate risks (for crops that are not covered by the ZARC scheme);
- The network of rainfall stations was densified. In Mato Grosso, the soybean producers' association (APROSOJA) expanded the network of rainfall stations to improve the quality of meteorological monitoring and, consequently, the results of the model.

The use of the model within agricultural climate risk zoning contributed to the definition of new regulations:

- Farmers wishing to join PROAGRO and to receive financial assistance had to comply with ZARC recommendations (BCB resolution 2 422/1997);
- Agricultural advisors integrated ZARC recommendations regarding crop varieties and sowing windows;
- Financial institutions (banks and credit cooperatives) organized the management and access to loans according to the ZARC calendar (for example, before sowing dates).

The adoption of these models influenced agricultural research topics in Brazil

Agroclimatology research gained visibility in Brazil. Agroclimatology lecturers from 17 Brazilian universities reported an increase in the importance attributed to this field, including new research groups and laboratories and specialized programmes. ●

Perspectives

The impact evaluation highlighted how a modelling tool that was initially developed by researchers was taken up by public stakeholders in interaction with research and has contributed, in combination with other technical tools and the involvement of other stakeholders, to guiding agricultural policies at the national level. This appropriation process occurred independently of the model's developers. It is notable that the modelling tool is so far considered as the reference in Brazil. This evaluation paves the way for further studies in more specific dimensions, focusing in particular on the national level quantification of economic impacts, which have been mentioned by several stakeholders. ●

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« We often find ourselves running ahead of or chasing something: expectations, projects, ideas, one delay after another. Here, instead of simply looking back in passing, we sit down, turn to the past, and discover, or rediscover, a meaningful story and colleagues we may have lost touch with. What does a meaningful story imply beyond personal feelings? What feedback and follow–up actions emerge from projects and human investments? With this approach, these questions are raized and examined from different perspectives. »

Christian Baron, researcher in crop system modeling, CIRAD, TETIS Joint research unit

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Réunion

Thirty years of supporting the cattle breeding sector through research

Name of intervention: Support to the cattle breeding sector in Réunion

Area of intervention: Réunion Island

Study period: 1987–2020

The assessment in brief

Start date/end date: November 2020 – February 2022

Authors: N. Lopez (INRAE), J.–P. Choisis (INRAE), J. Vayssières (CIRAD), A. de Romémont (CIRAD, methodological advisor), with the contribution of O. Fontaine, G. Blundo Canto, K. Nunes (CIRAD)

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Assessment document: https://agritrop.cirad.fr/603217/

Context and intervention

Created in 1987, the CIRAD Livestock Hub in Réunion, has a staff of around 15 people and has more than 30 years of experience in livestock research on the island. The livestock sector in Réunion is characterized by the coexistence of farms with varying degrees of specialization. In total, the sector comprises 1200 dairy and beef cattle farms operating within structured or independent supply chains. In this context, the Livestock Hub has supported the development of socio–technical innovations that meet the expectations of professionals. Over time, the Hub has investigated a wide range of topics, including forage management systems, animal nutrition, health and reproduction. Two key areas of research have been the assessment of zootechnical performance, including for local breeds, and the assessment of environmental performance of livestock farms, with a focus on waste management. In recent years, the integration of livestock farming into sustainable territorial development and the circular economy has emerged as a key concern.

The ImpresS *ex post* impact evaluation examined the evolution of the support for the development and professionalization of cattle farming in Réunion provided by the Livestock Hub from 1987 to 2020. It analysed the changes and socio–economic impacts influenced by research outputs produced by the Hub over the years. This evaluation focuses specifically on research activities related to dairy production, cattle breeding and fattening, and fodder production.

Main changes and impacts

The research carried out by the Livestock Hub has evolved over time in terms of scales of analysis, research topics – initially technical and later societal – and research practices, moving from disciplinary to multidisciplinary approaches implemented through broader partnerships at the territorial level.

This trajectory can be divided into three main phases:

From 1987 to 1993, the Livestock Hub acted as a technical institute, conducting several experiments focused on technical development and farm specialization, responding to the concerns and needs expressed by farmers. From 1994 to 2007, the Hub moved from a thematic to a multidisciplinary approach, with the aim of maintaining production levels and meeting local market demand. *"In 1993, the average annual milk production was 2 200 litres per cow for the entire herd, compared to 6 200 litres per cow in 2018"**. Since 2008, concerns about bovine diseases and animal mortality have shifted the focus of research towards broader issues, responding to farmers' expectations and to societal concerns about the environment, health and climate change.

The following are some of the significant socio–technical impacts to which the Livestock Hub has contributed:

- Improved reproductive performance through monitoring and improved animal nutrition;

* This quotation and the following one are extracted from interviews conducted in 2021 with cattle breeders from the Réunion highlands and cattle sector stakeholders by Nina Lopez, a Master's student at ISTOM, as part of an internship on the ImpresS *ex post* study.

• Reduced winter fodder deficit through the wrapped silage bales technique: *"The number of wrapped round bales increased from 400 in 1990 to 4 000 in 1993. The area harvested for silage increased from 100 ha before 1985 to 600 ha in 1995"*;

• Increased nutritional value of fodder through rational grasslands management, with the support of the Union des Associations Foncières Pastorales (UAFP – Union of Pastoral Land Associations) and the Regional Council;

• Reduced production costs thanks to improved cattle rationing management;

• Improved fodder quality through the use of NIRS (Near–infrared spectroscopy) analysis technology.

This Livestock Hub trajectory has also significantly contributed to the professionalization of the cattle sector by:

• improving the technical skills of livestock sector professionals;

• strategic formalization of technical and economic objectives by cattle cooperatives;

• increasing the credibility of the discourse of inter–professional organizations and cattle cooperatives on the socio–economic model of livestock farming in Réunion thanks to social accounting matrices. ●

Perspectives

The contribution of the Livestock Hub's research to these impacts has been facilitated by a coherent and coordinated technical network, including the Sociétés d'Intérêt Collectif Agricole (SICA – Agricultural Collective Interest Companies), the Établissement de l'Élevage (EDE – Livestock Establishment) and the UAFP on the island. The sustainability and evolution of these results depend on the use of the practices by farmers, which in turn is highly dependent on the support measures in place and the motivation of the farmers. This underlines the crucial role of continuous dialogue between scientists, sector stakeholders and public authorities to support these changes.

The results of the evaluation also highlight the central role of research in building the capacities of sector professionals and emphasize the need to anticipate the departure of professionals and to build a "memory of research results" to ensure the preservation of this knowledge and expertise. It is essential to facilitate the uptake of research, clarify the roles of each organization, align research activities with the expectations and needs of local stakeholders, and promote the dissemination of research findings to strengthen the dialogue with partners. ●

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« The decision to study a long–term process faces challenges, as the memory of events has faded over time or been 'rewritten'. It is then essential to compare testimonies to build a pathway of 'tangible' innovations. I found it noteworthy that the division of this history into three phases, which emerged from interviews with scientists, was validated by our partners, who nevertheless proposed changes to the titles of the phases. The evaluation approach also meant we had to locate people who had retired or left Réunion. It was encouraging to see that everyone we contacted, whether from research or development, agreed to answer our questions and participated in the workshops. To me, this shows not only that stakeholders were interested in participating in an introspective and reflexive exercise about what has been achieved, but also the trust established between individuals from the different organizations that worked together. Through these exchanges, collaborations have sometimes even turned into friendships. »

Jean–Philippe Choisis, zootechnician of livestock systems,
INRAE, SELMET Joint research unit

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Kenya

Towards chemical-free vegetable farming: testing new practices

Name of intervention: Development of a technical package for anti–insect net houses in Kenya

Area of intervention: Kenya

Study period: 2005–2021

The assessment in brief

Assessment type: *In itinere* impact evaluation of a technical package under development

Start date/end date: June 2020 – December 2021

Authors: É. Deletre (CIRAD), E. Hainzelin, G. Blundo Canto and C. Alexandre (CIRAD, methodological advisors)

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Context and intervention

The widespread and uncontrolled use of chemical products to manage pests in Kenya's vegetable farming sector poses a major threat to human, animal and environmental health. On the basis that some farmers were already using mosquito nets to protect their crops from pests, researchers sought to test the effectiveness of these practices to increase yields and reduce the use of synthetic pesticides. The technology packages developed in this research trajectory combine anti–insect netting mounted on a metal or wooden structure, a drip irrigation system and integrated pest management practices. These packages also aim to enable farmers to adapt to climatic factors and produce vegetables all year round.

This innovation was developed in two phases. From 2005 to 2016, farmers and research institutes conducted several trials at research stations and in the field in Benin, Kenya and France to test the potential of low tunnel nets in reducing or eliminating the use of chemical pesticides. A proof of concept was established and the characteristics of the nets were stabilized to achieve an optimal effect on yields in relation to the costs of investment. In the second phase (2016–2021), anti–insect net houses were specifically developed and tested in Kenya. Collaborations between researchers and the private sector facilitated the creation and testing of a technology package that included the use of net houses in combination with integrated pest management practices.

Simultaneously, the economic efficiency of net houses was tested on 30 vegetable farms. These studies showed that net houses increase yields by around 30% while reducing input (on farm) costs by 32.5%. In 2016, a partnership with two private companies was established with the goal of bringing to market a technological kit that included the nets and metal structure, seeds and an irrigation system. However, demand for these kits remained low for a number of reasons. These included inadequate marketing of the kits, the high prices of the kits, difficulties in mobilizing agricultural advisors on a large scale to support farmers in their use, and limited consumer demand in Kenya for pesticide–free products.

Main changes and impacts

This evaluation, conducted *in itinere* and in the early stages of the technology package development process, identified changes in practices among the 30 vegetable farmers who received the net houses for free. As a result, the longer–term and larger–scale changes and impacts were not identified or measured. This *in itinere* evaluation nevertheless made it possible to generate assumptions about changes and impacts, which will need to be verified once the technology package is used more widely.

The 30 vegetable farmers who tested this technology package were able to produce vegetable crops under nets and to use new production practices: irrigation, landscape management, crop rotation, and biopesticides. These farmers also used new, higher–yielding seed varieties, enabling year–round production.

The reported changes in practices among these 30 farmers are the following:

- The reduction or elimination of chemical pesticide use, linked to improved crop protection and the use of biopesticides;
- A reduction in the amount of water used for irrigation;
- An extension of the harvest period;
- Better protection against certain climatic factors (rain, drought and high sun exposure).

These 30 farmers were thus able to develop new direct sales' markets (consumers and retailers) and to sell their produce at higher prices because of its quality (fewer or no chemical pesticides). Combined with the 32.5% reduction in input costs (water, pesticides) and the increase in production throughout the year (+30%), this could contribute to stabilizing and increasing farmers' incomes. In total, 65% of the farmers participating in the trials reported an increase in their income as a result of the use of the net houses.

Moreover, the use of anti–insect net houses helped to protect vegetable crops from free–ranging livestock in the neighbourhood, thereby reducing conflicts between neighbours. Finally, 62% of the farmers who tested the nets stopped using pesticides, thereby making their working environment safer. ●

Perspectives

This *in itinere* impact evaluation illustrated the gradual evolution of a technology package, from the use of a simple object (nets) to protect vegetable crops, to a complex system combining physical protection, biocontrol and crop rotation. Relationships have been established with public and private stakeholders to facilitate the sale of the anti–insect net houses and to establish a long–term advisory system. However, this process is still ongoing: while the net houses are providing clear benefits for the farmers who have trialled them, further work is needed to encourage broader adoption and to enhance their impacts. ●

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Following the ImpresS *in itinere* impact evaluation, I realized that an innovation process takes place over the long term and involves a wide range of stakeholders. Even if an innovation (in this case, anti–insect net houses) is highly effective and available, it may not be adopted for various reasons, including accessibility issues. Our projects therefore need to be transdisciplinary to enable us to study the adoption process of an innovation and its effects from all perspectives and at all scales.

Émilie Deletre, entomologist,
HORTSYS Internal research unit, CIRAD

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Acting in diversified actor ecosystems: lessons from ImpresS *ex post* impact evaluations 2020–2024

Evaluating the impact of research interventions has become a crucial tool for reflecting, learning and improving research practices. Nineteen impact evaluations were conducted using the ImpresS *ex post* method, which made it possible to conduct cross–cutting analyses of these cases (the first in 2015, the second in 2024). These helped to identify lessons beyond specific cases and to enhance understanding of the mechanisms and modalities through which research contributes to impacts.

Initial lessons: the importance of co–construction and time

Between 2013 and 2015, CIRAD evaluated the impacts of 13 innovation processes using the ImpresS *ex post* method. The cross–cutting lessons drawn from these case study evaluations include:

- The importance of co–generating research products and changes: research improves its contribution to impacts when it cooperates with different stakeholders at various levels to develop products and to promote interactions that facilitate change;
- The crucial role of capacity building: innovation processes increase technical, managerial and communication capacities, thereby catalysing impact generation. Research plays an important role in this capacity building, in both formal and informal learning situations;
- The diversity of research impacts and the fact that they are built over the long term: impacts often emerge over several decades and are varied in nature (economic, environmental, social, legislative and organizational);
- The importance of interactions with public actors: the involvement of public actors in research processes at the local, national and international levels is essential, particularly for scaling interventions and influencing policies;
- The multiplicity of roles played by research in innovation processes: in addition to "classic" knowledge production, research contributes to resource management and promotes innovation. It also sometimes acts as a mediator or facilitator between stakeholders.

Confirmed lessons and new areas for work

Between 2020 and 2024, six new evaluations (five ImpresS *ex post* evaluations and one *in itinere* evaluation) confirmed the previous lessons and produced complementary lessons, presented below.

(i) Fostering collaboration between research and all actors in innovation systems

The analysis confirms the importance of collaboration between research and a multitude of academic and non–academic actors to jointly design and manage interventions, to co–generate knowledge and products, and to analyse and develop technical, organizational, programmatic or policy alternatives.

The different actors play complementary roles in these processes. Public actors are crucial in creating an environment conducive to innovation. The evaluations conducted between 2020 and 2024 thus identify levers for impact that are driven by interactions between research and public actors, namely:

- Funding for research and innovation processes: in Brazil, for example, the development of the SARRA water balance model, integrated into the national agricultural risk zoning tool (ZARC), was funded by the Central Bank with the authorization of the National Monetary Council;
- The design and implementation of legislative and regulatory frameworks: research findings influence policies, such as regulations on drinking water in the French West Indies to reduce exposure to pollution.

In addition to the role of public actors, the 2020–2024 evaluations highlight the influence of various socio–economic actors on innovation processes. They also underscore the importance for research to be able to interact with all these actors at specific moments of the processes:

- Producer organizations: these organizations are crucial in the innovation process analysed, for example to facilitate the use of new agricultural practices and to structure professional involvement in supply chain management, as seen in the livestock sector by the Livestock Hub in Réunion;
- NGOs and media: they contribute to raising awareness and promoting innovations, playing a key role in the innovation development and adaptation phases. In the case of pollution management in the French West Indies, NGOs partnered with the media to better communicate about the issue of pollution from chlordecone. For the PPZS platform in partnership, NGOs adapted training modules produced by the partnership to conduct multi–stakeholder sessions specifically for journalists;
- Private sector: in cases like the dairy company Laiterie du Berger in Senegal, private companies have leveraged research partnerships to improve the efficiency of their operations.

These elements advocate for strong and continuous interactions between research and a variety of partners for the benefit of long–term impacts.

(ii) Adapting research roles to the changing needs of stakeholders and working to strengthen innovation systems

The 2015 cross–cutting analysis identified different intervention models based on the multiple roles played by research. These models were confirmed in the new analysis:

- Participatory transfer: research steers the process and develops solutions to well–defined problems. One example is the SARRA model in Brazil.
- Co–design of innovation: researchers and stakeholders co–create innovations. An illustration of this model is participatory selection of sorghum in Nicaragua.
- Support for the innovation process: in this model, researchers facilitate the negotiation and adaptation of innovations, such as support for pastoral systems within the framework of the PPZS platform.

The evaluations presented in this report shed light on these intervention models, highlighting that they are not static, but rather evolve over time within a given innovation process. In certain evaluations, such as the livestock sector in Réunion and pollution management in the French West Indies, the role of research evolves from participatory transfer to innovation support. This change occurs as the demands of the actors evolve and the challenges they must collectively address increase in complexity.

Towards greater reflexivity, dialogue and adaptability

This cross–cutting analysis highlights the diversity of actors involved in innovation processes beyond research. It emphasizes the importance of co–designing innovations as well as the need for research to collaborate with a wide range of partners, including the public sector, producer organizations, media and private companies. Beyond "classic" knowledge production, research is called upon to play a key role as a mediator and facilitator of innovation within dynamic, multi–stakeholder systems, helping to address the complexity of current societal challenges.

The new impact evaluations underscore the long–term nature of innovation processes. This requires research to adapt its supporting roles throughout the different phases in response to the evolving needs of actors. Building and maintaining strong partnerships from the project design phase onwards is therefore essential.

These findings are a strong incentive for CIRAD to continue its efforts to develop a culture of impact both internally and with its partners, by adapting the support, methods and tools used in innovation pathways to foster (i) greater reflexivity, (ii) continuous dialogue between partners and stakeholders to clarify their needs in evolving contexts, and (iii) adaptive management by identifying necessary adjustments in the roles played by research. ●

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Nigeria / RTBfoods

Scientists from various disciplines join forces to produce varieties adapted to user preferences

Name of intervention: Breeding roots, tubers and banana products for end user preferences (RTBfoods)

Area of intervention: Benin, Cameroon, Ivory Coast, Nigeria, Uganda

Study period: 2012–2022

Project budget: €13m

Donors: Bill & Melinda Gates Foundation, CIAT, CIRAD, INRAE and James Hutton Institute

Project site: https://rtbfoods.cirad.fr/

The assessment in brief

Assessment type: Final outcome evaluation, adaptation of the outcome harvesting method

Start date/end date: June–December 2022

Authors: A. Devaux–Sparatakis (Quadrant Conseil), É. Fauvelle (CIRAD), C. Proietti (CIRAD, methodological advisor)

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Assessment document: https://agritrop.cirad.fr/603893

Context and intervention

Roots, tubers and bananas (RTB) play a critical role in food security and income generation in the humid tropical regions of sub–Saharan Africa. Their importance is expected to continue growing in the coming decades. Despite the efforts made by national and international agricultural research centres to develop improved RTB varieties and make them available to farmers, their uptake by stakeholders in the different sectors is lagging behind expectations. Research programmes have long focused on improving yields and disease resistance, with little attention given so far to the preferences of end users (processors, consumers) – preferences that are also determined by organoleptic properties, product quality after processing, and socio–cultural factors.

The RTBfoods project aimed to strengthen the collaboration between social sciences, food sciences and genetics for an integrated and effective management of plant breeding programmes. The goal was to understand the variety characteristics most desired by users and to better incorporate them into the development of new varieties, based on the analysis of consumer preferences for culinary preparations (boiled, pounded, fried, etc.) and the suitability of RTBs for processing (ease of storage, peeling, fermentation, fibre separation or granulation). The project was coordinated by CIRAD and implemented by an international consortium of 15 partners. Its activities covered five African countries (Benin, Cameroon, Ivory Coast, Nigeria and Uganda) and five crops (yam, cassava, sweet potato, plantain and potato).

Main changes and impacts

The evaluation found that the project enhanced the capacities of researchers from different disciplines to develop and use:

- Participatory and gender–sensitive methods and tools to understand user needs and preferences;
- Food product profiles to identify, link and characterise user needs and preferences with traits applicable in plant breeding programmes;
- Standardized operating procedures to assess quality traits;
- Low, medium and high–throughput phenotyping protocols for measuring and predicting quality traits. Technical and material capacities in this area have also been strengthened;
- Harmonized tools and databases for collecting and storing data on quality traits.

These capacities were strengthened both among partners who had previously tested some of these tools and methods and among those who started using them within the framework of the project.

The evaluation confirmed the effectiveness of introducing and improving the use of various protocols developed by the project. New protocols for biophysical and biochemical analyses (texture, colour, water absorption capacity, sensory characteristics) are now being used beyond the development and testing phase by the vast majority of RTBfoods partner organization laboratories.

RTBfoods has also contributed significantly to changing mindsets and improving interdisciplinary collaboration capacities and practices within all partner programmes. As a result, greater use of the information generated on quality traits has been observed within the partner programmes. However, limited access to protocols and techniques for rapid analysis of large numbers of samples still hinders the integration of additional traits into decision–making processes in the early stages of plant breeding programmes. At more advanced stages, when the number of samples to be evaluated is smaller, the integration of new traits into the breeding scheme has been observed, and information from sensory, textural and colorimetric analyses has been used. ●

Perspectives

This evaluation was carried out a few months before the end of the project. The main recommendations concerned the need to consolidate and widely disseminate results on low, medium and high–throughput phenotyping methods and tools through scientific materials and training, before the end of the project. Another recommendation was to improve the accessibility of all data that could be used to calibrate and validate methods and tools for quality trait assessment.

In addition, to demonstrate feasibility and to encourage wider integration and institutionalization of this multidisciplinary approach to the management of plant breeding programmes, it was recommended that the most advanced cases should be documented, highlighting the steps and organizational procedures taken to facilitate this integration. The final recommendation was to produce data on the resources needed to develop protocols for new traits in order to better plan the investments required for future actions. ●

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> We (researchers from different disciplines) understand each other better. We know what information the breeders need, and they know that we can provide them with useful data.
>
> Anonymous
> (source: interviews conducted during the evaluation)

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Tunisia / PACTE

Participatory and inclusive territorial development for an equitable sharing of resources

Name of intervention: Programme of adaptation to climate change in vulnerable territories in Tunisia (PACTE)

Area of intervention: Tunisia

Study period: 2018–2027

Project budget: €56m

Donors: Agence française de développement (AFD), Fonds français pour l'environnement mondial (FFEM), Tunisian government

Project site: https://www.cirad.fr/dans-le-monde/cirad-dans-le-monde/projets/projet-pacte

The assessment in brief

Assessment type: Evaluation of the final outcomes of the project, adaptation of the outcome harvesting method

Start date/end date: June – December 2023

Authors: C. Fiorio, H. Chiha, M. Jendoubi, S. Mrad, G. Lestrelin, É. Hassenforder (CIRAD), C. Proietti and E. Raison (methodological advisors, CIRAD)

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Context and intervention

In Tunisia, the 2011 revolution paved the way for an unprecedented process of political and institutional reform. The post–revolutionary government initiated major efforts to promote decentralization and strengthen local governance and autonomy. Recognizing the failures of previous policies, which were seen as too "top–down" and not responsive to local needs, the Ministry of Agriculture, Water Resources and Fisheries developed a National Agricultural Land Development and Conservation Strategy (ACTA). This strategy advocates for territorial, collaborative and partnership approaches to rural development. Its implementation requires new skills in consultation, planning, management, and monitoring and evaluation, which have been identified as key to its success.

The PACTE programme, managed by the Directorate–General for the Development and Conservation of Agricultural Land, aims to promote the sustainable development of socio–economically and environmentally vulnerable rural areas in five governorates (Bizerte, Kairouan, Le Kef, Sidi Bouzid and Siliana). It finances the implementation of territorial planning processes to formulate, select and finance sustainable natural resource management and economic development actions for the agro–silvo–pastoral sectors.

CIRAD and its Tunisian partners, the Institut National Agronomique de Tunisie (INAT – National Agronomic Institute of Tunisia) and the Institut National de Recherche en Génie Rural, Eaux et Forêts (INGREF – National Research Institute of Rural Engineering, Water and Forests), contribute to this programme by:

- Supporting the co–design and implementation of multi–stakeholder platforms for inclusive territorial governance;
- Building capacities of administrative staff and local stakeholders in consultation, planning, management and monitoring and evaluation;
- Providing scientific and technical expertise related to the design and implementation of investments.

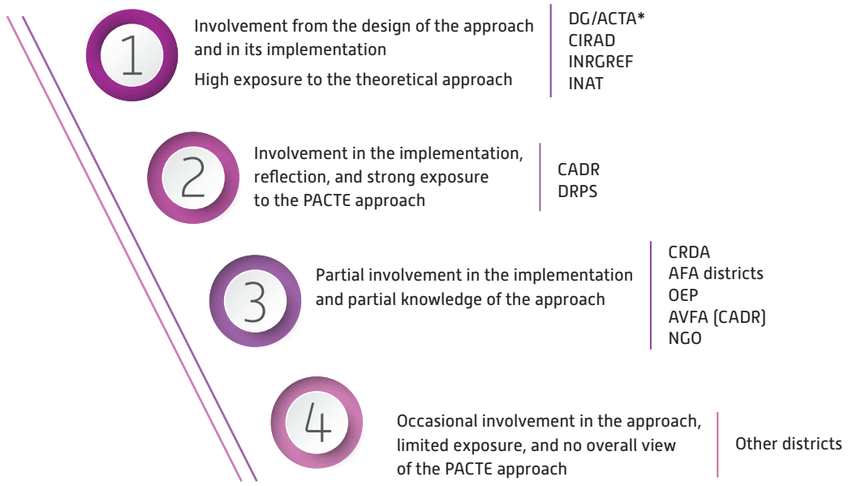
The programme included a monitoring and evaluation system that supported the operational management of the project and enabled the analysis of progress made in terms of stakeholder participation in the territorial planning process, as well as the documentation of emerging project impacts. The evaluation presented here complements this monitoring and evaluation system and focuses on changes among the regional and national partners involved in the project.

Main changes and impacts

The evaluation confirmed that proximity to the PACTE programme, understood as participation in the training–research–action process, explains the intensity of the changes observed among these partners.

Stakeholder involvement is essential for the sustainability of changes

Four circles of stakeholders influenced by the project were identified. In all circles, an increase in knowledge of and a growing interest in territorial, participatory and inclusive approaches was documented. However, the intensity and sustainability of these changes were less important for those actors who were most distant from the programme and had only marginal or occasional involvement in the planning process (Circle 4, page 46).



Strengthened capacities for consultation, facilitation and conflict management

Through its action–training approach, the project has significantly increased the capacity for consultation, conflict management, communication and facilitation among Rural Development Support Officers (CADR) and heads of Reforestation and Soil Protection Divisions (DRPS) in the five governorates. These new skills were essential in supporting the design of integrated land use and development plans through participatory processes. In addition, the establishment of collaborative planning platforms has improved cooperation within the governorate departments and with other organizations, such as the Office de l'Élevage et des Pâturages (Livestock and Pastures Office) and the Agence du Foncier Agricole (Agricultural Land Agency).

However, the sustainability of these achievements at the organizational level remains fragile due to the strong dependence of this dynamic on international cooperation projects. According to stakeholders from the four circles, the availability of resources and the direction of future projects will be crucial factors for the sustainability of the changes observed. ●

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* DG/ACTA – Direction générale de l'Aménagement et de la Conservation des terres agricoles (General directorate of land development and agricultural land conservation)

INRGREF – Institut national de recherches en génie rural, eaux et forêts (National research institute of rural engineering, water and forests)

INAT – Institut national agronomique de Tunisie (National agronomic institute of Tunisia)

CADR – Chargé d'appui au développement rural (Rural development support officer)

DRPS – Division du reboisement et de la protection des sols (Division of reforestation and soil protection)

CRDA – Commissariat régional au développement agricole (Regional office for agricultural development)

AFA – Agence foncière agricole (Agricultural land agency)

OEP – Office d'élevage et de pâturage (Livestock and pasture office)

AVFA – Agence de vulgarisation et de formation professionnelle agricoles (Agency for agricultural extension and professional training)

NGO – Non–governmental organization

Perspectives

The territorial planning approach promoted by the PACTE programme is in line with the principles and guidelines of the ACTA strategy. The experience of the programme has highlighted the organizational and capacity building challenges associated with multisectoral planning and has enabled the experimentation of participatory mechanisms at the territorial level and with the involvement of local authorities, such as operational monitoring committees. These mechanisms addressed the need for coordination and citizen participation in the management of local resources, thereby building trust and cooperation between actors from different administrative sectors.

Capacity building of regional officers has been crucial, and in some governorates such as Bizerte, officers have already adapted the PACTE approaches and tools for use in new projects. These results encourage the institutionalization of the CADR profession and the formalization of a specific training curriculum, which is currently being finalized by the Agence de Vulgarization et de Formation Agricole (AVFA – Agricultural extension and training agency).

The experience of the programme has shown that strong institutional support for the implementation of the ACTA strategy and other policy reforms (such as decentralization) is needed to reinforce and amplify the trajectory of change among actors at the national and sub–national levels. Maintaining a climate conducive to local citizen participation, cross–sectoral coordination and the mobilization of additional resources will all be essential factors for the scaling of this approach. ●

Beyond confirming a number of assumptions, this study provided an empirical basis for collective reflection on the continuity and discontinuity of new practices (for example, within the framework of a 'development project', given the recent political and institutional changes in Tunisia…). In doing so, it laid the foundations for a scaling strategy for the approach through a renewed partnership between the Ministry of Agriculture, CIRAD and Tunisian partners working in agricultural training and research. This partnership is currently being developed and is expected to focus on: (1) integrating agroecological transition challenges into the territorial planning approach, (2) embedding this approach politically and aligning it with other existing planning mechanisms, and (3) institutionalizing the CADR profession and providing action–based training for regional agricultural agents in territorial facilitation.

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Réunion / GABIR

When territorial dialogue stimulates the circular bioeconomy

Name of intervention: Agricultural management of biomass at the scale of Réunion Island (GABIR)

Area of intervention: Réunion Island

Study period: 2017–2020

Project budget: €730k

Donor: Ministère de l'Agriculture et de la Souveraineté alimentaire (MASA – CASDAR)

Project sites: https://www.mvad-reunion.org/focus/projet-gabir/
https://www.cirad.fr/espace-presse/communiques-de-presse/2020/economie-circulaire-la-reunion-projet-gabir

The assessment in brief

Assessment type: Final outcome evaluation, adaptation of the outcome harvesting method

Start date/end date: April 2023 – January 2024

Authors: C. Jacquet (CIRAD), E. Kouadio (CIRAD), T. Teixeira Da Silva Siqueira (CIRAD), J.–P. Choisis (INRAE), E. Raison and C. Proietti (CIRAD, methodological advisors)

Contact: Tiago Teixeira Da Silva Siqueira siqueira@cirad.fr

Assessment document: https://agritrop.cirad.fr/609102/

Context and intervention

The agricultural sector in Réunion relies heavily on imports of inputs, especially mineral fertilisers, horticultural peat and animal feed. The overall goal of the GABIR project was to increase the autonomy of farms and, more generally, of the agricultural sector in Réunion in response to this dependency.

To achieve this, the project supported the emergence of solutions based on a circular and more efficient management of the island's biomass, mobilizing different partners: the Réunion Chamber of Agriculture, the Réunion Regional Facility for Educational and Technical Information on Agriculture, the Réunion Food, Agriculture and Forestry Directorate (DAAF), the Regional Federation of Agricultural Cooperatives, INRAE, Qualitropic, the University of Réunion, the different associated research units and the Livestock Hub in Réunion.

The project had three main objectives:

- Analysing the flows and valorization of biomass in the local agricultural sector;
- Developing models to simulate biomass exchanges between different stakeholders in the territory and their economic and environmental impacts;
- Using the modelling tools as instruments to foster collective mobilization and foresight to facilitate a territorial dialogue.

The project produced inventories and maps of biomass, technical datasheets and a guide for on–farm composting; it led technical workshops with partners and stakeholders and created spaces for knowledge sharing and collaboration among researchers, technicians and policymakers.

Main changes and impacts

Among the changes observed, increased stakeholder awareness and reinforced dialogue were important areas.

Awareness raizing, training and prioritization of key skills and functions

The project activities raized awareness among stakeholders about issues related to biomass valorization, including the diversity of biomass types on the island and their potential. The knowledge gained concerned, for instance, the role of agricultural cooperatives in the territorial management of fodder or composting techniques. These insights are valuable for promoting a circular economy. They have been integrated into various vocational and general training modules (at the Saint–Paul et Saint–Joseph high school, in higher national diplomas and vocational degrees) that are currently contributing to their broad and sustained dissemination.

By the end of the project, technical and political organizations (e.g. FRCA, ILEVA) have created or redirected several positions towards issues addressed by GABIR. This is enabling the continuation of research and development work on the circular bioeconomy initiated by the project, in particular the production and updating of data and advisory materials for producers.

Multi–stakeholder, multi–level and intersectoral dialogue: the key to success

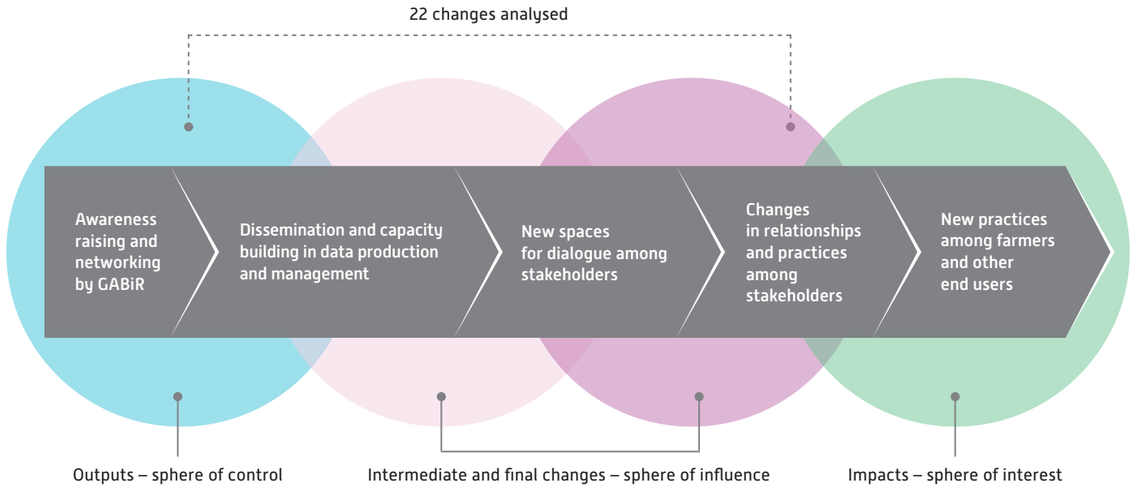
The work conducted contributed to the emergence of two interaction spaces: the Effluent Management Committee and the "compost team". These spaces facilitated exchanges, enabled knowledge sharing, improved the quality of relationships and created a collective working dynamic that has continued after the project ended. Among the new

or strengthened interactions were those involving the Joint Association for Waste Treatment in the Southern and Western Micro–regions (ILEVA), which expanded its partnerships for the dissemination of shredded green waste. The association, in collaboration with CIRAD and using a circular economy approach, also tested a scenario for valorizing biomass through co–composting of green waste and livestock effluents. The context in which the project was implemented fostered several of the changes observed. Increased regulatory constraints on the management of livestock effluents and rising prices for imported mineral fertilisers, for example, prompted stakeholders to seek alternatives to the existing production system. GABIR proposed mechanisms and tools that enabled stakeholders to better adapt to these constraints. ●

Perspectives

The evaluation showed that involving political stakeholders in research and development projects through continuous dialogue is essential. It fosters the scaling up of the project's effects and generates changes in practices among actors producing and using agricultural biomass on the island, especially farmers. It marks a turning point towards new local issues, approaches and interactions for the Livestock Hub in Réunion, as well as more targeted research on complex territorial dynamics. By enhancing the legitimacy and relevance of participatory research approaches aimed at transforming the biomass circular economy, this evaluation has contributed to structuring the Hub's activities with its local partners and in the Indian Ocean region for the coming years. ●

Areas of change addressed during the evaluation of the GABIR project



[This evaluation]... allowed us to contribute to the development of new research projects and to re–engage the island's stakeholders in a shared reflection on establishing a circular economy around biomass.

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SELMET Joint research unit

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Amazon / TerrAmaz

Innovative territorial initiatives for sustainable and inclusive development in the Amazon

Name of intervention: Support programme for the development of Amazon territories (TerrAmaz)

Area of intervention: Amazon regions in Brazil, Colombia, Ecuador and Peru

Study period: 2020–2025

Project budget: €9.5m

Donor: Agence française de développement (AFD)

Project site: https://www.terramaz.org/

The assessment in brief

Assessment type: Mid–term evaluation

Start date/end date: March – July 2023

Authors: D. Sexton (TERO), E. Bayle (TERO), C. Cubillos (TERO) with contributions from C. Proietti and E. Raison (CIRAD, methodological advisors)

Contact: Marie–Gabrielle Piketty marie-gabrielle.piketty@cirad.fr

Assessment document: https://agritrop.cirad.fr/605943/

Context and intervention

Deforestation and the degradation of natural resources in the Amazon have negative impacts on biodiversity, the water cycle and the provision of ecosystem services at both local and global levels. In response to the persistence of this problem, the TerrAmaz programme aims to promote an approach that reconciles forest conservation, the restoration of degraded lands, the transition to sustainable, low–carbon agricultural and livestock models, and social inclusion. To achieve this, the programme supports innovative territorial initiatives across five pilot sites in four countries of the Amazon Basin.

The project consortium includes CIRAD, Agronomes et Vétérinaires sans Frontières (AVSF), Office National des Forêts Français – International (ONFI) and its subsidiaries in Colombia and Brazil, and three partners for the implementation of local actions: Instituto Centro de Vida (ICV) in Brazil, Caritas Madre de Dios in Peru, and Fondo Ecuatoriano Populorum Progressio (FEPP) in Ecuador. It relies on the involvement of a wide range of allies in each territory, including local public institutions committed to sustainable development. The programme includes a cross–cutting component responsible for scientific coordination and capitalization and covering the project's main themes: participatory governance, public policies and certification, indicators for monitoring and planning sustainable transitions, and the development of technical and economic standards for sustainable production systems.

A mid–term external evaluation of the project was carried out in 2023. The aim of the project consortium and the donor was to identify initial emerging outcomes, to evaluate progress and validate or adapt the intervention strategies for each site and for the programme as a whole, and to review the overall intervention logic.

Main changes and impacts

Five major outcome areas have been identified, to which the project has made a significant contribution:

1. Strengthened participatory governance

The evaluation found that the project successfully supported existing or emerging territorial governance dynamics in four sites. For the sites in Brazil and Colombia, this support has contributed to consolidating and strengthening these dynamics. In the case of FDV–Yasuní (Ecuador), the programme contributed to a reorientation of the support strategy towards local consultations. Madre de Dios (Peru) is the only site where the programme has promoted the creation of a new governance space, linked to the development of a territorial brand.

2. Information systems for territorial management

The use of an information system as a monitoring and decision–making tool for territorial management is well advanced in two sites. It should be noted that in these cases, capacity building actions and technical assistance had already begun before the start of the programme. In the other sites, two major challenges were identified for the sustainable use of a territorial information system:

– the identification of a motivated organization with a mandate for territorial management;

– the presence of a stable staff with the necessary skills to manage the tool effectively within that organization.

3. Sustainable agricultural and livestock transitions
In four of the five sites, producers demonstrated a good level of appreciation and use of new farming practices (e.g. agroforestry, rotational grazing, no–burn agriculture). The project will produce consolidated technical and economic analyses to rigorously validate the benefits and challenges associated with these innovations.

4. Innovative certifications
Activities are underway at two sites, and alliances have been formed between public and private actors. These processes are still at an early stage and it has not been possible to evaluate their results. They will require sustained support in the final years of the project.

5. Innovative financing
For this dimension, the most promizing changes have been documented in the two Brazilian sites, where alliances with a bank and a microfinance institution provide specific expertise in the management of revolving funds and microcredits. These partnerships increase the capital available for financing sustainable transition projects.

The evaluation also highlighted the relevance of the TerrAmaz research and capitalization activities. The contexts and dynamics of stakeholders' interactions in the five sites reflect the diversity and complexity of the Amazon territories. As a result, the experiences and lessons learned from the project will have regional relevance and value for different stakeholders: public authorities, private sector, civil society and donors. ●

Perspectives

The mid–term evaluation included a participatory phase to discuss the results and prioritise recommendations. This phase allowed each site to discuss and validate the changes documented by the external experts, to review the plausibility of the project objectives, and to adjust them where necessary. It was also an opportunity to discuss and adapt implementation strategies and to reflect on how these changes could be sustained after the project ends.

This phase facilitated information sharing and cross–learning between the sites, which was particularly appreciated by all members of the consortium. It provided the basis for adjustments to the strategic and operational plans. For example, the partners agreed that the level of progress at mid–term did not justify a request to extend the duration of the programme. They decided to reallocate certain resources between two sites, firstly to meet additional capacity building needs and, secondly to ensure the best use of funding for innovative projects in a site that had to delay the original project identification schedule.

The five key outcome areas have begun to be used by project management to better guide internal planning and information sharing, as well as communication with the donor. ●

This mid–term evaluation approach allowed us to go beyond simply verifying results, to better evaluate the changes linked to the project and the strategy needed to ensure their continuation after project completion.

This exercise required time, financial resources and significant involvement from all consortium partners, an aspect that should not be overlooked when engaging in such a process.

Marie–Gabrielle Piketty, Economist, CIRAD,
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Appendices

Glossary

Capacity building: Actions undertaken by a third–party actor with the aim of helping the actors engaged in innovation acquire new capacities or enhance existing ones.

Impacts*: Long–term effects, whether positive or negative, intentional or unintentional, direct or indirect, that result from the changes in practices, behaviours and interactions generated by the intervention. Impacts are what remain once the intervention ends. They can be of different natures including economic, social, environmental, political, health and territorial impacts.

Impact pathway: A description of the logic behind an intervention, highlighting causal relationships between the inputs used by the intervention, the outputs produced by the intervention, the changes observed among stakeholders linked to the appropriation of these outputs (outcomes), and the impacts to which these changes contribute. The impact pathway explains a theory of why and how the intervention will contribute to changes and impacts, for whom, and in what context (theory of change).

Innovation process: A complex, interactive, and sometimes unpredictable process that is heavily influenced by its environment, and which can be difficult or even impossible to pilot. It often includes phases of acceleration, deceleration and crisis, and involves numerous back–and–forth interactions between research activities and actions undertaken by research partners, ultimately leading to the implementation of innovations by end users, generating changes through this appropriation, and contributing to impacts.

Innovation system: A set of actors interacting to innovate by producing knowledge and using specific resources. Within this definition, there is an innovation system for each type of innovation studied.

Input*: A set of means that makes it possible to undertake an intervention (human and material resources, budget, information, existing knowledge [tacit and/or previously generated], technologies, pre–existing outputs or processes, etc.) and thus to generate research outputs.

Intervention: A set of actions structured around a shared goal or purpose. The intervention can be designed for different types of actions, such as a project, a programme, the strategy of a network or a platform in partnership, a roadmap, a cluster of projects, etc. This term is increasingly used in project engineering and assessment.

Learning situation: A set of conditions and circumstances likely to lead an individual to construct knowledge and to apply and transform that knowledge into know–how and skills. Such a situation can be fortuitous or systematic, formal or informal. It engages the learner through an observation, an encounter or an event that raises an issue and challenges his or her perceptions and representations. In these situations, learning is made possible through a specific activity engaging the person.

Outcome*: Changes in practices, behaviours and interactions resulting from the appropriation (use, adaptation, transformation) of an output by stakeholders. A distinction is made between "final changes", which cover changes in practices, behaviours and interactions, and "intermediate changes", which concern changes in knowledge, capacities and motivations necessary to generate final changes.

Output*: The result produced by the intervention. This can include knowledge, whether scientific or otherwise (in various formats: publications, reports, databases, etc.), methods, processes, professional or academic training, expertise, technology, networks, etc.

Spillover (effects): Secondary effects, induced effects, indirect effects, repercussions or ripple effects on actors not involved in the design of the innovation.

* The concepts of inputs, outputs, outcomes and impacts are subject to various interpretations depending on the disciplines, authors and institutions.

List of evaluations (of projects or partnership systems) carried out at CIRAD between 2020 and 2024

1 Projects

Intervention	Execution period	Countries	Donors	Evaluation type	Year
Gender in Science Management of Agriculture & Lifesciences, including Research and Teaching (GenderSMART)	2019–2022	France, Italy, Spain, Ireland, Cyprus, Netherlands	European Commission, Directorate–General for Research and Innovation	Mid–term external evaluation	2020
Long–term Europe–Africa Research and Innovation Partnership for Food and Nutrition Security and Sustai-nable Agriculture (LEAP4FNSSA)	2018–2024	European Union, African Union	European Commission, Directorate–General for Research and Innovation	External review *in itinere*	2020
Promoting Sustainable Livelihoods in transfrontier conservation areas in Southern Africa (ProSuLi)	2018–2022	Botswana, Zimbabwe, Mozambique	European Commission, Directorate–General for International Partnerships	External review (Results Oriented Monitoring review)	2020
Programme of adaptation to climate change in vulnerable territories in Tunisia (PACTE)	2017–2023	Tunisia	Agence française de développement (AFD)	Mid–term external evaluation	2021
Breeding RTB Products for End User Preferences (RTBfoods)	2017–2023	Benin, Cameroon, Ivory Coast, Nigeria, Uganda	Bill & Melinda Gates Foundation	Outcome evaluation	2022
Gender in Science Management of Agriculture & Lifesciences, including Research and Teaching (GenderSMART)	2019–2022	France, Italy, Spain, Ireland, Cyprus, Netherlands	European Commission, Directorate–General for Research and Innovation	Final external evaluation	2022
Long–term Europe–Africa Research and Innovation Partnership for Food and Nutrition Security and Sustai-nable Agriculture (LEAP4FNSSA)	2019–2024	European Union, African Union	European Commission, Directorate–General for Research and Innovation	External review *in itinere*	2022
Franco–Cuban partnership for green research and sustainable agriculture (AgroEcoCaribe)	2020–2022	Cuba	French Ministry of Europe and Foreign Affairs – Solidarity Fund for Innovative Projects (FSPI)	Final internal evaluation	2022

Intervention	Execution period	Countries	Donors	Evaluation type	Year
Adapting access to agro–pastoral resources against a backdrop of mobility and climate change, for livestock production in Chad (ACCEPT)	2019–2024	Chad	European Commission, Directorate–General for International Partnerships	Mid–term external evaluation	2023
Agroecology and Safe food System Transitions (ASSET)	2021–2025	Laos, Cambodia, Vietnam, Myanmar	Agence française de développement (AFD) European Commission, Directorate–General for International Partnerships, French Facility for Global Environment (FFEM)	Mid–term external evaluation	2023
Climate Resilient landscapes for willdlife conservation (Trails)	2020–2023	Malaysia	French Ministry of Europe and Foreign Affairs – Solidarity Fund for Innovative Projects (FSPI)	Final external evaluation	2023
Controlling and progressively minimizing the burden of animal trypanosomosis (Combat)	2021–2025	Burkina Faso, Ivory Coast, Kenya, Mozambique, Sudan	European Commission, Directorate–General for Research and Innovation	External review *in itinere*	2023
Sustainable bioenergy for small agrifood enterprises in rural areas of West Africa (Biostar)	2020–2025	Burkina Faso, Ivory Coast, Mali, Niger, Senegal	European Commission, Directorate–General for International Partnerships, Agence française de développement (AFD)	Mid–term external evaluation	2023
Diversifying revenue in rural Africa through circular, sustainable and replicable bio–based solutions and business models (Bio4Africa)	2021–2025	Uganda, Ghana, Senegal, Ivory Coast	European Commission, Directorate–General for Research and Innovation	External review *in itinere*	2023
Diversity of varieties and farming systems as an asset of Mediter-ranean oleiculture in a global change setting (ClimOliveMed)	2021–2025	Morocco, France	Agropolis Fondation, Ministry of Higher Education, Scientific Research and Innova-tion (Morocco), Fonda-zione Cariplo, National Institute for Agricultural Research, Hassan II Academy of Sciences and Technology, Inter-national Olive Council, Institut Agro Montpel-lier, Fondation Daniel et Nina Carasso, Conservatoire Botanique National Méditerranéen de Porquerolles	Mid–term external evaluation	2023

Intervention	Execution period	Countries	Donors	Evaluation type	Year
Agricultural training for plantain banana growers in Africa (Faba)	2020–2022	Cameroon, Ivory Coast	French Ministry of Europe and Foreign Affairs – Solidarity Fund for Innovative Projects (FSPI)	Final external evaluation	2023
Fostering an Agroecological Intensification to improve farmers' Resilience in Sahel (FAIR–Sahel)	2020–2025	Burkina Faso, Mali, Senegal	European Commission, Directorate–General for International Partnerships; Agence française de développement (AFD)	Mid–term external evaluation	2023
Agricultural management of biomass at the scale of Réunion Island (GABIR)	2017–2020	Réunion	Special allocation account for agricultural and rural development – CASDAR, Regional Council of Réunion	Outcome evaluation	2023
Long–term Europe–Africa Research and Innovation Partnership for Food and Nutrition Security and Sustai-nable Agriculture (LEAP4FNSSA)	2020–2024	European Union, African Union	European Commission, Directorate–General for Research and Innovation	External review *in itinere*	2023
Peri urban agroecological market gardening (Marigo)	2021–2024	Ivory Coast	European Commission, Directorate–General for International Partnerships	Mid–term external evaluation	2023
Pilot observatory of landscapes and agricultural dynamics in Benin (OBSYDIA)	2022–2026	Benin	European Commission, Directorate–General for International Partnerships	External review (Results Oriented Monitoring review)	2023
Programme of adaptation to climate change in vulnerable territories in Tunisia (PACTE)	2017–2023	Tunisia	Agence française de développement (AFD)	Outcome evaluation	2023
Support programme for the development of Amazon territories (TerrAmaz)	2020–2025	Brazil, Colombia, Ecuador, Peru	Agence française de développement (AFD)	Mid–term evaluation of changes (CIRAD internal funding, internal methodologi-cal support and external consultants)	2023
Accelerating innovation dynamics in agriculture by strengthening innovation support services (AcceSS)	2021–2025	Burkina Faso	European Commission, Directorate–General for International Partnerships	External review	2024
Adapting access to agropastoral resources in a context of mobility and climate change for pastoralism in Chad (ACCEPT)	2019–2024	Chad	European Commission, Directorate–General for International Partnerships	Final external evaluation	2024
Cocoa for Future (C4F)	2020–2024	Ivory Coast, Ghana	European Commission, Directorate–General for International Partnerships, Agence française de développement (AFD)	Mid–term external evaluation	2024
Cocoa for Future (C4F)	2020–2024	Ivory Coast, Ghana	European Commission, Directorate–General for International Partnerships, Agence française de développement (AFD)	External review (Results Oriented Monitoring review)	2024
Dissemination of innovations in the Sahel zone (DISSEM–INN)	2020–2024	Benin, Burkina Faso, Mali, Mauritania, Niger, Senegal, Chad	Agence française de développement (AFD)	Final external evaluation	2024
Fostering an Agroecological Intensification to improve farmers' Resilience in Sahel (FAIR–Sahel)	2020–2025	Burkina Faso, Mali, Senegal	European Commission, Directorate–General for International Partnerships; Agence française de développement (AFD)	External review	2024
Fostering an Agroecological Intensification to improve farmers' Resilience in Sahel (FAIR–Sahel)	2020–2025	Burkina Faso, Mali, Senegal	European Commission, Directorate–General for International Partnerships; Agence française de développement (AFD)	External review	2024
Innovation for better water resource management in southern North Africa (Massire)	2019–2024	Algeria, Morocco, Tunisia	International Fund for Agricultural Development (IFAD)	Final self–assessment	2024
Customized small–scale irrigation systems for small–scale farms (IRRINN)	2021–2025	Burkina Faso	European Commission, Directorate–General for International Partnerships (DESIRA)	External review	2024

2_ Platform in partnership for research and training (dP)

Intervention	Countries	Evaluation type	Year
Production and conservation in partnership in southern Africa (RP–PCP)	South Africa, Botswana, Mozambique, Zambia, Zimbabwe, France	Self–assessment + external evaluation	2020
Mesoamerican scientific platform for agroforestry (Agroforesta)	Central America, Costa Rica, international	Self–assessment + external evaluation	2021
Pastoralism and drylands in West Africa (PPZS)	Senegal, France	Self–assessment + external evaluation	2021
Forests and biodiversity in Madagascar (F&B)	Madagascar, France	Self–assessment + external evaluation	2022
Rubber production in Southeast Asia (HRPP)	Thailand, France	Self–assessment + external evaluation	2022
Public policy and rural development in Latin America (PP–AL)	Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Mexico, Nicaragua, Peru, Uruguay, France	Self–assessment + external evaluation	2022
Sustainable food systems for cities in Asia (Malica)	Laos, Vietnam, France	Self–assessment + external evaluation	2023

3_ ImpresS *ex post* impact evaluations

Intervention	Execution period	Countries	Evaluation type	Year
Support for managing the chlordecone crisis in the French West Indies	1999–2020	Martinique and Guadeloupe	ImpresS *ex post* impact evaluation	2021
Development of a technical package for anti–insect net houses in Kenya	2005–2021	Kenya	ImpresS *ex post* impact evaluation	2021
Participatory breeding for sorghum, beans and rainfed rice	2002–2020	Nicaragua and Costa Rica, Guatemala, Honduras, El Salvador	ImpresS *ex post* impact evaluation	2022
Support to the cattle breeding sector in Réunion	1987–2020	Réunion	ImpresS *ex post* impact evaluation	2022
Platform in partnership for research and training – Pastoralism and drylands Hub in West Africa (PPZS)	1998–2021	Senegal and neighbouring Sahelian countries	ImpresS *ex post* impact evaluation	2022
Development and appropriation of modelling tools in Brazil	1970–2021	Brazil	ImpresS *ex post* impact evaluation	2022

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