CORPORATE-LEVEL EVALUATION

IFAD's support to innovations for inclusive and sustainable smallholder agriculture

Independent Office of Evaluation

IFAD
Investing in rural people

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Contents

Annexes

Abbreviations and acronyms

2030 Agenda	2030 Agenda for Sustainable Development
4Ps	public-private-producer partnership
ABC Fund	Agri-Business Capital Fund
AfDB	African Development Bank
APR	Asia and the Pacific Division of IFAD
APVC	agricultural production and value chain
ASAP	Adaptation for Smallholder Agriculture Programme
ADB	Asian Development Bank
CDAIS	Capacity Development for Agricultural Innovation Systems
CC	climate change
CDI	Change, Delivery and Innovation Unit of IFAD
CGIAR	Consultative Group for International Agricultural Research
CIP	International Potato Center
CLE	corporate-level evaluation
COP	community of practice
COSOP	country strategic opportunities programme
CPM	country programme manager
CSPE	country strategy and programme evaluation
DSF	Debt Sustainability Framework
ES	evaluation synthesis
ESA	East and Southern Africa Division of IFAD
FAO	Food and Agriculture Organization of the United Nations
GALS	Gender Action Learning System
GEF	Global Environment Facility
GEWE	gender equality and women's empowerment
GP	governance pillar
HHM	household methodology
ICRAF	World Agroforestry Centre
ICT	information and communications technologies
ICT4D	Information and Communication Technologies for Development
IDB	Inter-American Development Bank
IEE	Independent External Evaluation of IFAD
IFAD7	Seventh Replenishment of IFAD's Resources
IFAD10	Tenth Replenishment of IFAD's Resources
IFI	international financial institution
IMI	Initiative for Mainstreaming Innovations
INJUVE	National Institute of Youth
IOE	Independent Office of Evaluation of IFAD
IP	indigenous people
IPAF	Indigenous Peoples Assistance Facility
IPM	integrated pest management
KM	knowledge management
LAC	Latin America and the Caribbean Division of IFAD
LCS	labour-contracting society
LR	Learning Route
M&E	monitoring and evaluation
MERCOSUR	Southern Common Market

MFI	microfinance institution
NEN	Near East, North Africa and Europe Division of IFAD
NP	natural pillar
NRM	natural resources management
ORMS	Operational Results Management System of IFAD
PCR	project completion report
PDR	project design report
PIPA	project implementation procedures and approaches
PoLG	programme of loans and grants
RBAs	Rome-based agencies
RB-COSOP	results-based country strategic opportunities programme
READ	Rural Empowerment and Agricultural Development Programme in Central Sulawesi
READ-SI	Rural Empowerment and Agricultural Development Scaling-Up Initiative
RUSACCO	rural savings and credit cooperative
RWEE	Rural Women's Economic Empowerment
SDG	Sustainable Development Goal
SECAP	Social, Environmental and Climate Assessment Procedures
SEP	socio-economic pillar
SIPA	Society for the Intensification of Agricultural Production
SMEs	small and medium-sized enterprises
SO	Strategic Objective (IFAD)
SPACE	United Nations SPACE (Strategy, Partnerships, Architecture, Culture, Evaluation) Framework
SRI	system of rice intensification
SSTC	South-South and Triangular Cooperation
TEEB	The Economics of Ecosystems and Biodiversity
ToC	theory of change
UNIN	United Nations Innovation Network
VDP	Village Development Programme
WCA	West and Central Africa Division of IFAD
WFP	World Food Programme
WUPAP	Western Uplands Poverty Alleviation Project

TUNISIA

Worker weeding soil between rows of rosemary with an automatic weeder at the El-Gordab experimental herb cultivation project in Bir Lahmar province, Tunisia.
These plots serve to improve strands of local plants and herbs, adapted to the sandy, salty soil. The herbs are for both local consumption and export markets.

PERU

Maize fields of the Buenos Aires De Pichos Agricultural Producers Association. Supported by the Sustainable Territorial Development Project (PDTS), the 30 members are able to grow more than one hundred varieties of the cereal.

Foreword

More effective agrifood systems are required in order to meet increasing demand for food. One way to ensure this in a sustainable manner is to apply innovative rural development approaches and solutions. Indeed, a "business as usual" approach will not lead to the achievement of the 2030 Sustainable Development Goals (SDGs), especially the SDG 2 targets.

The IFAD Strategic Framework (2016-2025) recognizes that innovations are critical for IFAD to achieve its mandate of investing in rural people and enabling inclusive and sustainable transformation in rural areas. The Fund has acknowledged the key role of agricultural innovations over decades. An illustration of this is the adoption of a strategy specifically dedicated to innovation in 2007.

Innovations continue to be very relevant as IFAD undergoes important organizational changes (e.g. IFAD's new decentralized model, and a new financing architecture, including the private sector financing mechanism). Nonetheless, the definition of innovation is subject to diverse interpretations, making it challenging to evaluate. This corporate-level evaluation (CLE) used a systems approach to assess IFAD's support to agricultural innovations, and this generated comprehensive findings.

Innovations are key for boosting performance, by affecting one or several components of agrifood systems. Genuine innovations are potentially risky ideas or processes, breaking with established ways of working. Therefore, the CLE finds that it is challenging for governments to use loans to finance the development of genuinely novel solutions, especially those addressing smallholder agriculture challenges. This justifies the role of grant windows to support the development of genuinely novel solutions.

The CLE finds that, while the Innovation Strategy gave valuable innovation promotion pathways, no operational framework was developed to support the strategy. IFAD-supported innovation processes do not apply a consistent approach, during project design, implementation and completion, although they are adaptive to capture and address smallholder agriculture challenges.

The CLE also finds that most innovations supported by IFAD are institutional or organizational arrangements, strengthening human and social capital, or governance improvements. Innovation ideas may come from farmers themselves, but, more commonly, they originate with IFAD staff or consultants, or project staff. Generally, they are ideas or solutions already tested and proven from another country or context.

IFAD has introduced a range of successful innovations through its programme of loans and grants. However, they have often been small and stand-alone, dealing with only one element of the agrifood system (such as production only). The CLE notes that the "bundling" of several different innovations addressing the diverse challenges across the whole agrifood system is more likely to lead to sustainable results and scaling up – a transformative change. IFAD should devote greater attention to transformative bundles of innovations, ones that are able to lift poor farmers above a threshold from which they cannot easily fall back after a shock (such as a drought or collapse in market prices). Individual adaptive innovations developed during the life of a project also play an important role in preserving the overall efficiency of many projects.

The CLE recommends a more systematic and coordinated approach, from corporate level and at country level, and in terms of overall country programming and project design, implementation, monitoring and evaluation, supportive resources and capacity-building.

THE PHILIPPINES

Roland Bongtiwon is a blacksmith from Kiangan, in the province of Ifugao in the mountainous Cordillera Administrative Region of the Philippines. Through IFAD's Rural Microenterprise Promotion Programme (RuMEPP), Roland was given the support to develop new designs for the tools he makes, and then financial support to travel to important trade fairs where he could showcase his work. He was very successful, and has since been developing even more products, which are in such demand that although he does not have the time to attend trade fairs anymore, he does not need to: customers just pay for him to ship them over and cover the expenses.

The report recognizes the importance of finding a way to enhance the innovation culture within IFAD. This is a delicate balance between maintaining a results-based focus, but also allowing innovations to be trialled and potentially fail. Specific funding initiatives (such as Innovation Challenge funds) may be needed to encourage radical and transformative innovations, and IFAD introduced institutional changes to support these in 2019.

I hope that this report will be useful for upgrading the IFAD business model in support of agricultural innovations to enable inclusive and sustainable rural transformation.

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Finally, IOE would like to convey its appreciation to the governments and development partners in many countries for supporting the implementation of case studies.

MALAYSIA

The Jakun ethnic group are the second largest among the 18 Orang Asli in West Malaysia. The occupations of the villagers varied from working in oil palm plantation, rubber smallholding, to the gathering forest products. The project to Enhance Ulu Gumum Jakun Orang Asli livelihoods through diversity, social enterprise and sustainable agriculture focused on diversifying environmental and cultural economic activities. Eco-farming, chicken breeding and a homestay venture brought together families on a common enterprise with the participation of traditional authorities.

MALAYSIA

The project to Enhance Ulu Gumum Jakun Orang Asli livelihoods through diversity, social enterprise and sustainable agriculture aimed to improve livelihoods among the Jakun indigenous people, including by enriching the diversity of their sustainable agriculture and focusing on indigenous traditional knowledge. Among the practices introduced was the improving the soil with compost, which contributed to improved growth in the fields.

Overview

A. Background

1. **Introduction**. At its 125th session, the Executive Board of IFAD approved the conduct of a corporate-level evaluation (CLE) by the Independent Office of Evaluation of IFAD (IOE) on IFAD's support to innovation for inclusive and sustainable smallholder agriculture. **The objectives of the CLE were to**:

    i. assess IFAD's efforts (through processes, instruments and tools) to promote agricultural innovations (referred to as innovations), which have contributed to address rural development challenges, through supported operations;

    ii. assess IFAD's contribution to the dissemination and scaling up of successful pro-poor innovations, that are sustainable, climate-resilient and reach diverse groups of smallholder farmers;

    iii. identify recommendations for improving IFAD's approach and performance in promoting successful agricultural innovations for rural transformation.

2. **Importance of innovations to IFAD**. Aligned with its Strategic Framework (2016-2025), **innovations are critical for IFAD to achieve its mandate of investing in rural people and enabling inclusive and sustainable transformation in rural areas**. They are also needed to enhance IFAD's role in helping countries meet the Sustainable Development Goals (SDGs), namely, SDG 1 and SDG 2. Overall, innovations are essential to IFAD for strengthening and improving the quality of its country programmes, by supporting the development of smallholder agriculture, and contribute to achieving inclusive and sustainable rural transformation.

3. **Definition of innovation**. IFAD's Innovation Strategy (2007) defines innovation as "a process that adds value or solves a problem in new ways". Considering the broader sense of this definition, the CLE adopted a different definition, following a development approach, as IFAD is both a United Nations specialized agency as well as an international financial institution (IFI). Therefore, **the CLE defines innovation as: A new way of acting – practice, approach/method, process, product, or rule – brought in or implemented for the first time, considering the context, time frame and stakeholders, with the purpose of improving performance and/or addressing challenge(s)**. In line with this, inclusive and sustainable innovations are agricultural innovations that are accessible to and suitable for a diversity of farmers (in terms of gender, socio-economic groups and geographical coverage), as well as economically, socially and environmentally suitable. They can be easily applied and replicated by a diversity of smallholder farmers, and contribute to overcome challenges they are facing.

4. **Importance of agricultural innovation systems**. Systems approaches to innovations have been prominently applied to smallholder agriculture over the last two decades. The systems approach suggests some key elements to take into account while assessing the innovation support: (i) the innovation-related elements interlinked in dynamic processes; (ii) the actors contributing to these processes, and the interactions among them; (iii) the linkages between the objectives (i.e. results hierarchy); and (iv) the supporting institutional framework. Thus, **the CLE adopted a systems approach to assess IFAD's support to innovations for smallholder agriculture**.

5. **Innovations are meant to improve the performance of agrifood systems. The latter include three aspects: (i) the agricultural production and value chain (APVC) component; (ii) the socio-economic pillar or component (SEP); and (iii) the natural pillar or component (NP)**. IFAD's Strategic Objectives (SOs) 2016-2025 relate to these three aspects. Taking into account IFAD's operating contexts, **the CLE identified an additional component, the governance pillar (GP), which includes driving forces** for the effective functioning of the entire agrifood system.

6. **Key features of IFAD's innovation agenda**. Support to innovation by IFAD is implemented through its usual instruments of loans, grants and non-lending tools. With the IFAD-5 Action Plan (2000-2002), the topic gained significantly in interest. As an illustration, **IFAD's Strategic Framework for 2002-2005 pointed out the need for the Fund to identify successful innovations**, understand why they were successful, and analyse opportunities and constraints related to these.

7. The Initiative for Mainstreaming Innovations (IMI) of 2004 followed, contributing to the rise of a systematic usage of the innovation concept, which became a central and cross-cutting theme within the Fund. Thereafter, IFAD's Innovation Strategy was developed in 2007 to provide strategic insights on the topic. **From the Strategic Framework 2007-2010, innovation became, together with learning and scaling up, one of IFAD's engagement principles**.

8. In 2010, the CLE on IFAD's Capacity to Promote Innovation and Scaling Up found that although IFAD had a stand-alone strategy for innovation, insufficient resources and attention were allocated for that purpose. The 2014 CLE on IFAD's Policy for Grant Financing concluded that **IFAD was missing the opportunity to leverage the grant programme in a strategic manner**, in particular as being a potential source to supply innovations, and thus, this led to the Revised Policy for Grant Financing of 2015.

9. **In 2016, the Strategic Framework 2016-2025 acknowledged innovations as one of the critical dimensions for IFAD's agenda to work better**. In 2018-2019, IFAD witnessed major changes in its business model, and the Change, Delivery and Innovation Unit (CDI) was created, and this unit then implemented the first IFAD Innovation Challenge in 2019.

10. **Scope of the CLE**. In line with IFAD's Evaluation Policy and the IOE Evaluation Manual (2015), **the CLE covered the main performance criteria of relevance, effectiveness, efficiency and impact, as well as other themes, such as sustainability, scaling up, inclusiveness, environment and climate change**. The CLE team prepared an evaluation matrix, which included overarching questions, main questions and subquestions. The overarching questions were:

    - To what extent (how and why) have corporate instruments, tools and approaches been successful in promoting agricultural innovations within IFAD's country programmes?

    - To what extent (how and why) have IFAD's operations promoted agricultural innovations that: (i) have responded to smallholder farmers' needs/demand; and (ii) have been targeted and inclusive?

    - How have those innovations led to positive outcomes, and how have they been scaled up for sustainable and resilient development of smallholder agriculture?

11. Previous CLEs on innovations (2002 and 2010) assessed mainly corporate strategies, policies and processes. The current CLE, while covering these aspects, and considering the period from 2009 to 2019, went further by assessing development effectiveness aspects (operational results and contribution to change) in relation to IFAD-supported innovations. **The Innovation Strategy (2007) served as a reference strategic document for the review of corporate processes**. To better streamline the assessment, a theory of change depicting IFAD's support to agricultural innovations was reconstructed, after discussions with IFAD headquarters and field staff. The CLE also reviewed indicators pertaining to the support of innovations with some IFIs and Rome-based agencies (RBAs), and used them to make a benchmark comparison.

12. **CLE data sources**. The CLE developed two databases: the first on loan investment projects, and the second on grants – including, respectively, 508 loan projects and 240 large grants implemented during the evaluated period. Following a desk review of innovation-related information, described in loan-project design documents, about 100 projects were selected for their relevance to the topic and, at the same time, reflecting the diversity of innovations promoted through IFAD-supported loan projects. Interactions with IFAD regional divisions enabled validation of the project listing, leading to 20 countries being selected for the case studies, of which 12 were visited by the CLE team (see table A). The countries selected covered all IFAD regions.

TABLE A

Case study countries

	APR	ESA	LAC	NEN	WCA
Countries visited by the CLE team	Bangladesh Indonesia Philippines	Ethiopia Malawi Rwanda	El Salvador Peru	Kyrgyzstan Republic of Moldova	Cameroon Senegal
2019 country strategy programme evaluation (CSPE) countries	Nepal	Madagascar	Ecuador	Sudan	Sierra Leone
Only desk reviews	–	–	Uruguay	Tunisia	Burkina Faso

Note: APR = Asia and the Pacific Division; ESA = East and Southern Africa Division; LAC = Latin America and the Caribbean Division; NEN = Near East, North Africa and Europe Division; WCA = West and Central Africa Division.

Source: CLE.

13. The CLE also used information gathered: (i) by IFAD Management and presented at a self-assessment workshop; and (ii) through the conduct of an electronic survey that targeted IFAD staff (headquarters and field), government actors and managers of IFAD-funded projects and partners that benefited from and/or implemented IFAD-supported grant programmes.

14. **CLE analyses**. Data were analysed to generate quantitative and qualitative trends. **The CLE team applied a systems approach and, thus, developed an analytical grid, based on the agrifood system components mentioned above**. The grid includes four components or macro domains (APVC, SEP, NP and GP), and 12 subcomponents or specific domains, as presented in table B (with examples of case study innovations).

TABLE B

The CLE analytical framework

Macro domains	Specific domains	Examples of innovations (and case study countries)
Agricultural production and value chain (APVC)	Production	System of rice intensification (Malawi, Rwanda, Senegal)
	Processing	Seaweed farming, solar dryers for seaweed (Philippines)
	Marketing	Value chain market-oriented approach (Indonesia, Kyrgyzstan, Nepal, Rwanda, Senegal)
	Consumption	Home gardens for nutrition (Ethiopia)
Socio-economic pillar (SEP)	Human capital	Youth incubation approach (Cameroon)
	Social capital	Community networks (Sudan)
	Economic capital	Rural financial services/products (El Salvador, Madagascar, Republic of Moldova, Sierra Leone)
Natural pillar (NP)	Natural resources management (NRM)	Land consolidation approach (Tunisia)
	Environment and climate change (CC)	Climate-resilient infrastructure (Bangladesh)
Governance pillar (GP)	Policy	Policy laboratory in the Ministry of Planning (Indonesia)
	Regulation	Land regulatory framework (Madagascar)
	Project implementation procedures and approaches (PIPA)	Participatory approach (Burkina Faso, Ecuador, Indonesia, Peru, Philippines, Tunisia)

Source: CLE.

B. Findings on IFAD's strategies and corporate processes in support of innovations

15. **Programme of loans and grants (PoLG).** Considering the agrifood system components (macro domains), over the evaluation period, loan investment projects mainly supported innovations related to the SEP, followed by the GP, with 60 per cent and 44 per cent of projects, respectively (each can include several types of innovations). Innovations related to the APVC and the NP were less supported, with 31 per cent and 16 per cent of projects, respectively. Projects including the latter two categories of innovations have been increasing over the past six to seven years, clearly reflected through IFAD's SO1 and SO2. **Looking at the specific domains, the top six types of innovations supported were related to economic capital, project implementation procedures and approaches (PIPA), social capital, production, human capital and marketing**. The trend was, overall, similar to that of the grant-supported programme.

16. Analyses showed that loan investment projects mainly supported innovations at the stage of dissemination, followed by scaling up and testing/piloting. Most grant-financed projects supported innovations at the stage of testing/piloting, followed by scaling up and dissemination. **This result clearly demonstrates the importance of grant windows to identify novel innovations (in key specific domains) to address smallholder agriculture challenges**.

17. **Strategy and processes**. The Innovation Strategy (2007) set out the conceptual framework of innovation and scaling up. It provided pathways for promoting innovations and strengthening innovative capabilities and approaches in IFAD's operations. However, **the strategy included no specific objective for IFAD's innovation agenda, and no operational plan was developed to support it, nor was there any specific budget until 2019** (see below). In fact, the lack of an operational plan (and subsequent update) in support of the 2007 Innovation Strategy weakened its effectiveness. Thus, evolving development trends (e.g. the systems approach) could not be integrated into IFAD's approach to innovations, as implemented by other organizations (e.g. FAO and the World Bank). No action was taken to develop guidelines, including having an agreed operational definition, to help staff approaching innovations systematically and holistically in IFAD's operations.

18. **Dedication of resources**. IFAD financing instruments (loans and grants) remain the main source for supporting innovations. **The CLE estimates an average of 3.0-3.5 per cent of PoLG funding went towards directly supporting the promotion of innovations, through the programme of grants**. Other funding mechanisms exist (e.g. Adaptation for Smallholder Agriculture Programme [ASAP] and Agri-Business Capital [ABC] Fund), but none is exclusively dedicated to support innovative ideas or solutions. **In 2019, the Innovation Challenge was implemented, and this was the first special funding initiative since the IMI (2004)**.

19. With the exception of the CDI performing coordination work for innovation, **it is difficult or impossible to have an exact estimate of the number of dedicated staff in IFAD**, because operational staff (such as country programme managers [CPMs], programme officers and technical advisers) also contribute to innovation-related processes. IFAD staff responses to the electronic survey outlined the insufficient availability of incentives to promote innovations. Nonetheless, changes implemented in 2018 and 2019 in the IFAD business model have provided positive signs for the incorporation of effective innovative approaches.

20. **Electronic survey results**. Staff responses to the electronic survey clearly underscored **the insufficient availability of guidelines and incentives to innovate**. Tensions appeared when loan-supported project results were targeted in parallel with the identification of genuinely novel solutions, which can be risky and hamper projects' effectiveness.

21. **Benchmark comparison**. Considering the benchmark indicators developed by the CLE, **the IFAD model of supporting innovations is one of the top two among IFIs and RBAs**. Compared to the World Bank (the other leading one), IFAD's shortcoming has been the lack of specific guidelines to support its innovation agenda.

C. Findings on the performance of the IFAD-supported innovation process

22. **Relevance of innovation processes**. The IFAD-supported innovation process starts with the planning and design of country strategic opportunities programmes (COSOPs) and projects. The approach applied at this stage is moderately relevant, but ad hoc and unsystematic, due to the lack of a framework to follow. The process advances during implementation, and at this stage, IFAD's approach is relevant and conducive, leading to the identification of adaptive innovations in evolving contexts, **despite the persistent lack of a framework for this purpose. At the completion stage, the innovation process is incomplete, due to insufficient analyses and documentation of results achieved by the innovations promoted. Overall, the case study evidence revealed that, despite the lack of a framework to steer the innovation processes, a diversity of IFAD-supported innovations occurred. These innovations were mainly relevant (to their context and to smallholder farmers), but remained scattered and stand-alone**.

23. **Effectiveness of IFAD-supported innovations. Overall, the effectiveness of IFAD-supported innovations has been satisfactory**. The case study evidence showed that innovations within the specific domains of natural resources management (NRM), human capital and social capital were assessed as very effective. Examples of NRM innovations are described below. **The satisfactory performance of innovations in human and social capital is indicative of IFAD's efforts to bring about notable change in strengthening the capacity of farmers, their organizations and rural institutions**. Examples relating to human capital are: the rural talent platform in Peru; peer-to-peer training in the Republic of Moldova; a mentoring approach for individual households in Ethiopia; and innovative curricula in Bangladesh. Examples relating to human capital are: community networks in Sudan; rural dialogue groups in El Salvador; and land rights management in Malawi. **Cases of less successful innovations were found for economic capital** aligned with challenges to sustain access to rural finance for smallholder farmers, for example: establishing a guarantee fund in the Republic of Moldova; and facilitation funds for access to medium-term rural credits in Cameroon.

24. Innovations within the GP were, in general, effective: 59 per cent were rated very satisfactory or satisfactory (for example, the land regulatory framework in Madagascar, and innovations for improving the participation of beneficiaries in several countries), 33 per cent moderately satisfactory, and 8 per cent lower. **This good performance of governance innovations indicates the importance given to enabling factors in IFAD operations**. With regard to the APVC-related innovations, the effectiveness was mixed (54 per cent very effective or effective, 32 per cent moderately, and 14 per cent lower). Less success was observed for innovations in the specific domain of marketing and access to markets (e.g. market and information system in Ethiopia), while **production-related innovations were mostly effective or very effective** (74 per cent of cases). The latter innovations were mainly productivity enhancement technologies, for instance: high-yielding and/or resistant crops, certification of seeds, improved cropping techniques (for better management of soil nutrients and water), irrigation techniques, improved animal husbandry practices, and access to veterinary services.

25. **Transformative innovations**. Evidence revealed that **the effectiveness of stand-alone innovations was enhanced when they were implemented as a bundle, highlighting the need for bundling or packaging innovations of different specific domains** (for example, innovations in the APVC plus the SEP and GP, or in the NP plus SEP and GP), in order to give them a transformative dimension. In fact, an innovation does not need be radical to be transformative. **Transformative innovations are those able to lift poor farmers above a threshold from which they cannot easily fall back after a shock**. This is possible with a package of innovations that can tackle simultaneously multiple challenges facing smallholder farmers. Very few examples of bundled innovations were identified within the case study evidence – as for instance: the Society for the Intensification of Agricultural Production in Senegal; the irrigation schemes linked with users organization in Rwanda; and public-private-producer partnerships (4Ps) with Mars Inc. in Indonesia – because the approach was not a focus of IFAD-supported innovation processes in the period reviewed.

26. **Effectiveness of non-lending activities in supporting innovations**. In terms of knowledge management (KM), **evidence from the case studies suggested that KM could bring better effectiveness to innovations**; as, for example, in the Philippines, where the IFAD team has been very active in facilitating lesson-sharing via workshops with a wide range of stakeholders, online videos, and publication of a book on innovations. However, overall, knowledge on innovations has not been collected and shared in a systematic and consistent fashion. **At present, innovation knowledge and information are dispersed, due to the existence of a plethora of channels and information overload**. Monitoring and evaluation (M&E) systems are inadequate to capture data and information specifically related to innovations, and to assess their contribution to the performance of investment projects.

27. With regard to partnerships, little attention was given in country programmes to the capability of loan-supported project partners to scout for effective innovations, or to the strengthening of synergies among stakeholders of agricultural innovation systems at the national level. Similarly, policy engagement activities had insufficient focus on improving national frameworks for greater government commitment to IFAD-supported innovations processes at all stages. **Overall, mixed results were observed with non-lending activities in supporting agricultural innovation processes**.

28. **Efficiency of IFAD-supported innovations**. There was insufficient availability of project monitoring and financial data to prove any relationship between innovations and project efficiency. Case study evidence showed that project costs per beneficiary were reduced in some cases through social capital innovations that enhance the participatory involvement of local communities (in Ethiopia, Kyrgyzstan, Malawi and Senegal). **Evidence revealed that adaptive innovations during the life of a project played an important role in preserving the overall efficiency of many projects**.

29. **Contribution of innovations to impacts on rural poverty**. With few negative or unintended impacts, **the performance of innovations according to impact domains was positive overall, although it was difficult to prove the causality**. Many production-oriented innovations (mentioned above) made important contributions to increasing agricultural productivity among beneficiary farmers. Productivity gains, in turn, often contributed to

improvements in food security, and household incomes and assets, whereas the results depended on other factors such as market access and enabling governance factors.

30. In terms of capabilities and rural institutions, innovations linked to social capital (e.g. land rights management and rural networks), human capital (e.g. training approaches), and in implementation processes and approaches (e.g. participatory approaches) contributed to the development of strong capacities on the part of farmers' organizations and to the enhancement of rural institutions. Positive impacts increased when the two types of innovations (socio-economic aspects and implementation process and approaches) were combined, confirming the need for bundling innovations for transformative results. **Failures in achieving impact were usually linked to difficulties with access to finance, poor targeting or excessively complex innovations for local organizations**.

D. Findings on inclusiveness

31. **Gender equality and women's empowerment (GEWE)**. Few innovations specifically targeted women, but many were also useful to address challenges they faced, and **the overall performance was satisfactory**. Loan projects were less likely to introduce targeted innovations benefiting women, while grants offered a more flexible way to address GEWE. The innovations focusing on women were too scattered in general, and not bundled, with the exception of the Gender Action Learning System (GALS) methodology. **Innovation bundles including influencing access to resources, capacity-building and social measures are necessary to ensure good impact on women**.

32. Case study evidence showed that innovations in socio-economic-specific domains (e.g. rural micro life insurance in Peru, rocket stoves for cooking in Malawi, and time-saving equipment for women in El Salvador) and production-specific domains (e.g. in Bangladesh, domestication and production of mud crabs) were the most influential on women, the latter probably because many women are actively involved in production activities. **Context is critical, as gender considerations vary considerably among countries** and, for this reason, gender-linked innovations have varying effects in different settings. Therefore, bundling of innovations is necessary to ensure good impact for women.

33. **Innovations for youth promotion**. IFAD-supported innovations to promote youth enterprises are very recent, and evidence on results is limited. Information and communication technologies (ICT) is an area considered to be of particular interest for young people, and related technologies will keep them involved in agriculture. The case study evidence showed that the specific domains of operational practices and approaches, human capital and social capital (e.g. in Cameroon, El Salvador and Peru with, respectively, a youth incubation approach, a youth network, and a hackathon to create technological solutions) were successful for young people in developing innovative solutions. **Innovations linking young people to economic capital (e.g. rural finance) and markets were less successful, and, thus, the overall effectiveness was moderate**.

34. **Innovations for indigenous and poor groups. Few innovations targeted indigenous groups and the very poor, but, overall, they were effective**. Innovations targeting these groups were easier within grant projects than within loans. Evidence showed that household-level or individual support innovations were more successful. Some countries (e.g. the Philippines) have introduced highly innovative ideas for working with indigenous peoples or very poor groups. For instance, household mentoring was effective as a mechanism for social inclusion, and a graduation model for ultrapoor households. With indigenous peoples, innovations such as the covenant approach to NRM, the usage of participatory 3D mapping tools to identify indigenous lands, and strengthening indigenous land ownership were assessed as relevant and effective.

E. Findings on natural resources management and climate change

35. **Natural resources management (NRM)**. Despite the low number of specific NRM-related innovations, IFAD supported sustainable innovative agricultural production practices (e.g. soil and water conservation, small-scale irrigation, agroforestry, and intensive farm and pond systems). Several projects have recently been developing win-win solutions for the management of marine and inland waters, elaborating solutions that sustainably manage biodiversity, restore habitats and allow for greater harvests. For example, the innovative baywide alliance management approach in the Philippines has brought together several bayside councils and community actors to protect and co-manage a defined coastal area. **Most NRM innovations supported by IFAD were transferred from other settings, adjusted, and then disseminated in loan projects, and were assessed, overall, as effective**.

36. **Climate change (CC)**. There were also only a few innovations specialized in CC issues (adaptation not mitigation), as the topic is very recent. Countries are at different stages of internalizing the CC threats and developing coping strategies. Valuable innovative experiences can be found in all categories, which can be transferred and pilot-tested elsewhere. For instance, some projects (e.g. in Bangladesh) tried to capture the phenomena related to CC by innovating in information system tools at different levels. Other projects put in place innovative protective measures in storm- and flood-prone areas (e.g. Bangladesh and El Salvador). Adaptation was also sought with innovations related to improved varieties and that address water scarcity (Kyrgyzstan, the Republic of Moldova, and Tunisia). **The innovations analysed are considered very relevant in responding to adaptation challenges of CC**.

F. Findings on sustainability

37. **The sustainability of innovations is influenced by their degree of novelty, coupled with their level of success**. An unsuccessful innovation is unlikely to be sustainable. However, an innovation may be highly innovative but not successful in practice. Compliance with both aspects increases sustainability. The novelty of innovations decreases over time, as they become simply normal good practice, reflecting in many cases the successful uptake of the innovation. Other key aspects for sustainability are the institutional and financial frameworks, such as the availability of ongoing finance, and the institutional embedding of the innovation with relevant actors. **Overall, the sustainability results of innovations were mixed**. Indeed, innovations in the domain of social capital showed greater sustainability, while those dependent on financial elements were the least sustainable. The lack of access to financing was often the problem for the sustainability of innovations, in particular, for value chain innovations.

G. Findings on scaling up

38. **In terms of scaling up, case study evidence showed mixed results**. Innovations within the specific domains of economic capital, production and implementation process and approach were more likely to be scaled up than were other types. Consequently, governments and other funding partners were more favourable of supporting these innovations when successful. It also appears that **innovations were more likely to be scaled up if they were in bundles** (e.g. the Society for the Intensification of Agricultural Production in Senegal, and the irrigation schemes linked with users' organization in Rwanda), probably due to their transformative potential. A key determinant for effective scaling up is to identify pathways for scaling at the project planning stage, while ensuring a good social fit. This is supported by a stable political context and the consistency of long-term planning and perspectives. Failure to scale up innovations is often linked to poor social fit, as well as the lack of focus on geographical and cultural differences between regions.

H. Conclusions

39. In summary, **the 2007 Innovation Strategy was a key milestone of IFAD's innovation agenda, but its relevance has been moderate**. Indeed, it suggested pathways for IFAD's innovation agenda, but included no specific objective and, thus, no operational framework followed. The allocation of dedicated resources had to wait until 2019 to be effected, following the IMI of 2004. Despite this, **the CLE found IFAD's business model for innovations to be one of the best, by comparison with other RBAs and IFIs**.

40. **Regarding the innovation processes, these were assessed as moderately relevant at the planning, design and completion stages, and as very relevant and effective during the implementation stage**. At all stages, the lack of guidance or guidelines, to steer innovation processes and to apply a systematic approach to innovations, was underscored as a weakness. Moreover, non-lending activities contributing to the effectiveness of innovations processes showed shortcomings in terms of knowledge-sharing, capability of national players and commitment of resources.

41. Nonetheless, **IFAD was successful in promoting a diversity of stand-alone innovations, which were effective and likely to have contributed to the project impact achieved**. However, most such innovations lacked transformative features. Findings confirm that grants were prominent for developing and testing genuinely novel solutions, while loans supported the transfer and uptake of proven (less risky) innovations already developed elsewhere. **A key finding of the CLE is the need to bundle or package innovations addressing diverse challenges of the agrifood system, in order to give them a transformative dimension**. However, this approach has not benefited from the attention of IFAD-supported innovation processes.

42. Over the period reviewed, IFAD supported innovations addressing other thematic areas. **With regard to the sustainability and scaling up of innovations, the results achieved were mixed**. It appears that the likelihood of scaling up increases when innovations are bundled with transformative features. **An overall satisfactory performance was achieved with regard to innovations addressing NRM and adaptation to CC**, because numerous production-related innovations contributed to addressing challenges on these issues.

43. **Satisfactory performance was also attained for GEWE, while innovations related to youth promotion performed moderately**, due to difficulties in sustaining young people's access to financial inputs and services. Finally, **in terms of indigenous and marginalized groups, effective results were achieved**, due to innovative ideas introduced in some countries, with IFAD's support, for working with indigenous peoples and for targeting the very poor.

I. Recommendations

44. **The recommendations seek to revamp IFAD's innovation agenda and to enhance its performance in order to bring about effective, sustainable and resilient transformation in rural areas**. They are aligned with recent United Nations system guidance, namely, the SPACE (Strategy, Partnerships, Architecture, Culture, Evaluation) model (presented in table A9, annex IV), developed in the framework of the United Nations Innovation Network, to help United Nations organizations accelerate their innovation impact.

45. **Recommendation 1: IFAD should set clear corporate/strategic goals for its innovation agenda, and develop and implement operational frameworks**, aligned with its 2016-2025 Strategic Framework and the 2030 Agenda. The framework should provide an appropriate definition of innovation in line with IFAD's operational context, and include specific objectives and priority result areas, as well as guiding principles and actions over a limited period (similarly to the KM theme).

46. **Recommendation 2: IFAD should improve the operating model that supports its innovation processes**. Relevant guidelines should be developed to provide orientation on methodologies (along the project cycle), aiming to: (i) incorporate innovations as key outputs that lead to higher-level results; and (ii) adopt a holistic systems approach to innovations. The guidelines should be less prescriptive, to suggest tools and/or frameworks for monitoring and evaluating innovation processes (linked with existing tools), as well as for assessing their contribution to projects' outcomes and impacts.

47. **Recommendation 3: IFAD should dedicate greater attention to bundles of innovations that are transformative**. The more transformative innovations are, the more sustainable and amenable to scaling up they will be. Orientations should be provided on key methodological steps that favour the identification, at the planning stage, of innovations that can work in synergy with one another, to be clustered or bundled at the implementation stage, leading to packages with transformative features. Guidelines or frameworks suggested in the previous recommendation should allow measuring of results achieved through transformative innovations.

48. **Recommendation 4: IFAD should enhance the innovation culture within its business model to steadily and effectively support its innovation agenda**. This should be accomplished through an ongoing implementation of specific funding initiatives (such as the Innovation Challenge) to elicit an appetite for innovation, and to encourage risk-taking initiatives associated with genuinely novel solutions and approaches addressing important smallholder agriculture challenges. It is also essential to: (i) strengthen internal capabilities (relevant staff required and their skills) for that purpose; and (ii) support emerging innovation champions across the organization by promoting incentive mechanisms (e.g. financial or non-financial rewards).

49. **Recommendation 5: IFAD should increase funding and operational partnerships that contribute to the support of its innovation agenda**. Strategic co-funding opportunities should be boosted with partners (e.g. bilateral with governments, and multilateral with other IFIs) that share similar innovation goals. The aim should be to enhance operational synergies for piloting, uptake, dissemination and scaling up of innovations, especially those addressing issues pertaining to inclusiveness, NRM and adaptation to CC. IFAD's grant programme should be better leveraged for the development of effective innovations addressing smallholder agriculture challenges. Therefore, priority and flexibility should be given to grant proposals that plan on:
(i) strengthening capabilities of national players of IFAD-supported innovation processes;
(ii) scouting for novel solutions; and
(iii) enhancing the effectiveness of partnerships and synergies at the national and regional levels.

50. **Recommendation 6: IFAD should streamline KM tools for accessing and sharing innovation-related information by limiting their number**. One main common platform should be used to promote IFAD-supported innovations and disseminate M&E findings on innovation results and lessons. Opportunities offered by KM events should be used as an occasion to launch and promote the platform on a periodical basis. Communication activities (including social media and internal website alerts) should be used to draw the attention of IFAD staff and other stakeholders to generate and maintain enthusiasm, as well as sustain engagement on IFAD-supported innovation activities.

RWANDA

Grace Mukamana, a smallholder farmer from rural Rwanda, looks at her mobile phone with another farmer from her cooperative in Eastern Province, Ngoma District, about an hour outside Kigali.

With IFAD's support, farmers of the KOREMU cooperative received training on climate change and risk management, use of weather and climate information for agricultural planning, post-harvest handling and storage practices. Through a weather forecasting system, they received relevant weather and agricultural information on their mobile-phones. Now Grace can choose the right seeds, plan her agricultural activities in advance, and invest in crop insurance for when bad weather strikes.

BOSNIA AND HERZEGOVINA

Jasmin Muslic is the main manager of the Pa Bihac farming company, which produces many kinds of vegetables for local markets. The company uses greenhouses to grow vegetables through the winter months. It has been collaborating with the project for the last two years, and its production has increased by 40 per cent.

IFAD Management's response[1]

Introduction

1. Management welcomes the comprehensive analysis and report on innovations for inclusive and sustainable smallholder agriculture, which is not only essential to IFAD's operations but also fundamental to enhance IFAD's learning, impact and long-term relevance moving forward. Management is pleased to see that even though there is room for improvement, IFAD's business model for supporting innovation compares favourably with other Rome-based agencies (RBAs) and international financial institutions (IFIs).

2. Management appreciates the effort to cover an analysis of both IFAD's institutional processes that support innovation and the development effectiveness of IFAD's innovations on the ground. Both these dimensions of innovation (corporate- and field-level) are critical for IFAD to support innovation and impact. Including both dimensions in the analysis represented a major endeavour and a broader scope (e.g. inclusion of small-scale producers and value chain actors in rural spaces) than what may be suggested by the title of the report.

3. Management would also like to recognize the collaborative process during the evaluation. A number of additional consultations were held prior to finalizing the report, which Management both appreciated and found to be helpful to the overall process and the final outcome.

Recommendations

4. Management takes note of the six recommendations and, overall, is in full or partial agreement with them, with the exception of the sixth. Management's detailed response to each recommendation is as follows.

5. **Recommendation 1.** IFAD should set clear corporate/strategic goals for its innovation agenda, and develop and implement operating models, aligned with its 2016-2025 Strategic Framework and the 2030 Agenda. The framework should provide an appropriate definition of innovation in line with IFAD's operational context, and include specific objectives and priority result areas, as well as guiding principles and actions over a limited period (similarly to the knowledge management theme).

6. **Agree**. Management agrees with the recommendation to define strategic goals and to implement an overarching operating model to support a systematic approach to promote innovation. IFAD aims to align to the United Nations' SPACE (Strategy, Partnerships, Architecture, Culture and Evaluation) Framework for innovation issued in 2019. Management also recognizes the need to develop a definition of innovation that is in line with IFAD's operating context. The operating model ought to support: (i) well-timed and targeted innovations; (ii) long-term thinking; (iii) the development of a user-centric process to identify and incubate new ideas; (iv) informed and calculated risk-taking; and (v) a data-driven focus on learning, impact and results. Management also acknowledges the importance for the operating model to clarify how best IFAD can embed sufficient innovation expertise at both the corporate and field level while also taking account of IFAD's size and resources constraints.

1 The Operational Policy and Results Division sent the final Management response to the Independent Office of Evaluation of IFAD on 17 July 2020.

7. **Recommendation 2**: IFAD should improve the operating model that supports its innovation processes. Relevant guidelines should be developed to provide orientation on methodologies (along the project cycle), aiming to: (i) incorporate innovations as key outputs that lead to higher-level results; and (ii) adopt a holistic systems approach to innovations. The guidelines should be less prescriptive to suggest tools and/or frameworks for monitoring and evaluating innovation processes (linked with existing tools), as well as for assessing their contribution to project outcomes and impacts.

8. **Agree**. Management fully supports this recommendation. Indeed, the lack of an operating model, culture and appetite for risk has been identified as one of the most predominant constraints to the promotion of innovation. Management also takes note of the recommendation to develop guidelines that provide orientation on methodological steps that favour the promotion of innovation during the project cycle. The development of a definition, goals, unique value proposition and operating model will present an opportunity to adequately integrate resources and sustain innovations over time in alignment with IFAD's corporate efforts on monitoring and evaluation (M&E), Information and Communication Technologies for Development (ICT4D) and knowledge management (KM).

9. **Recommendation 3**: IFAD should dedicate greater attention to bundles of innovations that are transformative. The more transformative innovations are, the more sustainable and amenable to scaling up they will be. Orientations should be provided on key methodological steps that favour the identification, at the planning stage, of innovations that can work in synergy with one another, to be clustered or bundled at the implementation stage, leading to packages with transformative features. Guidelines or frameworks suggested in the previous recommendation should allow measuring of results achieved through transformative innovations.

10. **Partially agree**. Management agrees with the recommendation to focus on the identification of synergies among innovations that facilitate clustering and bundling them during implementation to allow for truly transformative innovations. Transformative innovations are translocal: "they are locally rooted and globally connected" and ought to be piloted to scale up.

11. The use of guidelines or frameworks to measure results achieved through transformative innovations could hinder the generation of novel solutions, as not all innovations turn out to be successful, nor should they. Management considers that a more accurate indicator of innovation would be the number of new ideas tested within projects, rather than the success of those ideas. Hence, the innovations operating model should support leaner processes and operations and promote learning, rather than create bureaucratic impediments to novel ideas or foster a culture that is risk- or failure-adverse.

12. **Recommendation 4**: IFAD should enhance the innovation culture within its business model to steadily and effectively support its innovation agenda. This should be accomplished through an ongoing implementation of specific funding initiatives (such as the Innovation Challenge) to elicit an appetite for innovation, and to encourage risk-taking initiatives associated with genuinely novel solutions and approaches addressing important smallholder agriculture challenges. It is also essential to: (i) strengthen internal capabilities (relevant staff required and their skills) for that purpose; and (ii) support emerging innovation champions across the organization by promoting incentive mechanisms (e.g. financial or non-financial rewards).

13. **Agree**. Management agrees with this recommendation; however, fostering an innovation culture, scouting for novel innovations, and creating opportunities and rewards for innovators entails addressing the need for dedicated resources, i.e. engagement of internal and/or external stakeholders, staff time, budget and partnerships. Management recognizes the need to optimize the use of scarce resources to promote greater innovation at the country and regional levels. Therefore, in order to support initiatives such as the IFAD Innovation Challenge, non-traditional partnerships and innovative funding mechanisms (such as mobilization of non-core resources) are being considered.

14. The emergence of voluntary champions has been fostered within the organization in alignment with the SPACE model by creating forward-looking opportunities, such as the IFAD Innovation Challenge. In this respect, Management recognizes the importance of establishing a reward system that "shifts ad hoc, outlier innovative behaviour into a central characteristic of the organization's culture" in alignment with the SPACE model. Financial and non-financial rewards can be offered to staff that embrace end-user thinking, take risks and pioneer the ownership of solutions. Some of the rewards that could be considered are: public recognition; interaction with the organization's senior management; formalized career advancement; opportunities of working in the staff member's area of interest; and specialized training.

15. **Recommendation 5**: IFAD should increase funding and operational partnerships that contribute to the support of its innovation agenda. Strategic co-funding opportunities should be boosted with partners (e.g. bilateral with governments, and multilateral with other IFIs) that share similar innovation goals. The aim should be to enhance operational synergies for piloting, uptake, dissemination and scaling up of innovations, especially those addressing issues pertaining to inclusiveness, natural resources management (NRM) and adaptation to CC. IFAD's grant programme should be better leveraged for the development of effective innovations addressing smallholder agriculture challenges. Therefore, priority and flexibility should be given to grant partners' proposals that plan on: (i) strengthening capabilities of national players of IFAD-supported innovation processes; (ii) scouting for novel solutions; and (iii) enhancing the effectiveness of partnerships and synergies at the national and regional levels.

16. **Agree**. Management fully agrees with the recommendation to increase funding and operational partnerships for innovation. Effective partnerships can contribute to the generation of results and collective impact that would not otherwise be feasible. IFAD has recently established new institutional mechanisms and structures that are already leveraging partnerships to support innovation. These mechanisms include ICT4D, the Private Sector Strategy, the creation of the Private Sector Advisory and Implementation Unit (PAI) and the creation of the Change, Delivery and Innovation Unit (CDI). Management welcomes the recommendation to better expand the use of these mechanisms and others for the development of effective innovations to address smallholder agriculture challenges and promote inclusiveness, grass-roots innovation, youth entrepreneurship and the establishment of non-traditional partnerships, in particular those that relate to value chains, NRM, and CC mitigation and adaptation.

17. The recommendation to give priority and flexibility to grant partners' proposals to generate and scale up novel solutions that respond to the local needs, interests and values of the communities involved is well received. However, this must be accompanied by a system that allows testing based on the understanding that not all innovations succeed and that intelligent failure, e.g. failing cheap and fast, is part of the innovation process. In this context, converting assumptions into knowledge during all stages of the innovation process (e.g. ideation, incubation and acceleration) becomes a priority to manage risk and optimize the use of resources. This can be done, for example, by undertaking consultations during the ideation phase and by implementing surveys, interviews and running tests of prototypes during the incubation phase to test assumptions and collect users' feedback. The validation process must continue throughout the design and development process, and decisions ought to be based on the data and evidence collected during the validation process. Tests should focus on identifying that the assumptions are correct or flawed. Implementing this approach to innovation will serve to manage risk, to enhance learning and to look for solutions that have a truly user-centric and targeted approach. It is also important to leverage grant resources in a more focused and strategic way, given broader changes in the availability and use of such resources.

18. **Recommendation 6**: IFAD should streamline KM tools for accessing and sharing innovation-related information by limiting their number. One main common platform should be used to promote IFAD-supported innovations and disseminate monitoring and evaluating findings on innovation results and lessons. Opportunities offered by KM events should be used as an occasion to launch and promote the platform on a periodical basis. Communication activities (including social media and internal website alerts) should be used to draw the attention of IFAD staff and other stakeholders to generate and maintain enthusiasm, as well as sustain engagement on IFAD-supported innovation activities.

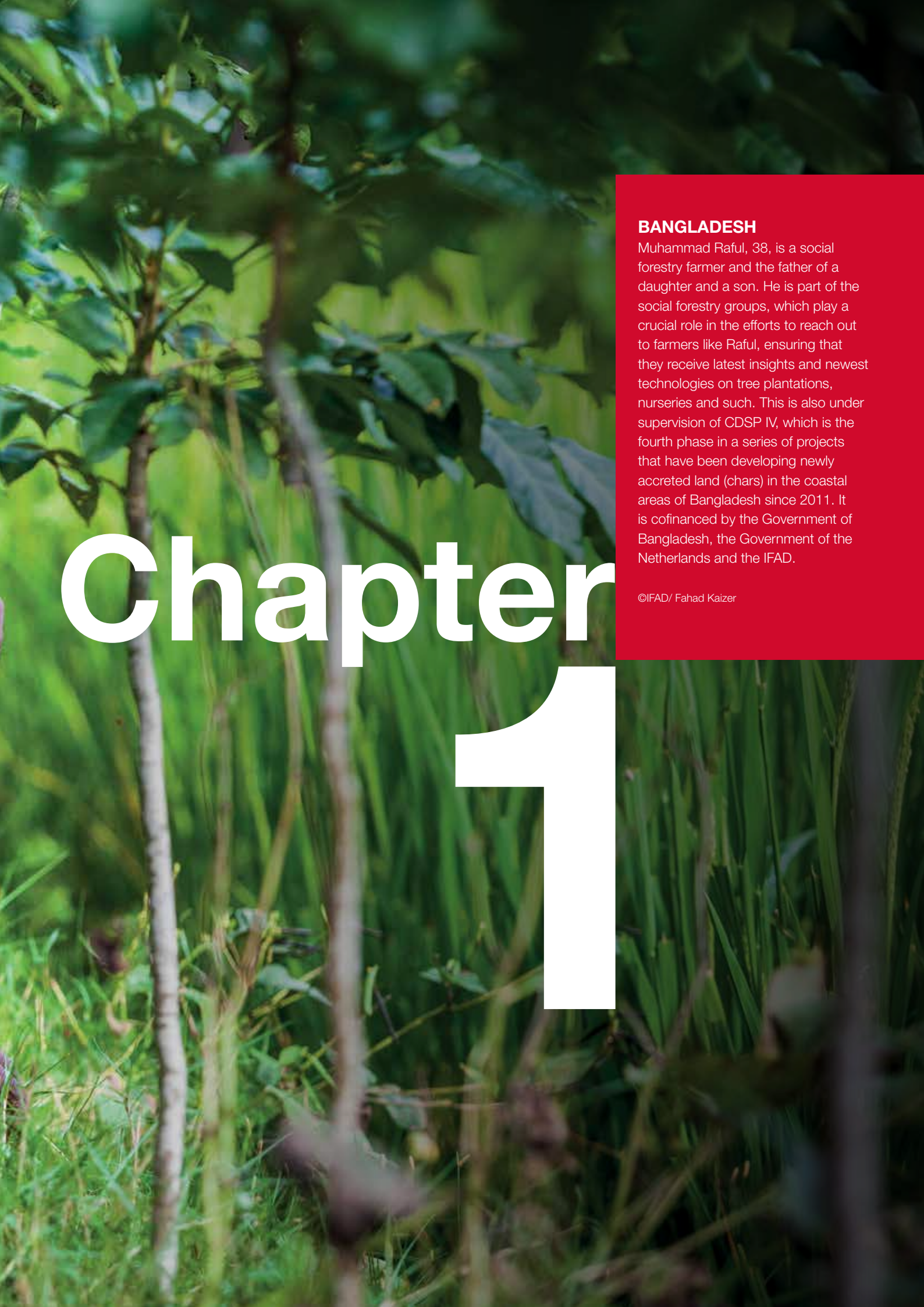
19. **Partially disagree**. While Management agrees that effective storytelling is often linked to success in innovation, the SPACE model also supports the notion that "effective communication requires a deep understanding of stakeholder preferences and interests, as well as the differentiated methods of communication that will resonate with each group."

20. Management considers that the creation of diversified innovation-related web platforms would encourage ownership, inclusiveness and the democratization of innovation. The objective is to enhance the participation and adaptation of knowledge-dissemination tools that are tailored for the needs, skills and capabilities of each community.

21. Therefore, the selection of the platform that best fits each audience and group of stakeholders must be user-centric and based on performance indicators that monitor access, use, engagement and users' experience. Baselines and minimum requirements could be established to determine the relevance of a platform and its value added.

COLOMBIA

Senora Luz Alba Trujillo Salazar, president of Asociación para el Futuro con Manos de Mujer (ASFUMUJER) , speaking on the regional indigenous radio station to spread the word about an agricultural fair that her organization was holding the next day. The Indigenous Peoples Assistance Facility (IPAF) has awarded a grant for climate change adaptation and food security for indigenous communities to the Natagaima Tolima project (RENACER), which works with the Pijao-Natagaima indigenous peoples group.



Chapter 1

BANGLADESH

Muhammad Raful, 38, is a social forestry farmer and the father of a daughter and a son. He is part of the social forestry groups, which play a crucial role in the efforts to reach out to farmers like Raful, ensuring that they receive latest insights and newest technologies on tree plantations, nurseries and such. This is also under supervision of CDSP IV, which is the fourth phase in a series of projects that have been developing newly accreted land (chars) in the coastal areas of Bangladesh since 2011. It is cofinanced by the Government of Bangladesh, the Government of the Netherlands and the IFAD.

1. Background

A. Introduction

1. At its 125th session (December 2018), the Executive Board of IFAD approved the conduct of a corporate-level evaluation (CLE) by the Independent Office of Evaluation of IFAD (IOE) on IFAD's support to innovation for inclusive and sustainable smallholder agriculture (IFAD, 2018a, p. 28). The evaluation was undertaken following the Revised IFAD Evaluation Policy (IOE, 2015a) and aligned with guidelines of the second edition of the IOE Evaluation Manual (IOE, 2015b).

2. The overall objectives of the CLE were to:

   i. assess IFAD's efforts (through approaches, instruments and tools) to promote agricultural innovations (referred to as innovations in the report), which contribute to effectively address rural development challenges, through supported operations in recipient countries;

   ii. assess IFAD's contribution for the dissemination and scaling up of successful pro-poor innovations, sustainable and climate-resilient, that reach diverse groups of smallholder farmers;

   iii. identify options as well as recommendations for improving IFAD's approach and performance in promoting successful agricultural innovations for rural poverty reduction in recipient countries.

3. **Innovation and the Leaving No One Behind Agenda**. With the 2030 Agenda for Sustainable Development (2030 Agenda) – of Sustainable Development Goals (SDGs) – the importance of innovations is clearly emphasized. SDG 9 explicitly relates to innovation: promote inclusive and sustainable industrialization and foster innovations. SDG 2 – End hunger, achieve food security and improved nutrition and promote sustainable agriculture – calls for agricultural innovations. Indeed, without agricultural innovations, some SDG 2 targets will not be achieved.[1] Smallholder farmers are facing numerous challenges that are complex and multifaceted with regard to: economic resilience; food security and nutrition; sustainable management of natural resources; secure and sustainable access to inputs and other production resources; as well as adaptation to climate change (CC). In order to overcome these challenges, agricultural innovations are paramount. These should be adapted, suitable and viable, considering the social, technical, economic and environmental contexts in which they are applied.

4. **Importance of innovations to IFAD**. The role of agricultural innovations is paramount for IFAD to fulfil its mandate.[2] In fact, the IFAD Strategic Framework (2016-2025) stipulates that, with the mandate of investing in rural people and enabling inclusive and sustainable transformation in rural areas, specifically by supporting the development of smallholder agriculture, innovations are essential for IFAD to strengthen and improve the quality of its country programmes (IFAD, 2016a). Consequently, innovation and scaling up are among the key engagement principles of the organization (in addition to targeting, empowerment, gender equality, and learning). Innovations will contribute to achieving greater impact and enhancing IFAD's role in helping countries to fulfil their priorities relative to the 2030 Agenda. As such, **IFAD plays a critical role in achieving SDG 2 targets** – with its focus on smallholder agriculture (productivity, incomes from farm and non-farm activities, etc.), and on smallholder

1 Examples are Targets 2.2, 2.3 and 2.4 of the Sustainable Development Goals (SDGs): https://unstats.un.org/sdgs/metadata/.

2 IFAD was established as an international financial institution in 1977 to mobilize resources to invest in development opportunities for poor rural people. The Agreement establishing the Fund mentioned the need to design and implement projects and programmes aiming at increasing and/or improving agricultural food systems and strengthening rural development policies and institutions, especially considering the rural poor populations.

agricultural systems that are resilient – **as well as other SDGs**.[3]

5. IFAD acknowledged this critical role of innovation for its operations, and this explains the development and approval in 2007 of an explicit and stand-alone strategy: the Innovation Strategy (IFAD, 2007a).[4] The CLE on IFAD's Capacity to Promote Innovation and Scaling Up (IOE, 2010) stated that **concerted efforts had been made to incorporate innovation into the Fund's corporate documents since the mid-1990s**. The Report of the Consultation on the Eleventh Replenishment of IFAD's Resources (IFAD, 2018b) stated that IFAD aims to make a significant, effective and efficient contribution to SDG 1 and SDG 2 and the broader 2030 Agenda in rural areas. This can be done through a concerted effort of: (i) increased resource mobilization by diversifying the resource base, while ensuring that Member States' core contributions remain the foundation of the Fund's financial strategy; (ii) effective allocation of resources to those that need them most and can use them effectively; (iii) fine-tuning processes for resource utilization, with more agile programme delivery and implementation; and (iv) **embracing a culture of results and innovation across the organization, which will help transform resources into development results**, in a way that maximizes the impact of each dollar invested in the lives of rural poor people.

6. The 2010 CLE (IOE, 2010) was carried out only two years after the Innovation Strategy had been approved, and thus, could not assess the results produced.[5] Therefore, the current CLE has assessed progress made by IFAD in supporting the promotion of agricultural innovations through the implementation of the 2007 Innovation Strategy, as well as results achieved and underlying explanations.

7. **Structure of the report**. The report includes seven chapters. This first chapter provides the conceptual and empirical background as well as the methodological framework and limitations. Chapter 2 includes: the analyses of IFAD's programme of loans and grants (PoLG); the review of strategies, corporate policies and documents; and the benchmark assessment results. Chapter 3 provides the assessment at operational level of the performance of IFAD-supported innovation processes and promoted innovations in terms of relevance, effectiveness, efficiency and contribution to impacts. Chapter 4 relates to the assessment of innovations to address inclusiveness (gender, youth and marginalized groups), while chapters 5 and 6 treat, respectively, the issues related to IFAD-supported innovations aligned with: (i) natural resources management (NRM) and adaptation to CC; and (ii) sustainability and scaling up. The last chapter presents the conclusions and recommendations.

B. Conceptual framework

Definitions

8. A broad range of definitions is provided by the literature for agricultural innovations, from academic to practitioner angles, passing through business (private company) and development organization perspectives. Within IFAD, the Initiative for Mainstreaming Innovations (IMI), developed and implemented from 2005 to 2011,[6] contributed to the rise of a systematic usage of an innovation concept, which became a central and cross-cutting theme within IFAD. Following the IMI, IFAD's Innovation Strategy was developed in 2007 to provide strategic insights on the topic. The Innovation Strategy (IFAD, 2007a, p. 4) defines an innovation as "**a process that adds value or solves a problem in new ways**", and identifies three features to qualify as an innovation: (i) new to its context of application; (ii) useful and cost-effective in relation to a goal; and (iii) able to "stick" after pilot-testing. This definition, which relates to processes, seems very broad.

9. IFAD is a United Nations specialized agency, as well as an international financial institution (IFI), exclusively dedicated to support rural poverty reduction. Consequently, a developmental approach to innovation matters for IFAD. This latter approach considers innovations in terms of **something that is new**

3 SDG 1: End poverty in all its forms everywhere, and SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture. IFAD also contributes to SDG 5 (gender equality), 8 (decent work and economic growth), 10 (reduced inequalities), 13 (climate action) and 15 (life on land).

4 See the review of other organizations' approaches in Chapter 2.

5 Carried out in 2009 and published in 2010. See annex I for excerpts of conclusions and recommendations. Moreover, an Evaluation Synthesis (ES) was conducted in 2019 on Technical Innovations for Rural Poverty Reduction (IOE, 2019a) to prepare the current CLE.

6 According to the document EB 2015/116/INF.4 (IFAD, 2015a), the main phase of the Initiative for Mainstreaming Innovation (IMI) was approved by the Executive Board in December 2004 (EB 2004/83/R.2 [IFAD, 2004]). During its main phase, 66 projects were approved and implemented through seven rounds of competitive bidding during the period 2005-2008, and a final round conducted in 2011.

within a context, with the aim and ability of improving an existing situation, aligned with development objectives. Other United Nations agencies and IFIs have developed something similar (e.g. World Bank, 2012; FAO, 2018).

10. Considering this developmental approach and IFAD's Innovation Strategy definition, the CLE developed and applied an operational definition of innovation as follows: **A new way of acting – practice, approach/method, process, product, or rule – brought in or implemented for the first time, considering the context, time frame and stakeholders, with the purpose of improving performance and/or addressing challenge(s)**.[7] This definition entails some considerations. An innovation may be considered as such in one context, while not in another; and the novelty feature will evolve over time and become nil after a while. The strength of an innovation depends on its capability to address successfully the challenge(s) for which it was introduced, or to improve performance, especially as far as smallholder agriculture is concerned.[8]

11. **Inclusive and sustainable innovations**. According to IFAD's Rural Development Report (IFAD, 2016b, p. 279), inclusive innovations entail that they are "amenable to adoption by a wide range of farmers of both genders and in different localities, and are affordable and easily accessible, ideally through well-functioning markets". Therefore, inclusive and sustainable innovations are agricultural innovations that are accessible to and suitable for a diversity of farmers (in terms of gender, socio-economic group and geographical coverage), as well as economically, socially and environmentally suitable. They can be easily applied and replicated by a diversity of smallholder farmers, and contribute to overcome challenges they are facing.

The systems approach to agricultural innovations

12. Systems approaches to analyse agricultural innovation emerged towards the end of 1980s. Röling developed the agricultural knowledge and information system, as a network of organizations and people who are linked through commercial, professional or social aspects. Thus, the agricultural innovation system is a holistic approach that considers agricultural innovations within a system, which includes various interlinked elements (Berdegué, 2005).

13. In 2006, IFAD described an organizational approach to innovations (IFAD, 2006a). Innovation should be addressed in terms of a system, made up of different interacting and interlinked elements within a dynamic process, not as a linear input-output process. These elements include the innovations and their related processes, the actors involved in the innovation processes and interactions among them, as well as norms and rules that allow the functioning of the system. **Three interlinked dimensions are essential to have successful pro-poor innovation systems: (i) institutional (e.g. rules, policies); (ii) partnership (e.g. network); and (iii) empowerment (farmers' capacity and organization)**. Institutions are critical to addressing social and economic challenges, including access to resources, and for reducing risks, as well as improving the participation of poor people in innovation systems. Partnerships bring together stakeholders with different resources, knowledge and experience, to join efforts for the effectiveness of innovation systems. Empowerment contributes to strengthening farmers' organizations, especially those of the rural poor and marginalized groups, to enable them to participate in the innovation system and access its benefits more equitably and sustainably.

7 This definition is from the CLE team and applied in the report. It is corroborated by staff responses to the electronic survey (109 respondents), which highlighted key elements to include for defining innovation in IFAD's context. They are: (i) creative/new way to deliver better and quicker results (72 per cent); (ii) useful and/or cost-effective practice or approach (49 per cent); (iii) existing practice or approach but applied in a new context (43 per cent); and (iv) genuinely newly created practice/approach.

8 For FAO (2018), agricultural innovation is defined as the process of bringing new or existing products, processes or ways of organization, into use or application for the first time, in a specific context; the aim being to increase effectiveness, competitiveness, resilience to shocks or environmental sustainability. Ultimately, it will contribute to food security and nutrition, economic development or sustainable natural resource management. This definition (more recent than the one in the IFAD Innovation Strategy) relates to products, processes and other aspects. It emphasizes improving performance.

14. The World Bank defines an innovation system as: "A network of organizations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organization into economic use, together with the institutions and policies that affect their behaviour and performance" (World Bank, 2012). The Capacity Development for Agricultural Innovation Systems (CDAIS) (FAO, 2017a) applies a comparable definition; however, it emphasizes capacity-development dimensions: individual, organizational, inter-organizational and enabling environment.[9] **Important considerations for innovation systems are: the actors (individuals and organizations) involved, their interactions, practices and behaviour, as well as the institutional and policy context**. The Economics of Ecosystems and Biodiversity (TEEB, 2018) suggests applying a systems approach for innovations, in order to understand the relationships across multiple sectors, dimensions and perspectives, and to ensure holism and avoid reductionist ways of thinking.

15. In short, **the systems approach to agricultural innovations suggests key elements to be taken into account**, while assessing IFAD's support to innovations for smallholder agriculture: (i) innovations and related processes; (ii) the actors contributing to these processes; (iii) the relationships and interactions among actors, linkages between objectives (results hierarchy); and (iv) the institutional framework. It is also important to identify the main components, drivers and relationships that influence the functioning of the system, when analysing the agrifood systems (TEEB, 2018).

16. The scope of IFAD's work covers various aspects of the agrifood system, as reflected in its three strategic objectives (SOs) 2016-2025: SO1: Increase poor rural people's productive capacities; SO2: Increase poor rural people's benefits from market participation; and SO3: Strengthen the environmental sustainability and climate resilience of poor rural people's economic activities. Components of the agrifood system are highlighted in figure 1, adapted from TEEB (TEEB, 2018).[10]

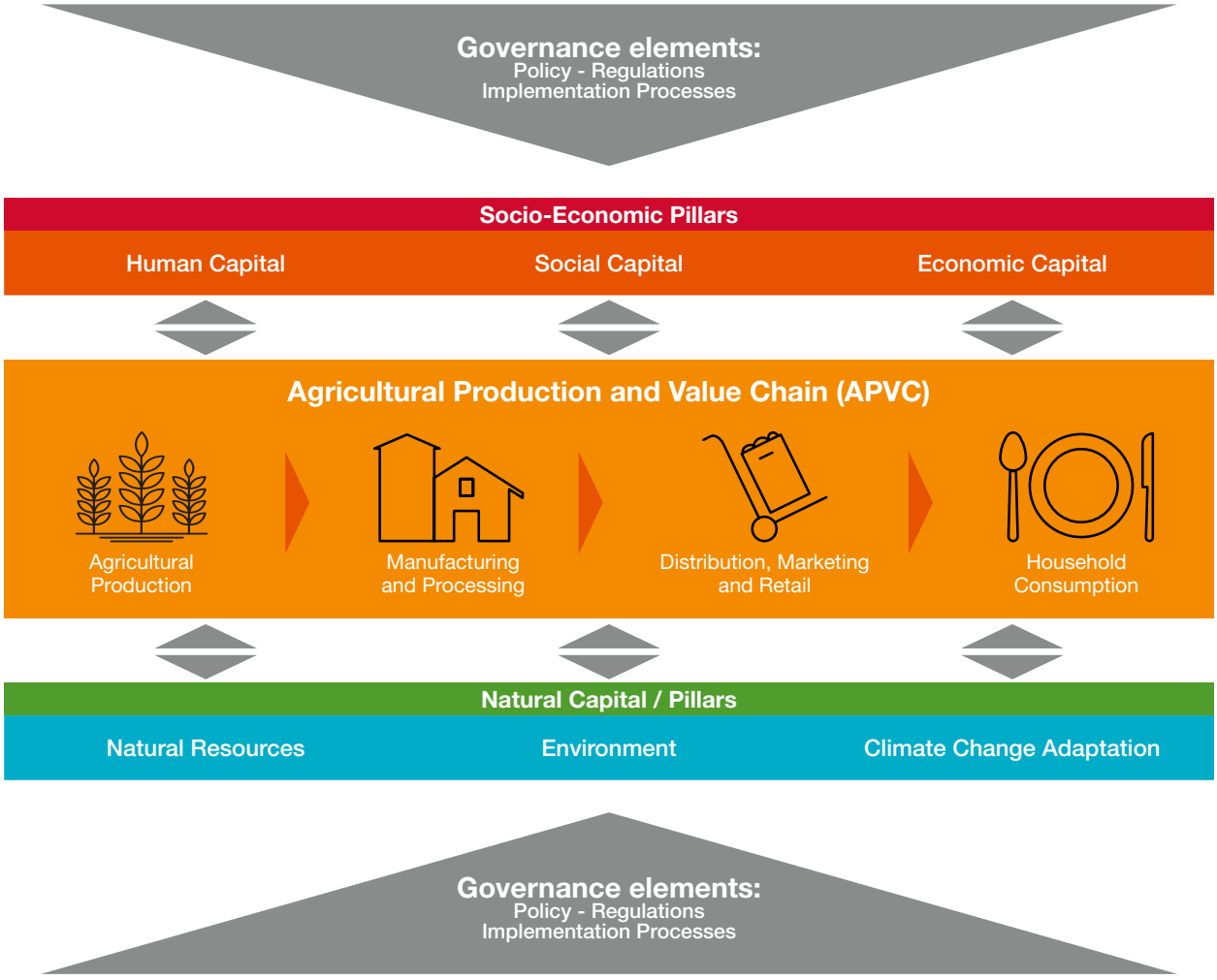
17. The main agrifood system component is the agricultural production and value chain (APVC) system, clearly reflected through IFAD's SO1 and SO2. The two other system components, the socio-economic pillar (SEP) and the natural pillar (NP) are influential on the functioning of the APVC. Both are in turn also affected by the APVC, establishing linkages and interactions between and among them. Aspects related to SEP and NP are well reflected in the IFAD's SO3.

9 CDAIS (2017): An agricultural innovation system is a network of actors or organizations, and individuals, together with supporting institutions and policies in the agricultural and related sectors that brings existing or new products, processes, and forms of organization into social and economic use (FAO, 2017a).

10 There are other models describing agrifood systems. The TEEB model was chosen as it unpacks the system (macro) into subsystems (meso or specific), which, in turn, encompass detailed elements, thus enabling the system to be analysed by stages.

FIGURE 1

Scheme of agrifood system components for which innovations can be of great importance



Source: Adapted from TEEB (2018), Elements of agri-eco-food system.

18. An overarching component is illustrated and referred to as the governance pillar (GP),[11] which includes aspects pertaining to policy, regulations and implementation procedures or practices. They constitute driving forces for the effective functioning of the entire agrifood system, in facilitating an enabling environment (in the form of policy, funding, implementation support or a mixture of these) for the main agrifood components. The importance of the GP is significant in view of IFAD's context of operations.

19. Aligned with the CLE definition, innovations are meant to address challenges, which can relate to one or more aspects of agrifood system components. Innovations are then identified and categorized in the report, aligned with these components (also called macro domains) and related subcomponents (also called specific domains). These include:

- **Governance elements or pillar (GP)**, which are overarching aspects: strategies and policies; regulations and standards; and implementation processes and approaches.

- **Agricultural production and value chain (APVC)** component: production (techniques and practices for cropping, husbandry, fishery, forestry, etc.); processing (storage, transformation/processing and manufacturing methods and practices); access to markets (distribution, marketing and sale mechanisms); and household consumption (technologies for improving household consumption, qualitatively and quantitatively).

11 The term is used in the context of this CLE to entail the overarching framework and factors that affect the main components of the agrifood systems.

- **Socio-economic component or pillar (SEP)**: human capital (knowledge, skills and capabilities of individuals actors, including youth and women); social capital (rural organizations and institutions, social rules, norms, networks and partnerships); and economic capital (inputs, equipment, assets and finance).

- **Natural component or pillar (NP)**: NRM (e.g. resources or supports for ensuring sustainable production); environment (related elements/issues), and CC (mitigation/adaptation approaches).

20. In general, an innovation will be influential in one or more subcomponents. For instance, the introduction of a new cropping method affects production aspects of the APVC, while it may also be influential on other aspects, such as post-production, human capital or NRM, etc. Similarly, an innovation introduced within the APVC to improve access to markets by smallholder farmers is likely to also have an effect on social or economic capital. However, the CLE used the subsystem that is primarily affected (in line with the related challenge) as the main criterion to categorize the innovations.

C. IFAD's business model in relation to innovations

Milestones of IFAD's innovation agenda

21. Stages of IFAD's innovation agenda are presented in table 1. The topic became particularly prominent with the IFAD-5 Action Plan (2000-2002),[12] which recommended evaluating IFAD's capacity to promote innovation with its partners.[13] The IFAD-5 Action Plan stated (IFAD, 2001a, p. 1) that: "As an innovator in the development of effective rural poverty-eradication instruments, models and know-how at the grass-roots level, IFAD seeks new and effective ways to address the constraints faced by its beneficiaries in a diversity of local contexts." IFAD's Strategic Framework for 2002-2005 pointed out the need for the Fund to identify successful innovations, understand why they were successful, and analyse opportunities and constraints related to these; and then to disseminate subsequent knowledge and lessons learned for replication and dissemination across regions, where applicable.

22. A 2002 evaluation (IFAD, 2002) concluded that, while the promotion of innovative approaches had been central to IFAD's vision in the past, the Fund was lacking a well-defined strategic agenda for innovations to guide and direct its operations. This led to the development and implementation of the IMI. The evaluation of the IMI conducted in the framework of the 2010 CLE (IOE, 2010) concluded that the IMI had contributed to increase the focus on innovations in the Fund's operations. Nevertheless, its intended purpose of driving the organizational changes needed to make IFAD an innovative organization (at both strategic and operational levels) had not been fully achieved.[14]

12 The Strategic Framework 1998-2000 already identified innovative pilot projects and programmes in agricultural and rural development (agricultural production, microcredit, rural infrastructure, self-help groups, and land tenure) as the Fund's "core business".

13 The 2002 evaluation (IFAD, 2002) mentioned that the IFAD V – Plan of Action (2000-2002) recommended that the Fund should develop methodology and evaluate IFAD's capacity as a promoter of replicable innovations in rural poverty reduction. On that basis, the Office of Evaluation (IOE's predecessor) undertook the first CLE on innovation at the end of 2000.

14 The 2010 CLE pointed out that the IMI was interpreted as an additional internal funding facility, and faced internal barriers to cultural change in relation to innovation. It concluded that there was not a sufficiently systematic approach to innovations (IOE, 2010).

TABLE 1

Milestones of IFAD's innovation agenda

Year / Period	Milestone / Feature
2000-2002	IFAD-5 Action Plan
2001	Evaluation of IFAD's capacity as a promoter of replicable innovations
2002-2005	IFAD Strategic Framework 2002-2005 "IFAD now has to become more systematic in identifying, validating and scaling up innovation". (EB 2001/74/R.36, p. 7)
2003	Grant policy contributing to innovation and capacity-building Innovation and scaling up started being evaluated (together)
2004	Initiative for Mainstreaming Innovations IOE Thematic Evaluation: Promotion of local knowledge and innovations in Asia and the Pacific region
2005	Independent external evaluation of IFAD's operations
2007-2010	Strategic Framework 2007-2010. Innovation, learning and scaling up became one engagement principle.
2007	IFAD Innovation Strategy
2009	Revised Policy for Grant Financing
2010	IOE CLE: IFAD's Capacity to Promote Innovation and Scaling up Brookings Working Paper 43: Scaling up the fight against rural poverty. An institutional review of IFAD's approach.
2011	Strategic Framework 2011-2015: Innovation, learning and scaling up kept among the principles of engagement. South-South Cooperation became an inherent dimension of IFAD's enhanced business model
2014	IOE - CLE: IFAD Policy for Grant Financing
2015	Revised Policy for Grant Financing and Grant Implementation Procedures
2016	IFAD Strategic Framework 2016-2025 Enhanced approach to South-South and Triangular Cooperation introduced IFAD's Operational Framework for Scaling Up Results (2016)
2017	IOE Evaluation Synthesis (ES): IFAD's support to scaling up of results Scaling up started to be rated separately from innovation
2019	IOE-ES: Technical Innovations for Rural Poverty Reduction Creation of the Change, Delivery and Innovation Unit (CDI) Implementation of IFAD Innovation Challenge

Source: CLE team.

23. The Independent External Evaluation (IEE) in 2005 of IFAD's operations (IFAD, 2005, p. II-23) concluded: "**Innovation is a raison d'être for IFAD, but the evidence reveals major shortcomings in IFAD's approach**. There is a lack of clarity in operational practice, a tendency to view it as an end rather than a means, and a lack of attention to both innovation and scaling up in project objectives." The IEE also considered grants as an essential ingredient that could be used to pilot innovations, which would be scaled up through loans, or support project design, sector and poverty analysis that would inform policy dialogue. **The management responses to evaluation recommendations included a decision to elaborate and implement a strategy to enhance impact of IFAD's projects and programmes**, and hence the 2007 Innovation Strategy was developed and approved.

24. The 2010 CLE (IOE, 2010) on IFAD's Capacity to Promote Innovation and Scaling Up and the Brookings working paper (Hartmann *et al.*, 2010) on IFAD's experiences on scaling up constituted landmarks of IFAD's innovation journey. The 2010 CLE concluded that, **although IFAD had a stand-alone strategy for innovation, insufficient resources and attention were allocated for that purpose**.[15] The Brookings working paper concluded that there was a lack of a systematic and proactive approach to turn IFAD into a scaling-up institution. Since these publications, scaling up has been assessed during supervision missions and at completion of IFAD-supported projects, although not rated separately.

15 See excerpts in annex I.

25. The CLE on IFAD's policy for grant financing concluded that IFAD "missed the opportunity to leverage the grants programme in a strategic manner at all levels, partly due to a weak corporate policy environment and insufficient linkages with corporate and country-level priorities" (IOE, 2014a, p. 61). This led to the revision of IFAD's policy for grants in 2015, which further enhanced the strategic role of grants to promote agricultural innovations, and to involve the private sector in this process.[16] IFAD's Strategic Framework 2016-2025 pointed out innovations as one of the critical dimensions for its agenda to work better. In 2017, following the Evaluation Synthesis (ES) on IFAD's Support to Scaling up of Results (IOE, 2017a), innovation and scaling-up ratings in IOE evaluations started being separated. The 2019 ES on Technical Innovations for Poverty Reduction (IOE, 2019a) recommended that the current CLE clarify IFAD's capability to promote transformative innovations.[17]

26. Following changes in IFAD's business model (see chapter 2), the Change, Delivery and Innovation Unit (CDI) was created.[18] The CDI is expected to ensure that organizational reforms are sustained, monitored and strengthened, while also promoting innovation in IFAD's products and approaches. The CDI aims to help IFAD to improve its capacity to produce better results more quickly, and to develop a culture and framework for promoting change.[19] In 2019, the CDI implemented the first IFAD Innovation Challenge.

Overview of IFAD's instruments that support agricultural innovations

27. The promotion of agricultural innovations within IFAD is implemented through the instruments used by the Fund to discharge its mandate.[20] Specifically, these are loan projects, grants programmes and non-financial instruments. According to Policies and Criteria for IFAD Financing (IFAD, 2019a), IFAD provides financing through loans, grants and a debt sustainability mechanism.[21]

28. Loan projects are appropriate for promoting and replicating tested, reasonably safe innovations, in order to minimize risks both for the borrowing countries and for IFAD as a financial institution. Nevertheless, they can also be used for piloting innovations. The 2010 CLE (IOE, 2010) revealed that IFAD's **loan projects have had a greater focus on social engineering and institutional innovations**, due to the fact that social capital, rural institutions and empowerment are prominent for IFAD, rather than focusing on developing innovative low-cost agricultural technologies. This latter aspect is done through grant-funded projects.

29. **Grants are adequate for testing and adapting innovative solutions and approaches** within specific contexts. The 2014 CLE (IOE, 2014a, p. x) concluded that: "the corporate grant policy and operational framework can be further tightened to ensure grants better support the objectives of IFAD country programmes and are used for building strategic partnerships. Learning from grant activities can be systematized and used more routinely to inform IFAD-funded loan investment projects and programmes and policy dialogue efforts."

30. **Non-lending activities**. These activities play a pivotal role in the innovation process and in creating an enabling environment for their wider replication and scaling up. They take the form of partnerships, knowledge management (KM) and policy dialogue. Partnerships are

16 The 2015 revised policy was complemented by the implementing procedures, which outlined a uniform management flow and the use of electronic platforms for monitoring and record-keeping. However, these were not in use for a great part of the period covered by the present CLE.

17 See also annex I for excerpts of conclusions and recommendations.

18 The CDI coordinated the IFAD self-assessment for the CLE, presented and discussed in July 2019.

19 For the period 2019-2021, the priority activity areas of the CDI include, among others, introducing and incentivizing formal means for innovation. See https://intranet.ifad.org/cdi#tab-1.

20 The Fund provides loans to developing Member States on highly concessional, blended and ordinary terms for approved projects and programmes. Grants may be provided to: (i) developing Member States; (ii) intergovernmental organizations in which such Member States participate; and (iii) other entities, which the Executive Board determines to be eligible pursuant to article 8 of the Agreement. Grants are provided in accordance with a Policy for Grants Financing established by the Executive Board. Financing under the debt sustainability mechanism is provided to eligible Member States in the form of grants, usually combined with a loan on highly concessional terms, in accordance with arrangements for implementation of the Debt Sustainability Framework at the Fund established by the Executive Board.

21 Reviewed in depth in chapter 2.

"at the core of IFAD corporate priorities for scaling up, knowledge generation and learning, and policy engagement and influence".[22] **Partnerships** are also implemented through South-South and Triangular Cooperation (SSTC).[23] **Knowledge management** contributes to: (i) the identification of innovative solutions (supply); and (ii) the replication and scaling up of successful innovations (outreach). **Policy engagement** contributes to creating an enabling environment for wider replication and scaling up of innovations. In addition, policy dialogue contributes to ensuring buy-in among other development partners, which potentially have the resources and capabilities to replicate and scale up successful innovations identified and applied in IFAD-funded operations.

Theory of change of IFAD's support to agricultural innovations

31. The theory of change (ToC) (figure 2) of IFAD's support to agricultural innovation was reconstructed.[24] Figure 2 reflects the results pathway (in the centre) in line with IFAD's approach to support agricultural innovations, some critical conditions[25] and major stakeholders at different stages, as well as some of the main assumptions. The milestones of the results pathway include: (i) providing inputs (of IFAD and its partners, including governments) aligned with IFAD corporate instruments and processes;
(ii) innovation process roll-out (at design and implementation of projects and programmes);
(iii) innovation dissemination and scaling up (immediate and short-term results of innovation processes); and (iv) achieving and measuring medium- and long-term outcomes.

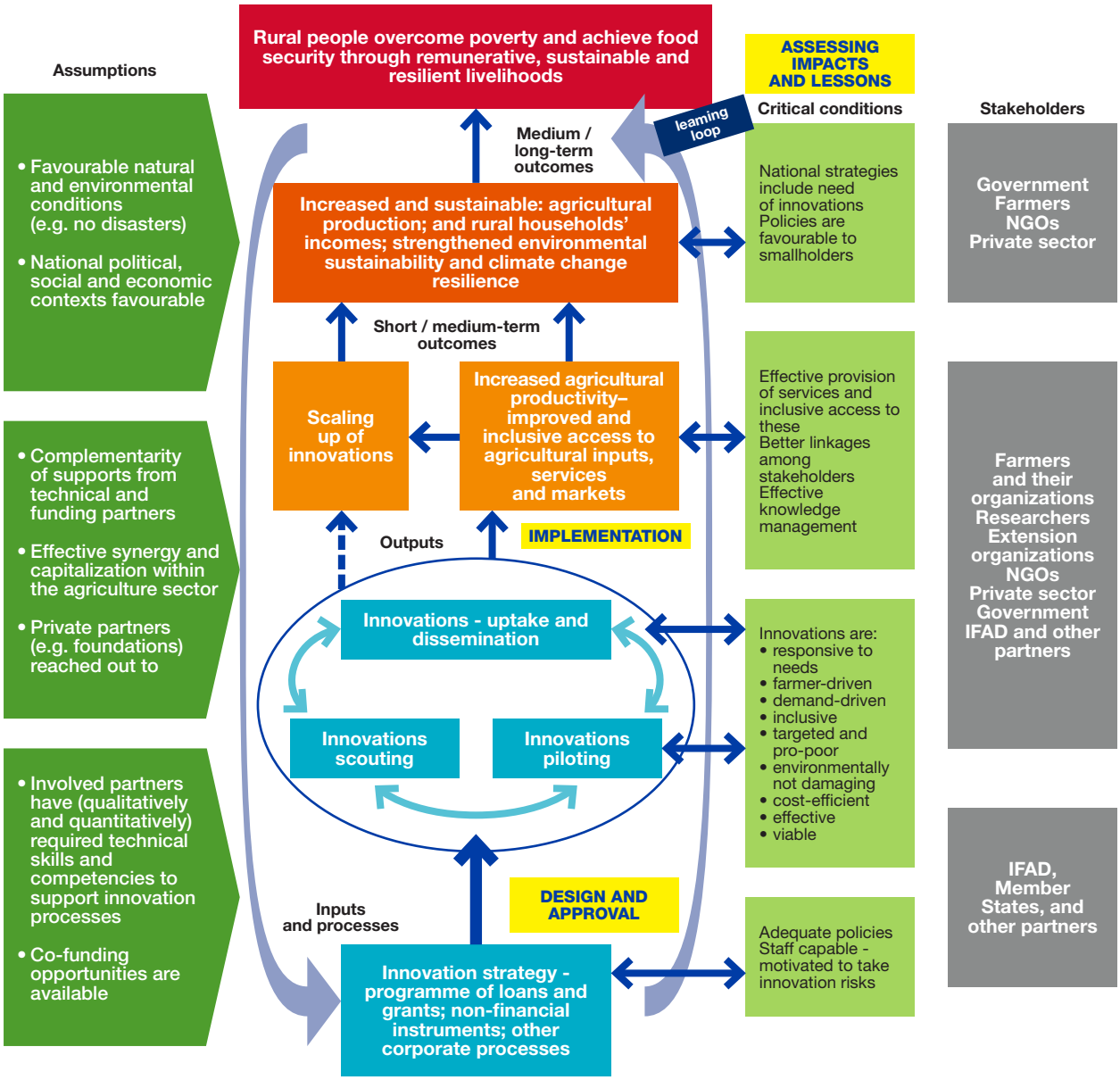
32. **Corporate instruments and processes**. IFAD's corporate instruments and processes that support the promotion of agricultural innovations are: the Innovation Strategy (IFAD, 2007a); the PoLG; and non-financial instruments. They were briefly described in the previous subsection, but are more deeply reviewed in chapter 2.

33. **Innovation processes**. The process to identify innovations starts during the planning and design stage, with the identification of challenges to be addressed using innovations or innovative solutions. This entails the identification of specific domains where innovations are needed. During the implementation of projects and programmes (loan- and/or grant-supported), innovations can be scouted and piloted. This can lead to their uptake, or to a further search for the right innovation, reflecting an iterative process that involves stakeholders (at national and regional levels), namely: farmers and their organizations, research and extension actors, governmental institutions, NGOs, private-sector actors, and other funding and technical partners. The scouting of innovations can go through: (i) the development stage (through fostering research and development activities with IFAD's partners); or (ii) the identification by stakeholders of projects and programmes (including beneficiary farmers) of innovations already developed and tested elsewhere.
This iterative process may be quick, or take a longer time, depending on the capability of the innovation system actors to supply effective innovations, innovative solutions or approaches, within a reasonable time frame.
To that effect, *The Annual Report on the Results and Impact of IFAD Operations Evaluated in 2006* (ARRI; IOE, 2008) argued that most IFAD-supported innovations are incremental rather than radical, meaning that they generally involve minor improvements (of a practice, approach or strategy) with little risk; while radical innovations entail much greater change and higher risk.[26]

22 An ES was conducted in 2017 on IFAD's partnerships (IOE, 2018a).
23 "The countries of the Global South feature similar climatic and environmental challenges, rural production patterns and sociological characteristics. Rural innovations and solutions developed in the South can be adapted in other countries of the South much more easily and appropriately than those designed in the North and for the North. IFAD should play a key role in capitalizing on this opportunity through SSTC" (IFAD, 2017a, p. 19).
24 Developed at inception, after interactions with key stakeholders at IFAD headquarters and in the field; subsequently updated and validated, taking into account empirical considerations and observations.
25 These conditions, within the control of the system stakeholders, are not in terms of causality. They should happen in parallel or in support of each milestone, to ensure a greater success.
26 The innovation process is analysed in depth in the sections on effectiveness in chapter 3.

FIGURE 2

Theory of change of IFAD's support to agricultural innovations (reconstructed)



Source: CLE team.

34. **Dissemination and scaling up**.[27] Innovations that are effective (in addressing intended constraints) can move to the uptake stage, meaning their application by relevant actors. Learning at this stage is critical to disseminate successful innovations, as well as to facilitate their viability within the system, although their novelty level will decrease over time. Successful innovations will be replicated and scaled up after a sufficient learning phase.[28] Innovations may also be subject to scaling up, even if they have not gone through a sufficient learning phase, depending on their relevance and effectiveness to the context, needs and stakeholders.

35. **Contribution to outcomes and impacts**.[29] As discussed above, the ultimate purpose of innovations is to contribute to improving an existing situation, in terms of performance. Hence, the success of innovations will be measured in terms of their contribution to positive change within the agrifood system, for instance: increased access to services and production inputs (including financial resources) by smallholder farmers, increased agricultural productivity, increased access to markets, or better management of natural resources. Achieving short- and medium-term outcomes will contribute to longer-term outcomes: sustainable increase in agricultural production; sustainable and inclusive increase of rural households' incomes; strengthened environmental sustainability and CC resilience; and, ultimately, to the desired development impacts related to food and nutrition security, as well as rural poverty reduction.[30]

D. Methodology

36. In line with the Revised IFAD Evaluation Policy (IOE, 2015a) and the Evaluation Manual (IOE, 2015b), corporate aspects were prominently addressed in this evaluation, which covered the three main evaluation criteria of relevance, effectiveness and efficiency. Moreover, as innovations are important for change, considering different components of agrifood systems, additional criteria were taken into account in the assessment (sustainability, scaling up and impact, as well as inclusiveness, environment and CC).[31]

37. The CLE had three overarching questions that were further developed into key questions and subquestions, to prepare the evaluation matrix.[32] The overarching questions were:

    a. To what extent (how and why) have corporate instruments, tools and approaches been successful in promoting agricultural innovations within IFAD's country programmes?

    a. To what extent (how and why) have IFAD's operations promoted agricultural innovations that: (i) have responded to smallholder farmers' needs/demand; (ii) were targeted and inclusive?

    a. How have those innovations led to positive outcomes, and how have they been scaled up for sustainable and resilient development of smallholder agriculture?

38. The 2010 CLE (IOE, 2010) analysed only IFAD's strategies and policies over the period 2002-2008. This CLE reviewed IFAD's strategies and policies, as well as operations implemented, from 2009 to 2019 (10 years). The Innovation Strategy (IFAD, 2007a) served as a reference strategic document for the review of corporate and operational processes.

27 Aspects related to scaling up of innovations are analysed in chapter 6.
28 This should also be analysed in the light of a theory of scaling up. Wigboldus and Brouwers (2016) argue that what started as specific domain-related innovation and scaling process may also affect other domains; or what started as a local process may also affect national processes; and, what appeared to work out well on a small scale (few farmers involved) may work out quite differently at large scale.
29 Analyses are explored in the impact sections in chapter 3 and in other chapters.
30 IFAD's overarching development goal is "to invest in rural people to enable them to overcome poverty and achieve food security through remunerative, sustainable and resilient livelihoods". This is broken down in IFAD's three Strategic Objectives.
31 These assessments have mainly been done by using evidence from previous evaluations completed. The IOE 2015 Evaluation Manual (IOE, 2015b) recommends applying such an approach for CLEs. Data of impact studies conducted for the Tenth Replenishment of IFAD's Resources (IFAD10) were also be accessible and used as deemed necessary.
32 See annex III.

Data collection and analysis

39. **Databases**. The CLE reviewed strategies, policies, and operational corporate guidelines developed within the evaluated period, as well as other relevant corporate documents, in order to ascertain their relevance to the promotion of innovations. Projects and grants implemented within the same period were also analysed. Thus, the CLE developed two databases: the first on loan investment projects, and the second on grants. Qualitative information was extracted to ascertain the relevance of innovation theme in the loan and grant projects/programme, using related approval documents,[33] as well as quantitative data (e.g. approval, entry into force, total cost, disbursements, final cost, original and actual completion dates, and closure date), using the Grants and Investment Projects System (GRIPS) and Operational Results Management System (ORMS). Data were processed and analysed to generate: (i) descriptive statistics; (ii) inferential statistics on the significance of differences between groups; and (iii) correlations and associations. Qualitative analyses were performed through content extraction, coding and mapping.

40. **A preliminary screening** of 508 loan projects[34] implemented within that time frame was performed; 230 (45 per cent) were approved before 2009, and 278 (55 per cent) after 2009. Among the projects approved before 2009, 99 per cent were closed by the end of 2018, while only 1 per cent were still ongoing. Among projects approved after 2009: 22 per cent were closed by the end of 2018, and 76 per cent were still ongoing, while 2 per cent were suspended. In total, 290 projects (57 per cent) had been completed and 214 projects (43 per cent) were still ongoing.

41. With regard to grants, a preliminary screening was performed, using a database with information on 678 grants – small (65 per cent) and large (35 per cent) – approved and implemented within the period under review.[35] Due to challenges of availability of documents (approval, design and completion) and consistency of information on small grants, **the desk review was limited to large grants (240)**.[36] This number includes 93 per cent global and/or regional grants (GLRGs) and 7 per cent country-specific grants (CSPGs). After the review of design documents, the CLE found that 62 per cent of these large grants (149) were aligned with the promotion of innovations, and were thus analysed further.

42. **Selection of case study projects and countries**. In order to select projects for in-depth review, information in documents of projects identified in the previous step were screened for the suitability of the innovation theme, as described in their project documents. This led to three levels of suitability of projects: very, moderately and fairly suitable[37] for the CLE. Moreover, the same projects were also screened, following the analytical framework, to identify which subcomponents of the agrifood system the promoted innovations were particularly influencing for performance improvement. These two screening results were combined to select projects relevant to the CLE topic, and at the same time reflect the diversity of innovations promoted through IFAD-supported loan projects. Projects screened as moderately relevant could also be selected, especially for system components that have a relatively low number of projects. This process led to the identification of 109 projects for in-depth review. The CLE team interacted with relevant staff members in IFAD regional divisions (headquarters and field) to improve the selection, leading finally to 100 projects for the case studies, covering 20 countries (listed below). In each country, both loan and grant documentation was reviewed.

33 For projects, the project design reports (PDRs) were used, namely, the paragraph "Knowledge management, innovation and scaling up", which describes the main innovative features that the project intends to implement. For grants, because there is no section on innovation in the approval document, it was more cumbersome to ascertain whether the grant was intended to promote innovation or not, and if yes, which type.

34 A total of 540 projects were identified, but the PDRs were missing for 24 projects; and for eight others, descriptions of innovations were absent from the PDR.

35 According to the 2015 policy for grants (IFAD, 2015c), the President has the authority to approve grants of up to US$500,000 or equivalent, known as small grants. Grants above US$500,000 or up to US$3.5 million or equivalent, are considered as large grants, and subject to approval by the Executive Board. Grant funding includes two windows: global and/or regional grants and country-specific grants.

36 As with loan project documents, grant documents were not systematically accessible until recently (since 2017).

37 Very relevant (green) means that innovative features are very obvious and/or well described in the PDR, including aspects related to scaling up; moderately relevant (yellow) means that innovative features are more or less obvious, as described in the relevant section of the PDR; fairly relevant (red) indicates that the innovative features of projects are weak or inexistent, usually in cases of follow-up phases of previous projects, or when the innovation was poorly described, or not described, in the PDR.

43. **Analysis of case study innovations**. The selection of case studies was useful for in-depth assessments, and, from these, numerous innovations were identified and/or observed. The CLE team retained only those that complied with the CLE definition of innovation, although the level of compliance varied from one innovation to another. A total of 219 innovations were retained from the 20 case study countries. The CLE team rated each innovation for different aspects: novelty within the context; relevance (to context and stakeholders); effectiveness to address challenges identified; and the extent to which the innovation contributed to change.[38] Individual evaluators identified and rated the innovations, but the ratings were discussed in the team in an effort to standardize the results. For impacts, the CLE rated only the innovations from the countries visited; while ratings on issues such as degree of novelty, sustainability and scaling up were given for all case study countries. Sometimes, it was not possible to give a rating for certain aspects, due to lack of information, because the innovation was very new, or because it was not meant to address certain aspects. Overall, these ratings, tabulated according to the CLE analytical framework –macro domains (4) and specific domains (12)– complemented by simple descriptive analyses, were useful to generate specific and overall trends, to facilitate cross-learning and to highlight specific features.

38 Rating scale: 1 = highly unsatisfactory; 2 = unsatisfactory; 3 = moderately unsatisfactory; 4 = moderately satisfactory; 5 = satisfactory; 6 = highly satisfactory.

Data sources and analytical grid

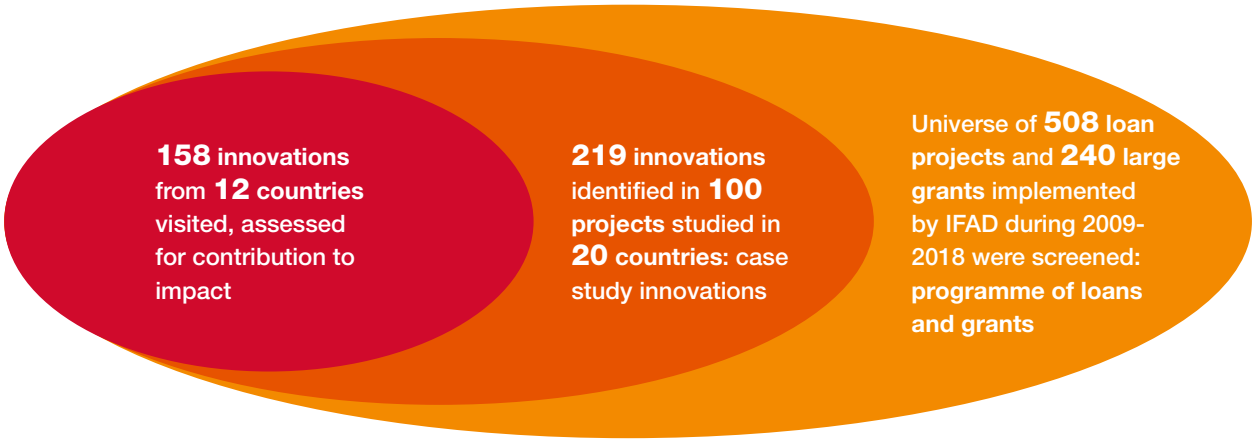
44. **Data sources of analyses**. Analyses carried out in the report were based mainly on two different sources of data. The first source was the PoLG, which covered projects and grants implemented over the evaluated period (presented in paragraphs 40 and 41 above), and the CLE drew analytical trends from the PDRs (508) and grant design documents (240). Thus, no sampling was done at this level.[39] The second source of data pertains to the case studies, as described in paragraphs 42 and 43. At this level, one should distinguish between all cases of innovations (219) and only "country visited" innovations (158). In the latter case, the CLE team could not appreciate all aspects for all innovations.[40] Figure 3 presents a summary of these data sources.

39 As it was not possible to find a large number of grant completion reports, the analysis was very limited.

40 This was because some innovations had not been implemented for a sufficient time frame to measure their contribution to change; or because they did not relate at all to the aspect appreciated (see sections on impact).

FIGURE 3

Summary of the CLE data sources of analyses



Source: CLE.

45. **Analytical grid**. The analytical grid applied for the case studies is based on the systems approach presented in figure 1 and subsequently described. Table 2 shows some examples by specific domains, grouped by macro domains. The analytical framework includes four macro domains (components) and 12 specific domains (subcomponents). The APVC, SEP and NP macro domains are directly within the agrifood system, while the GP macro domain includes overarching enabling aspects, which influence the agrifood system.

TABLE 2

The CLE analytical framework

Macro domains	Specific domains	Examples of innovations
Agricultural production and value chain (APVC)	Production	Small-scale irrigation schemes (Ethiopia, Malawi) System of rice intensification (Malawi, Rwanda, Senegal)
	Processing	Technological transformation innovations (Burkina Faso) Seaweed farming solar dryers for seaweed (Philippines)
	Marketing	Value chain market-oriented approach (Indonesia, Kyrgyzstan, Nepal, Rwanda, Senegal) Multi-stakeholder platform (Nepal)
	Consumption	Mola fish in fish ponds for nutrition (Bangladesh) Home gardens for nutrition (Ethiopia)
Socio-economic pillar (SEP)	Human capital	Youth incubation approach (Cameroon) Farmer business schools to develop farm and non-farm business skills (Malawi)
	Social capital	Rural dialogue groups (El Salvador) Community networks (Sudan)
	Economic capital	Rural financial services/products (El Salvador, Madagascar, Republic of Moldova, Sierra Leone) Conditional cash transfer (Peru)
Natural pillar (NP)	Natural resources management (NRM)	Reward for environmental services (Peru) Land consolidation approach (Tunisia)
	Environment and climate change (ECC)	Climate-resilient infrastructure (Bangladesh) Weather stations and information services (Sierra Leone)
Governance pillar (GP)	Policy	Policy laboratory in the Ministry of Planning (Indonesia) Securing land rights (Bangladesh)
	Regulation	Pasture users union and committees (Kyrgyzstan) Land regulatory framework (Madagascar)
	Project implementation procedures and approaches (PIPA)	Participatory approach (Burkina Faso, Ecuador, Indonesia, Peru, Philippines, Tunisia) Rural development tables (Uruguay)

The detailed listing of innovations is presented in annex VII.

Source: CLE.

Key corporate-level evaluation processes

46. The CLE was undertaken in eight phases (below), which were not strictly sequential. Details related to the main steps are presented.

- Inception, whereby the approach paper was drafted, shared and discussed with relevant stakeholders, and finalized for its presentation to the Evaluation Committee (EC) in June 2019.
- Desk review of documentation at IFAD headquarters, complemented by interviews with management and staff members.
- Management self-assessment.
- In-depth assessments of case studies selected, including field visits, stakeholder interviews (see annex IX for the list of persons interviewed).
- Design and implementation of the electronic survey.
- Presentation and discussion in-house of emerging findings to gather stakeholders' feedback.
- Drafting of the CLE report, sharing this with stakeholders, and finalization of the CLE report, based on comments received; and obtaining Management's response.
- Presenting the conclusions and recommendations at the EC session.

47. **Management self-assessments**. In line with the Evaluation Policy and past experiences, IFAD Management prepared a self-assessment based on selected questions prepared by the CLE team. The self-assessment was presented and discussed during an internal workshop held in July 2019. The management self-assessment documentation was meaningful as used to streamline the data collection on corporate aspects.

48. **In-depth assessments**. The CLE team undertook in-depth data collection and analyses on selected case studies. The assessments included: (i) field missions in 12 countries, complemented by desk reviews; (ii) using opportunities provided by the 2019 IOE country strategy and programme evaluation (CSPE) missions to collect innovation-related data in four countries; and (iii) only case studies through desk reviews for three countries (table 3).

TABLE 3

Case study countries

	APR	ESA	LAC	NEN	WCA
Countries visited	Bangladesh Indonesia Philippines	Ethiopia Malawi Rwanda	El Salvador Peru	Kyrgyzstan Republic of Moldova	Cameroon Senegal
2019 country strategy and programme evaluation (CSPE) countries	Nepal	Madagascar	Ecuador	Sudan	Sierra Leone
Only desk reviews	–	–	Uruguay	Tunisia	Burkina Faso

Note: APR = Asia and the Pacific Division; ESA = East and Southern Africa Division; LAC = Latin America and the Caribbean Division; NEN = Near East, North Africa and Europe Division; WCA = West and Central Africa Division.

Source: CLE.

49. The field visits were essential to: refine and validate the ToC; gather field data and evidence to respond to the evaluation questions; validate hypotheses generated through the desk review; and identify examples of IFAD-supported innovations (both successful and less successful) and describe their process over time. The team applied mainly qualitative data-collection methods during the field missions, in particular: semi-structured interviews (with a diverse range of key informants); simple or focus group discussions with stakeholders of the national innovation systems; and direct observations. For each country visited, all IFAD's operations – loan investment projects, grant programmes and non-lending activities – implemented within the time frame under review were analysed.

50. **Electronic survey**. An electronic survey was developed and carried out to capture information (knowledge, views and experiences) from IFAD managers and operational staff, as well as from staff from government agencies, managers of IFAD-funded projects and other relevant partners, such as research centres, NGOs, private-sector actors and farmers associations (the questions were targeted to the relevant groups of respondents). The survey was anonymous and addressed to individual respondents. Three questionnaires were prepared and directed, respectively, to: (i) IFAD staff; (ii) IFAD-supported project staff and government actors; and (iii) partners of IFAD-supported grant programmes. Overall, 449 persons took the survey, and 283 respondents (64 per cent) completed all questions.[41]

Constraints and limitations

51. The innovation topic is very broad in terms of content, scope and methodologies. The stakeholders interviewed held different views of **what constituted a genuine innovation, versus a good practice**. All IFAD-supported projects address, to a certain extent, innovations or innovative features that cover a broad range of rural development interventions. Thus, the CLE team followed a pragmatic approach by collecting innovations described in project documents or reported during interviews with staff and field visits, and filtering them. They were debated within the team in an attempt to differentiate true innovations from good practices. However, there are no objective criteria applicable in all countries or project settings. Thus, this constituted a constraint to the exercise. **At the time of its introduction, the innovation itself might not have been novel, but it responded to a constraint in an innovative manner; and this made the judgement on the novelty discussable**, and the assessment rather complex. Moreover, to identify IFAD-supported innovations, the CLE had to rely on relevant project documentation and stakeholders' views. In both situations, cases of "real failure" were not described or presented, although they might have been relevant for learning purposes.

52. One main aspect to consider is the fact that the **innovation-related activities within IFAD's projects and programmes are not clearly delineated**. This barrier makes it burdensome to isolate innovation-related data (e.g. costs, staff workload, and contribution to results). Considering that innovations can be found at all stages of the project implementation process, the lack of availability of specific monitoring and evaluation (M&E) data, as well as indicators on innovation in the results framework, hinders a comprehensive analysis on the topic. **Projects vary widely in the kinds of M&E data collected, and in most cases, the data are insufficient for evaluating project-level impacts, let alone the impact of individual innovations within them**. Moreover, there were inconsistencies in innovation information in different reports: innovations were stated at design stage and disappeared in supervision reports and/or project completion reports (PCRs); or innovations were only mentioned in PCRs with poor or no explanation on how they had been developed.

53. **The lack of a counterfactual** against which to compare IFAD's innovations is an important limitation to the study. It was not possible to understand how innovative investments would have been if IFAD had not been involved; nor to know what opportunities may have been missed. The study had to rely on some qualitative views from partner organizations about how they perceive IFAD's innovations vis-à-vis other agencies and the contributing role of IFAD.

54. **The case study selection was done purposively** to capture the diversity of overall IFAD-supported innovations (aligned with the agrifood system's macro and specific domains) by IFAD region. The number of innovations analysed by the CLE team in each region might not have fully covered the regional diversity. Therefore, **the case study innovations enabled the CLE to generate trends at overall level in IFAD**, but not to conduct comparisons between IFAD regions.

41 The survey responses are presented in annex V.

55. Finally, the CLE relates to agricultural innovations, and as mentioned, a systems approach is required to address it holistically and systematically, aligned with recent methodological trends in approaching the topic. Hence, both upstream and downstream innovative solutions and approaches were considered, as well as overarching aspects, as far as they contribute to improving performance within the agrifood system. **This led to a broadening of the scope of the CLE, which covered all IOE evaluation criteria**. However, as projects' detailed data were not disaggregated by individual innovations, and also because many innovations seen during the field visits, or described in reports, were still at the piloting stage, not all criteria could be assessed to the same depth.

Key points on the present corporate-level evaluation

- The CLE objectives were to assess IFAD's performance in supporting the promotion of innovations that address smallholder agriculture challenges, in an inclusive and sustainable manner, as well as the scaling up of successful pro-poor innovations aligned with rural poverty reduction. These assessments enabled the CLE to draw conclusions and recommendations for improving IFAD's performance. The topic is aligned with the agenda of leaving no one behind, IFAD's corporate mission, and its Strategic Objectives.
- The CLE defined the concept of innovation, following a developmental perspective. It also applied a systems approach to assess IFAD's support in promoting agricultural innovations, which began in the late 1990s, with the IFAD5 Action Plan. This led to the development and approval of the 2007 Innovation Strategy. The latter served as a reference document for the CLE to review corporate and operational processes.
- IFAD's support to innovations is provided through its usual instruments of loans, grants and non-lending tools. The CLE applied qualitative evaluation methods for data collection and analyses, complemented by quantitative analyses. The analytical grid unpacked the agrifood system into three components, in addition to one overarching one.
- Important constraints were related to: the challenge of qualifying innovations; the broad scope of the study; and the non-availability of project information disaggregated by individual innovations, as well as the non-availability of specific M&E data.

Chapter 2

NIGERIA
Women of the Tuduu Wada Rice Processors Women's Cooperative in Kontagora, Niger State, preparing rice for bagging using a de-stoner machine provided by the Value Chain Development Programme.

The new technology has enabled the women to work more efficiently and increase their daily production from 1 ton per day up to 10, 20, even 30 tons. The cooperative is helping to meet Nigeria's growing appetite for nice by providing quality, nutritious parboiled white rice. Business is so good that the women are using profits to expand their facility with additional milling houses and machinery, proving that the project is already sustainable.

2. IFAD's strategies and corporate processes in support of innovations

56. This chapter, which is related to the bottom box in the ToC depicted in figure 2, starts with an analysis of IFAD's PoLG, followed by a review of IFAD's corporate strategies (Innovation Strategy, KM Strategy, IFAD Strategic Framework and others), policies and operational documents in support of innovation processes. It ends with a brief review of models applied by other organizations to support the promotion of innovations.[1]

A. Analysis of IFAD's portfolio aligned with support to innovations

57. IFAD's support to agricultural innovations, using financial instruments, starts with the approval process of loans and grants. As mentioned above, all PDRs include information on innovations,[2] meaning that all loan-financed projects in the period under review (2009-2019) addressed in some way the promotion of innovations; therefore, all of them were analysed (see methodology section). Similar analytical steps were also carried out with large-grant design documents. Innovations promoted through IFAD's support are categorized according to components and subcomponents (as per figure 1) of the agrifood system, identifying which challenges they address.[3]

Overview of innovations in loan investment projects

58. Considering the period under review, IFAD mainly implemented innovations at the dissemination stage of projects (71 per cent of projects), while only 11 per cent of projects were distinctly identified as piloting innovations. About 17 per cent of projects were scaling up innovations. **Considering the macro domains of innovations supported by the loan investment projects, the largest number of innovations were within the socio-economic pillar (SEP), followed by the governance pillar (GP), agricultural production and value chain (APVC) and natural pillar (NP) with the fewest innovations (figure 4)**. The same trend is observed for completed projects. When considering ongoing projects, innovations in SEP still rank first, but now followed by APVC; and the proportion of innovations related to GP and NP are quite comparable.

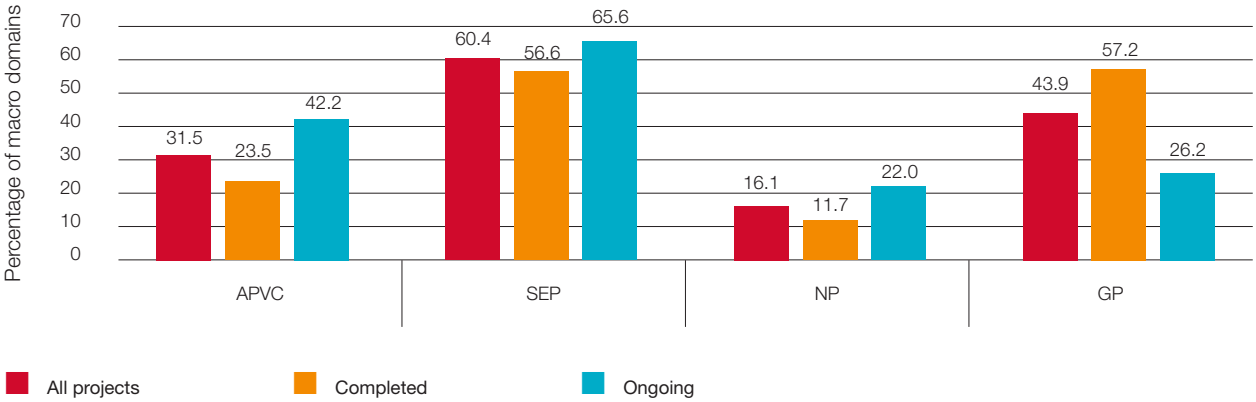
1 These pertain to the GP of the CLE analytical grid.

2 Design reports of loan investment projects include a paragraph on "innovative features" that describes aspects of innovation in the project.

3 Details of figures and tables are presented in annex VI.

FIGURE 4

Macro domains of innovations in loan investment projects (2008-2019)



Note: APVC = agricultural production and value chain; SEP = socio-economic pillar; NP = natural pillar; GP = governance pillar.

The total per domain is above 100 per cent, because one project supports several types of innovations.

Source: CLE (N=508 projects).

59. There are small differences within the distribution of the four macro domains across IFAD regions (see annex VI).[4] By IFAD division, innovations related to the SEP were implemented more frequently in projects in the regions corresponding to the Asia and the Pacific Division (APR), Near East, North Africa and Europe Division (NEN), and West and Central Africa Division (WCA). APVC-related innovations were promoted more frequently in projects in the Latin America and the Caribbean Division (LAC), but they were approximatively at the same proportional level in the other regions. Within NEN, country programmes implemented a greater number of projects with innovations linked to the GP. Projects addressing NP innovations were more numerous in regions corresponding to NEN, followed by APR, LAC, East and Southern Africa Division (ESA) and WCA.

60. Looking at the specific domains of innovations in all projects, **the top five are, by order of importance: economic capital, followed by project implementation procedures and approaches (PIPA), social capital, production, and human capital** (table 4). When considering ongoing projects only, these top five remain the same, but with a significant increase of innovations in the specific domain of production, and a significant decrease of the ones in PIPA. Innovations related to regulation and consumption remain the least frequent.

4 Table A11 and figure A24 in annex VI.

TABLE 4

Innovations in loan investment projects according to system-specific domains

Macro domains	Specific domains	All projects (%)	Completed (%)	Ongoing (%)
Agricultural production and value chain (APVC)	Production	17.7	12.1	25.2
	Processing	4.3	2.4	6.9
	Marketing	14.8	12.8	17.4
	Consumption	3.2	1.4	5.5
Socio-economic pillar (SEP)	Human capital	16.9	15.5	18.8
	Social capital	27.2	28.3	25.7
	Economic capital	34.1	30.3	39.0
Natural pillar (NP)	Natural resources management (NRM)	7.9	6.2	10.1
	Environment and climate change (CC)	8.7	5.9	12.4
Governance pillar (GP)	Policies	13.8	19.7	6.0
	Project implementation procedures and approaches (PIPA)	30.3	38.6	19.3
	Regulations	2.2	3.1	0.9

Note: The total per domain is above 100 per cent, because one project may support several categories of innovations.

Source: CLE (N=508).

61. The previously noted difference in trends observed between completed and ongoing projects is due to the fact that types of innovations promoted by IFAD and supported by projects evolved over the evaluation period. Figure 5 shows that **GP-related innovations decreased between 2007 and 2019, while APVC-related innovations increased significantly, as did as SEP- and NP-related ones**. The increase in innovations pertaining to APVC can be explained by the significant increase in value-chain-relevant projects in the IFAD portfolio since the Seventh Replenishment of IFAD's Resources (IFAD7).[5] The rise in innovations related to the SEP in the IFAD portfolio is the corollary of the increased attention devoted by the Fund to agricultural and rural finance (included in the specific domain of economic capital), which is the subject of a specific policy – the Rural Finance Policy (IFAD, 2009a)[6] – and reflected in IFAD's Strategic Frameworks since 2007.[7] A similar explanation is valid for the increase in NP-related innovations in IFAD-supported projects, as the Fund has specific instruments in this domain, namely: the Policy on Environment and Natural Resources Management (IFAD, 2011a), and the Social, Environmental and Climate Assessment Procedures (SECAP) (2015). The rise in innovations in other domains came at the expense of GP-related innovations.[8] Some GP-related innovations (especially in the PIPA specific domain) observed in the past have evolved into new forms, as is the case with public-private-producers partnership (4Ps) arrangements, which are now classified under the APVC component. However, due to increasing attention given to policy engagement activities (see paragraph 82), the decreasing trend for policy-related innovations may reverse in the future.

5 According to the 2019 CLE on value chains (IOE, 2019b), in terms of numbers of projects approved, the proportion rose from 41.5 per cent in IFAD7 (2007-2009) to 72.3 per cent in IFAD10 (2016-2018). In terms of volumes of loans, CSPGs and Adaptation for Smallholder Agriculture Programme (ASAP) funds, the increase was from 50 per cent to 81 per cent.

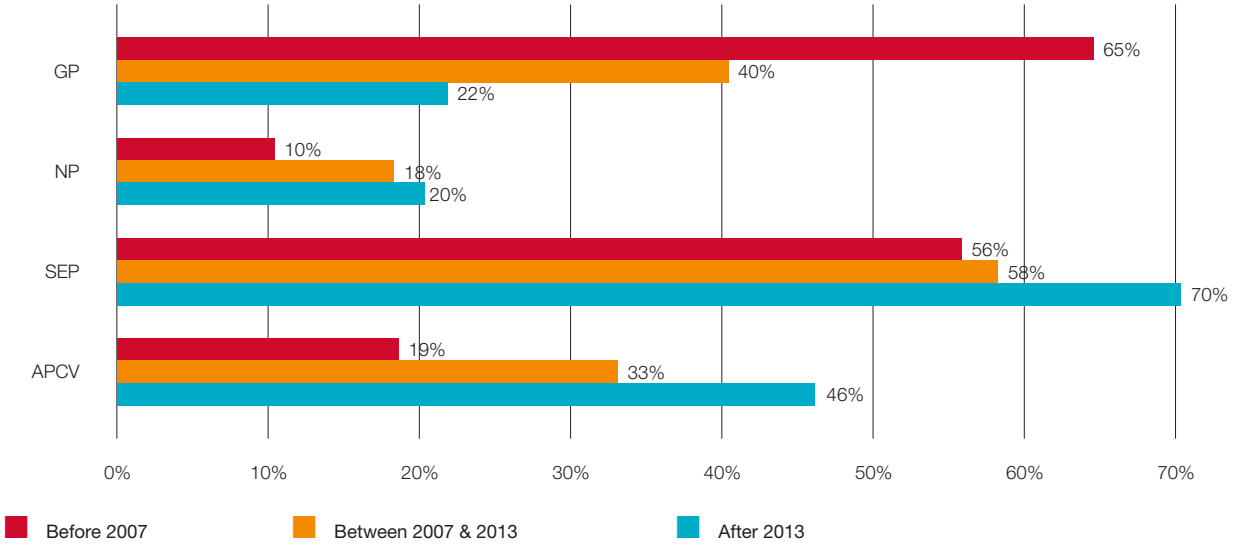
6 It emphasized demand-driven and innovative approaches with the potential to expand the frontiers of rural finance.

7 Highlighted by the 2019 ES on inclusive financial services for the rural poor (IOE, 2019c).

8 The decrease is confirmed when comparing the proportion of GP-related innovations in completed versus ongoing projects. See table A16 in annex VI.

FIGURE 5

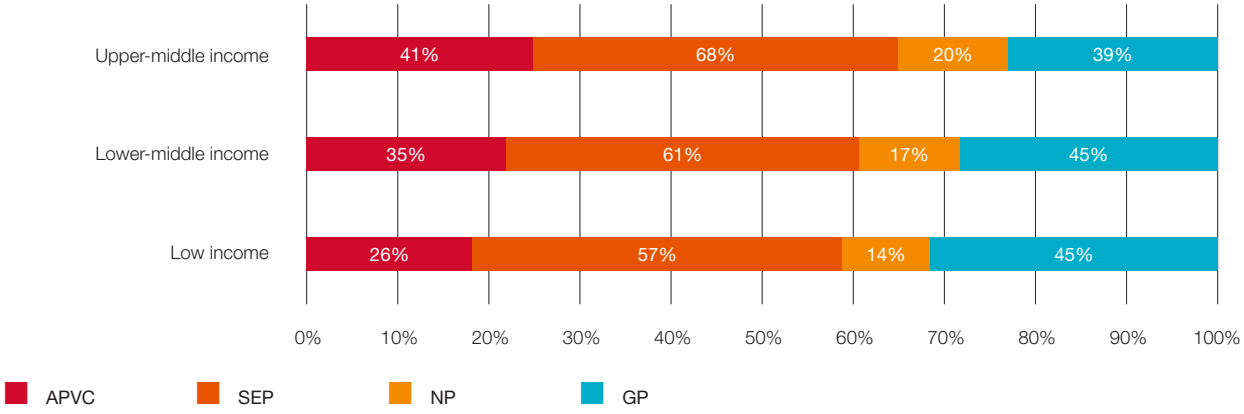
Evolution of innovations in IFAD-supported projects over the evaluation period at approval



Note: APVC = agricultural production and value chain; SEP = socio-economic pillar; NP = natural pillar; GP = governance pillar.
Time periods were delineated based on key milestones of IFAD's innovation agenda: 2007 was the approval year of the IFAD Innovation Strategy and 2013 was the mid-period of Strategic Framework 2011-2015, the second (after that of 2007-2010) that highlighted innovation, learning and scaling up among the key IFAD engagement principles.
Source: CLE (N=508).

FIGURE 6

Distribution of innovation types by country income category



Note: APVC = agricultural production and value chain; SEP = socio-economic pillar; NP = natural pillar; GP = governance pillar.
Source: CLE (N=508).

62. The analyses also showed that **innovations in the APVC component and the NP increased with growth in the country's** level of income, as reflected in figure 6. Innovations addressing the GP were mainly implemented in projects in lower-income economies.

63. Projects with innovations related to the NP had, on average, a higher budget, probably due to cofinancing opportunities, while projects with GP-related innovations had generally smaller budgets. Projects promoting SEP- and APVC-related innovations received less international financing, whereas projects supporting APVC-related innovations attracted more private-sector investment.[9]

9 Detailed analyses results are presented in table A14 in annex VI.

Grant-financed programmes

64. As mentioned above (in the methodology section), the CLE could only review the design documents of large grants (240), which represented 77 per cent of total grant funding for the period 2009-2018 (see table A19 in annex VI). Table 5 presents the distribution of recipients of these large grants (by category). International research organizations (in particular CGIAR centres) were the leading beneficiaries, followed by international NGOs (33 per cent), and multilateral partners (12 per cent).[10]

10 The percentage of funds approved is quite similar to the proportion of grants, because each large grant proposal had a limit of about US$1.5 million. According to the IFAD Policy for Grants Financing (2009), small grants are those up to US$500,000 while large grants are those above US$500,000. According to the Policy for Grants Financing (2015), small grants are those up to US$500,000, while large grants are those above US$500,000 up to a maximum of US$3.5 million.

TABLE 5

Distribution of large grants by category of recipient

	Research organizations	NGOs	Multilateral organizations	Government	Private sector	Farmers' organizations	Other
No. grants	100	78	29	20	7	4	2
Percentage of no. of grants	42%	33%	12%	8%	3%	2%	1%
Percentage of funding	41%	32%	11%	9%	4%	2%	1%

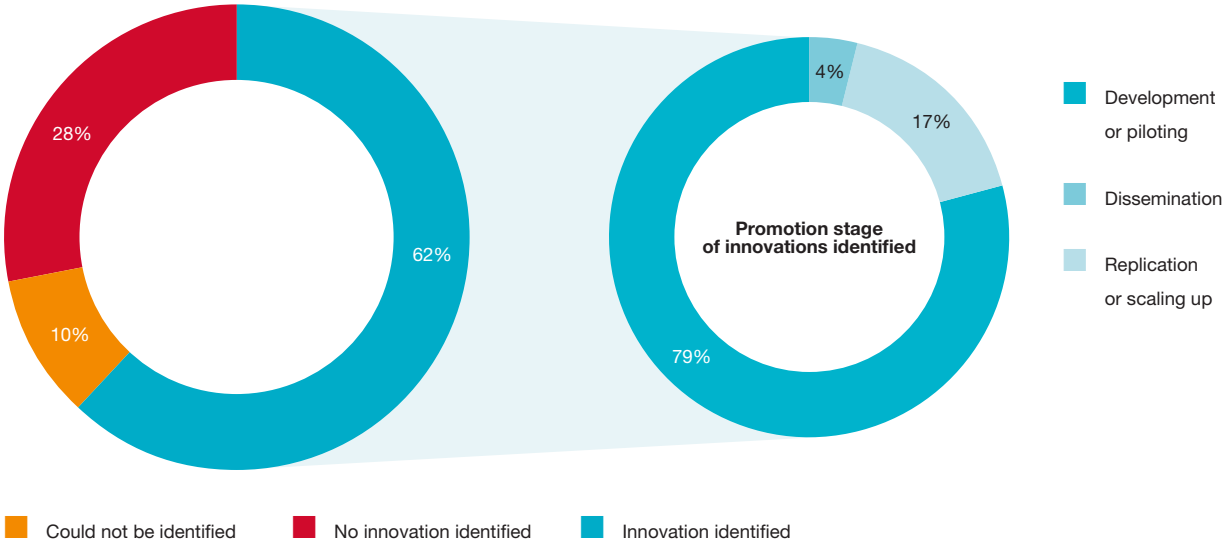
Source: CLE (N=240).

65. Figure 7 shows that 62 per cent of these large grants were related to innovations, aligned to IFAD Policy for Grant Financing (IFAD, 2009b, 2015a).[11] It also shows that **the majority of grants (79 per cent) were oriented to the development or piloting of innovations, followed by replication or scaling up (17 per cent) and for dissemination (4 per cent)**.

11 According to the 2009 revised policy (IFAD, 2009b), the goal of grants is to promote successful and/or innovative approaches and technologies, together with enabling policies and institutions, that will support agricultural and rural development, thereby contributing to the achievement of IFAD's overarching goal. According to the 2015 policy (IFAD, 2015c), the objectives of IFAD grant financing are to: (i) promote innovative, pro-poor approaches and technologies with the potential to be scaled up for greater impact; (ii) strengthen partners' institutional and policy capacities; (iii) enhance advocacy and policy engagement; and (iv) generate and share knowledge for development impact. Grants give flexibility in testing new and therefore "risky" ideas and in involving non-government stakeholders. Two types of grants can contribute to innovation: global/regional and country-specific grants. The time frame is rather short for innovation development: up to three years for small grants and five years for large grants.

FIGURE 7

Proportion of innovations in large grants, and stage of these innovations



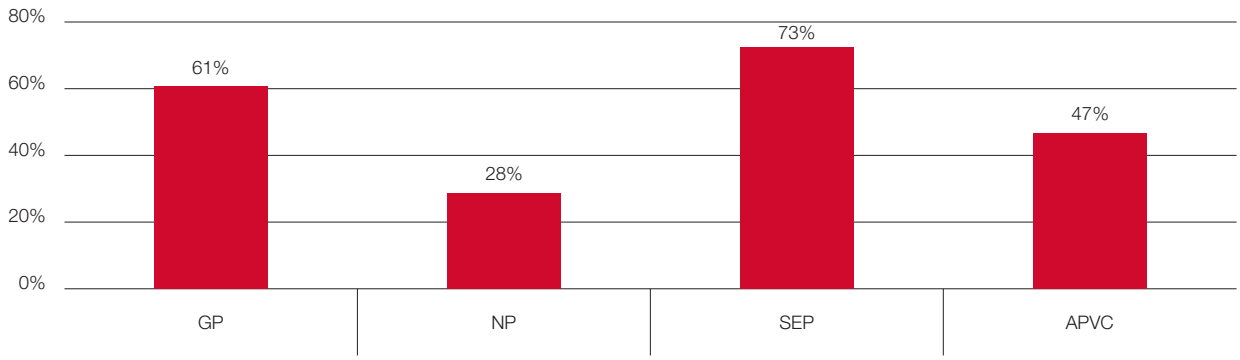
Source: CLE (N=240 large grants in total for the period 2009-2019).

66. In the period evaluated, **grants projects supported innovations mainly in the macro domain of the SEP (73 per cent), followed by the GP (61 per cent), APVC (47 per cent) and the NP (28 per cent)**, as shown in figure 8. A comparable trend was observed for loan investment projects. With regard to SEP-related innovations, the ones related to social capital ranked first, followed by human capital. Grant-supported innovations addressing APVC were mainly related to production (methods and techniques), followed by marketing. For the GP macro domain, innovations related to PIPA ranked first, followed by policy-related innovations. When considering the specific domains, innovations related to PIPA ranked first, followed by production, social and human capital, policy, economic capital, environment, marketing and NRM.[12]

12 See tables A22 and A23, annex VI. Innovations addressing processing, regulation and consumption are very few.

FIGURE 8

Distribution of innovations in large grants by system macro domain



Note: APVC = agricultural production and value chain; SEP = socio-economic pillar; NP = natural pillar; GP = governance pillar.

Total is not equal to 100 per cent because, as for loans, supported innovations can address several domains.

Source: CLE (N=149 large grants).

Conclusion on IFAD's programme of loans and grants

67. IFAD's PoLG has mainly supported innovations related to the SEP, followed by those related to the GP, but this latter category is decreasing significantly. Both APVC- and NP-related innovations increased, but not as rapidly as for APVC.[13] In fact, innovations related to the NP were addressed more often in larger projects, and this can be explained by the availability of more funding for these types of projects. The analysis confirmed that the majority of loan investment projects supported the promotion of innovations at the stage of dissemination, followed by scaling up and development/piloting; while the majority of grant-financed projects supported innovations at the stage of development/piloting, followed by scaling up and dissemination. **This highlights the importance of grant windows to identify novel innovations (in key specific domains) to address smallholder agriculture challenges, in order to meet prioritized SDG targets**.[14]

B. Review of IFAD's strategies and operational processes in support to innovations

68. The current CLE examined in detail the Fund's key strategic, policy and other corporate documents,[15] starting from the 2007 Innovation Strategy (IFAD, 2007a). IFAD has a two-decade history (since 2000) of supporting innovation through its strategic frameworks and other policies. **The 2007 Innovation Strategy** was the first document that identified organizational elements that required specific attention (i.e. resources, processes, context and outcomes) to transform IFAD's innovation incentives into practice. The goal of the strategy was to mainstream innovation into IFAD's processes and practices in a systematic and effective way. Its purpose was to enhance IFAD's capacity to work with partners – including rural poor people and their organizations – to find and promote new and better ways to enable rural poor people to overcome poverty. It identified pathways in order to build IFAD's innovative capabilities and its ability to recognize and understand challenges and opportunities requiring innovative solutions. "Learning by doing" as a main guiding principle was based on specific tools and techniques, such as challenge mapping, scouting process, creative problem/solving and innovative management.

69. The Innovation Strategy (IFAD, 2007a) mentioned that its implementation, while involving the entire organization, would take place through: (i) IFAD's Strategic Framework; (ii) results-based country strategic opportunities programmes (RB-COSOPs); and (iii) non-lending instruments. These pathways are analysed below.

Review of paths suggested by the 2007 Innovation Strategy

70. **Innovation in IFAD's Strategic Frameworks. The successive IFAD's Strategic Frameworks (2007-2010; 2011-2015; 2016-2025)**[16] identified innovations as one of IFAD's engagement principles, but the more-recent frameworks have approached the topic with better focus. Indeed, the Strategic Framework 2011-2015 referred to demand- and need-driven innovations and highlighted the pivotal role of stakeholders, namely, research centres and farmers' organizations as well as private actors for promoting agricultural innovations. The Strategic Framework 2016-2025 went further in providing some suggestions (presented in box 1) of how this would occur. **Nevertheless, in all strategic documents, innovations are not considered as a stage within the result hierarchy** (as reflected in the ToC).

13 A trend also identified through the electronic-survey results.

14 This is corroborated by the Quality Assurance Group (QAG) 2020 review of the effectiveness of the IFAD Grants Programme and the way forward, which stated (p. 12): "IFAD's Grants Programme as a whole remains highly relevant, because it is a unique instrument to test approaches, pilot initiatives, develop innovations, generate knowledge and produce public goods which cannot be financed by more conservative and less risk-friendly loan-funded projects."

15 They were mentioned in the presentation during the management's self-assessment workshop on the CLE on innovation.

16 See table A1 in annex IV.

BOX 1

Emphasis on innovation in IFAD's Strategic Framework 2016-2025

IFAD's agenda on innovation, learning and scaling up aims to support countries to broaden successful models to reach a larger number of people. To do so effectively, IFAD-supported programmes must be structured to:

- offer opportunities to innovate in a range of ways that respond to the specific challenges faced by programme beneficiaries;
- build new forms of partnerships with local communities and other development partners that can bring to bear substantial financial resources, new approaches to rural development, and strong technical expertise;
- have effective monitoring and evaluation (M&E) and knowledge management (KM) systems in place at programme initiation that allow testing of innovative approaches, measurement of results and impact, and analysis of drivers of success, in order to generate lessons and evidence to shape policies, institutions and practices for expanded impact in terms of rural poverty and hunger reduction.

Source: IFAD's Strategic Framework 2016-2025.

71. **Innovations in RB-COSOPs**. The Innovation Strategy pointed out the need to develop specific guidelines for RB-COSOPs to enable the identification of ideas or thematic areas for innovation for each SO at the country level. The RB-COSOP, introduced in 2006 as an element of IFAD's Action Plan that followed the 2005 IEE,[17] would be the first entry point for identifying potential innovations for country operations, which would then be piloted and disseminated.[18] The review of the RB-COSOP guidelines (2006, 2011, 2016 and 2019) shows that a section dedicated to innovation description has been consistently prescribed. The main change during the evaluation period, as far as innovation is concerned, relates to the introduction of scaling up (from 2011), and more and **more details (on innovation and scaling up) to include in COSOP documents, although no guidance was provided on how to elaborate these**.[19]

72. **Innovations at project design**. With the Innovation Strategy (IFAD, 2007a), innovations became one factor against which the project designs were assessed and, therefore, were integrated into the project template and considered by the quality assurance system. The policy on support and implementation (IFAD, 2007b) and related guidelines on supervision and implementation support went in the same direction to provide the new operating model of direct supervision, as well as to encourage the emergence of innovative solutions or approaches that take into account national stakeholders and context. The ultimate purpose was to achieve stronger and more sustainable impacts of rural poverty alleviation. The 2011 Guidelines for Project Design Reports (PDR) prompted the need to address "innovative features, scaling up, learning and knowledge management" in the PDR in the sections on the project description and implementation arrangements. **Again, no guidance was provided, especially on how to approach the topic holistically and systematically in PDRs**.

IFAD's operational framework for scaling up

73. Scaling up was defined in the 2007 Innovation Strategy (IFAD, 2007a) as "implementing or enabling the implementation of a practice on a greater scale". IFAD's operational framework for scaling up results developed in 2016 addressed both the innovation and scaling up topics. Innovation being "a core constituent of scaling up", the framework aimed at guiding and stimulating operational approaches rather than being overly prescriptive. Projects are vehicles for innovating, learning and triggering lasting systemic changes. The framework clarified further the concept of scaling up in terms of "expanding, adapting and supporting successful policies, programmes and knowledge, so that they can leverage resources and partners to deliver larger results for a greater number of rural poor in a sustainable way".
Thus, the emphasis is placed on scaling up "results" rather than on innovations

17 Before 2006, there were COSOPs. Following the Paris Declaration on Aid Effectiveness of 2005, RB-COSOPs were introduced with the objective to improve the effectiveness and overall performance of IFAD's engagement in countries, putting emphasis on results and performance management.

18 An important step introduced in the Innovation Strategy (IFAD, 2007a) entailed identifying potential innovations during RB-COSOP and project processes, piloting to render them functional, and embedding rigorous innovation processes into IFAD's core business practices. The Innovation Strategy also referred to effective scaling up as a key measure of successful innovation.

19 See table A1 in annex IV.

(IFAD, 2015b, p. 1).[20] The framework identifies **supervision as an important source of knowledge and innovation, and it encourages South-South exchanges of experience and knowledge-sharing as important for innovations and scaling up**.[21]

C. Dedication of resources to support innovations

74. The Innovation Strategy (IFAD, 2007a) foresaw financing of innovations through a combination of mechanisms, namely: (i) programme development financing facility resources;[22] (ii) grant resources to finance innovation experiments in the field; and (iii) supplementary funds as they become available. The first two points are related to **IFAD financing instruments, which remain the main source for supporting innovations, in addition to partners' co-funding** (multilateral, bilateral, etc.).

75. **Special funding mechanisms**, highlighted by IFAD's self-assessment for the CLE, can support the promotion of innovations. They are presented in box 2. Some of them (e.g. the Agri-Business Capital [ABC] Funds, and the China-IFAD South-South and Triangular Cooperation) are very recent. **Nevertheless, although some of them remain innovative in their nature, none is exclusively dedicated to support innovative ideas or solutions**, as was the case with the IMI (2004), which financed 53 projects through competitive bidding for a total of US$7.5 million,[23] and the Innovation Challenge in 2019 (see below).

20 The definition further stipulated that, "Scaling up results does not mean transforming small IFAD projects into larger projects. Instead, IFAD interventions will focus on how successful local initiatives can sustainably leverage policy changes, additional resources and learning to bring the results to scale.

21 See more details in table A1 in annex IV.

22 The programme development financing facility was a separate budget from IFAD's administrative budget until 2010, and financed new project/programme development and management of the ongoing project portfolio. It was integrated into the IFAD administrative budget from 2010.

23 The total budget allocated was US$12 million. Seven rounds of competitive bidding were conducted in the period 2005-2008, and a final round in 2011.

BOX 2

Special funding mechanisms that can support agricultural innovations

a. Adaptation for Smallholder Agriculture Programme (ASAP): Multi-donor climate and environmental cofinancing of strategies reducing climate-related risks. ASAP was launched by IFAD in 2012 to make climate and environmental finance work for smallholder farmers. It provided a new source of cofinancing to scale up and integrate climate change adaptation across IFAD's approximately US$1 billion per year of new investments.

b. Agri-Business Capital (ABC) Fund (multi-donor): Innovative approach for attracting much-needed capital to rural areas in developing countries, with a particular focus on young people; providing loans and equity investments adapted to the needs of rural small and medium-sized enterprises (SMEs), farmers' organizations, agrientrepreneurs and rural financial institutions. The ABC Fund has benefited from the of the European Union, the Organisation of African, Caribbean and Pacific States, the Government of Luxembourg, and the Alliance for a Green Revolution in Africa.

c. Financing Facility for Remittances (FFR): Since 2006, IFAD's FFR aims to maximize the impact of remittances on development, and to promote migrants' engagement in their countries of origin. The FFR is successfully increasing the impact of remittances on development by promoting innovative investments and transfer modalities; supporting financially inclusive mechanisms; enhancing competition; empowering migrants and their families through financial education and inclusion; and encouraging migrant investment and entrepreneurship.

d. Indigenous Peoples Assistance Facility (IPAF): Established at IFAD in 2006, IPAF aims to strengthen indigenous peoples' communities and their organizations by financing small projects, which foster their self-driven development in the framework of the United Nations Declaration on the Rights of Indigenous Peoples. It is an innovative financial instrument to enable direct partnerships to be built among

e. Other funds/facilities: The Smallholder and Agri-SME Finance and Investment Network, the China-IFAD South-South and Triangular Cooperation (SSTC) Facility established in February 2018; the Facility for Refugees, Migrants, Forced Displacement and Rural Stability (FARMS); and Climate and Commodity Hedging to Enable Transformation (CACHET), etc.

Source: https://www.ifad.org/en/initiatives

76. **PoLG resources to innovations**. Considering loan-supported projects, which also include Debt Sustainability Framework (DSF) grants,[24] the financing of innovations is fully embedded in the project components. Therefore, it is difficult, even impossible, to apportion loan resources specifically directed to innovations promotion (highlighted by the 2007 Innovation Strategy). Nevertheless, an estimation is possible regarding grant financing. IFAD allocates a maximum of 6.5 per cent of its PoLG to grants, including 1.5 per cent that goes to CSPGs.[25] Based on the CLE finding (paragraph 61) and in view of **the purpose of grants, the CLE estimates an average of 3.0-3.5 per cent of the PoLG that supports directly the promotion of innovations through grant programmes**.[26] This proportion is significant considering the size of the Fund and its business model, but the point is how these funding serve adequately and qualitatively the purpose of innovation support. To that effect, the 2014 CLE on grant financing (IOE, 2014a, p. 63) noted: "a tendency to fund international agricultural research centres for community mobilization and routine extension activities that could have been conducted by national agricultural research systems or NGOs and funded through loan based projects."

77. **Dedication of staff and specific funds**. The IFAD self-assessment for the CLE mentioned dedicated staff that support innovations at the corporate level: "two staff positions in the CDI, as well as professional staff in each regional division in PMD [Programme Management Department] and SKD [Strategy and Knowledge Department] with focus on KM and innovation; the Private Sector Advisory and Implementation Unit (PAI) established in 2019 and US$600,000 allocated for IFAD Innovation Challenge".[27] The latter point, dedication of a specific fund, was the first time this had taken place after the IMI (2004), and demonstrates positive signs of commitment to innovation, which should be sustained in view of needs. With regard to the total number of dedicated staff, except for those within the CDI unit that perform coordination work, it is difficult or impossible to have an exact estimation, due to the fact that operational staff (such as country programme managers[CPMs], programme officers and technical advisers) also contribute to innovation-related processes.

78. **Change in the IFAD business model**. Some major changes were implemented in 2018 and 2019 with great impact on the IFAD business model. They followed the Operational Excellence for Results (OpEx) exercise (IFAD, 2019b), and are: (i) the adoption of IFAD's new decentralized model (which increased staff positions in the field from 18 per cent in 2017 to 30 per cent in 2018); (ii) the creation of SSTC and Knowledge Centres; (iii) the approval of IFAD's Transition Framework in December in 2018; (iv) the adoption of new financing architecture; and (v) the creation of the CDI unit (mentioned above). Worthy of mention is "IFAD 2.0", launched in October 2019 by IFAD's President.[28] This initiative will take some years to yield results.

24 Introduced in 2007, grant funding under the Debt Sustainability Framework (DSF) is designed to ensure that development efforts of the poorest countries are not compromised by the re-emergence of unsustainable debt levels. It provides such countries with additional development assistance on terms consistent with achieving and maintaining sustainable levels of debt, thereby supporting debt management at the country level.

25 According to IFAD's Policy for Grant Financing (2015c), there are two types of grants: global/regional, and national. Global and regional grants are driven by thematic and regional corporate-level strategic priorities for partnership, research, policy engagement and capacity-building, and innovative responses to rural and agricultural challenges being faced by three or more partner countries. Country-specific grants address the challenge of weak performance by government and other in-country partners by strengthening institutional, implementation and policy capacities, particularly in fragile contexts; and innovating in thematic areas, or by using approaches and methodologies that can subsequently be scaled up through IFAD's country programmes.

26 According to the CLE on grant financing (IOE, 2014a), other IFIs allocates 1-1.5% of their PoLG to grants. The *IFAD Annual Report 2018* (IFAD, 2018c) gives an average of US$3 billion to PoLG for IFAD10 (2016-2018), entailing US$90 million for the three years, or, on average, US$30 million annually. The CLE could not obtain clear figures for other IFIs' budget allocation to R&D for comparison.

27 At implementation, out of 50 proposals, 10 were selected (two of which were merged into a single one) and awarded a total of US$709,000.

28 IFAD 2.0 is a comprehensive approach that will allow IFAD to better support countries in meeting their most pressing food insecurity, rural poverty, climate change and fragility challenges. It builds upon IFAD's evolution towards a country-level programmatic model that supports ongoing efforts to end rural poverty and hunger by 2030 by offering tailored support to countries depending on: (i) their stage of development; (ii) the difficulties they face in achieving food security and rural poverty reduction (CC, fragility, inclusion of marginalized groups, etc.); and (iii) their capacity to obtain resources. Under IFAD 2.0, IFAD's PoLG and the core replenishment resources that fund it will remain the primary means of IFAD engagement with countries, but they will be complemented by additional actions to expand IFAD's overall programme of work and its impacts (IFAD, 2019c).

D. Non-lending activities in support of innovations

79. The 2007 Innovation Strategy (IFAD, 2007a) referred to KM as a key ingredient of innovation. The integration of innovation and KM in IFAD is required so that they feed into each other, and, thus, IFAD's KM Strategy should complement and link to the Innovation Strategy. **IFAD's KM Strategy** (IFAD, 2007c, 2019c) acknowledges the importance and contribution of KM to support the promotion of innovations, in line with IFAD's effectiveness.[29] However, if linkages between KM and innovations are well established, approaches for promoting innovations from a KM perspective, especially in the context of smallholder agriculture, have been insufficiently analysed, and few orientations were provided in the 2019 document.[30] **However, the KM Action Plan 2016-2018, included no action specifically related to support the innovation culture within IFAD**. Only the 2019-2021 KM Action Plan includes actions, but they are very few (IFAD, 2019d).[31] IFAD's Approach to South-South and Triangular Cooperation (IFAD, 2016c) also addresses the need for KM of innovations. It refers to the importance of creating incentives for staff to share knowledge, and also to establishing communities of practice (COPs) as a means of bringing together many stakeholders with shared interests to share experiences. While some tools described below could be considered COPs (for instance, the Rural Solutions Portal), in general the COPs have not yet been seen to be very active. This appears to be recognized by IFAD, as they feature more prominently in the 2019 KM Strategy.

80. Several non-financial initiatives are available within IFAD, sometimes innovative themselves, especially when newly developed to address specific challenges. These initiatives (presented in table 6) were highlighted during the self-assessment by management, reflecting the diversity of knowledge-sharing and information-dissemination tools, partnerships and policy engagement mechanisms within IFAD. **KM tools** (and particularly those online) are intended to improve the visibility and sharing of experiences on innovations at international level through web portals (e.g. the Rural Solutions Portal, or the Platform for Agricultural Risk Management [PARM]); and by gathering monitoring information and data as well as enabling results measurements (e.g. ORMS, and Advancing Knowledge for Agricultural Impact [AVANTI]).[32] The online platform We Connect Farmers was launched after the most recent Farmers' Forum at IFAD, in order to operate as a COP to bring together decision makers, IFAD staff, farmers and farmers' organizations. Nonetheless, in addition to the fact that most are not specifically dedicated to innovation support (with the exception of the Rural Solutions Portal), **KM initiatives are numerous (including several platforms), and this plethora is a source of confusion. It does not facilitate easy and systematic access to information on innovations.[33] It should be mentioned that, in December 2019, IFAD approved a Strategy on Information and Communication Technologies for Development (ICT4D)**, whose Action Area-3 aims at enhancing ICT4D in terms of KM and sharing, and this may lead to more KM innovations in the future.

29 See table A1 in annex IV.

30 In the progress report on the implementation of the IFAD KM strategy and innovation agenda published in May 2011, IFAD management acknowledged that, "more work and investment should be channelled into making IFAD's organizational culture more conducive to innovation" (IFAD, 2011b, p. 7). Actions foreseen to that extent were: establishing a training programme offering courses on innovation management, coaching, and creative problem solving. No report was found that presents the status of implementation of these actions.

31 Action 1.2.2. "Systematically generate, distil and disseminate knowledge and innovations emerging from grant portfolio and relevant supplementary-funded initiatives"; and Action 3.1.3. "Pilot a competitive fund to promote innovation in IFAD operations and organizational culture".

32 IFAD's Operational Results Management System (ORMS) supports reporting on project outputs and outcomes, and is essential to streamlining project cycle processes and enhance data analytics. Nevertheless, its relevance to capture specific data on innovations could not be confirmed by the CLE, as work is still in progress.

33 IFAD's self-assessment mentioned "the lack of systematic inventory of innovations".

TABLE 6

Non-financial initiatives in line with IFAD's support to innovations

Initiative and non-lending instrument	Features
Knowledge management	
Operational Results Management System (ORMS)	Information and communication technologies (ICT) common platform and tools to monitor project progress, results and impact, and feed lessons
Rural Solutions Portal	Information-sharing on a web-based platform; relevant to support information-sharing on innovations
GeoNode	IFAD geospatial database for earth and geographic information system information
Platform for Agricultural Risk Management (PARM)	Knowledge broker on risk management and capacity development
Advancing Knowledge for Agricultural Impact (AVANTI)	Initiative that started in early 2018 for a three-year period and proposes the adaptation of an existing tool (CAP-Scan) to the specificities of the rural sector (Ag-Scan) to assess in-country M&E systems and capacities in up to 20 countries across all regions[1]
We Connect Farmers	A platform to connect farmers and others to one another, and offering ICT applications, training and markets
Partnership	
South-South and Triangular Cooperation (SSTC)	Innovative initiative fostering information exchange among countries on ready-to-use knowledge, also with an ICT platform;
China-IFAD South-South and Triangular Cooperation Facility	First IFAD facility dedicated to SSTC; has financed several innovative projects such as Promoting Water Conservation and Irrigation Water Use Efficiency in Ethiopia by Sharing with Kenya
Support to Farmers' Organizations in Africa Programme (SFOAP)	Initiated by the four regional networks of field offices in sub-Saharan Africa (Eastern Africa Farmers Federation [EAFF], Plateforme sous-régionale des organisations paysannes d'Afrique centrale [PROPAC], Réseau des organisations paysannes et de producteurs de l'Afrique de l'Ouest [ROPPA] and Southern African Confederation of Agricultural Unions [SACAU]) for the institutional development of their organizations at all levels
Smallholder and Agri-SME Finance and Investment Network (SAFIN)	Concerted, multi-stakeholder network to build financial ecosystems that are effective, sustainable, and inclusive of agrientrepreneurs
Policy engagement	
Sharing experiences on innovative participatory policy approaches to poverty reduction (2015)	Each approach is locally innovative and can be improved by experience-sharing

1 The Ag-Scan diagnostics will allow government counterparts to implement targeted improvements to their M&E systems allowing them to better manage for results in the rural sector. The uniqueness of the Ag-Scan initiative is its specificity to the rural sector and for agricultural development providing high potential of scaling up opportunities. For more information please visit: http://www.avantiagriculture.org/

Source: Self-assessment by IFAD Management.

81. **Partnerships**. A focus on partnerships and on innovation networks would help identify local innovators, facilitate the dissemination and "marketing" of these, as well as training of service providers and governments to do the same (IFAD, 2007a). **IFAD has a strategy on partnerships (approved in 2012), but this strategy lacks a linkage to innovation**.[34] Partners of IFAD's innovation agenda, as identified by the CLE through the review of grants, encompass: academic institutions, research organizations (especially CGIAR centres), multilateral organizations (e.g. of the United Nations system), intergovernmental organizations, government-related institutions, the private sector, international and national NGOs, and farmers'/producers' organizations. Partnerships that support innovation systems occur at global, regional and national levels. One approach to this is the SSTC. **The guidelines on IFAD's approach to SSTC (IFAD, 2016c) introduced new elements to support better mainstreaming of SSTC** into country programming, using grant supports for the documentation and sharing of experiences on

34 The 2018 ES on IFAD's partnerships concluded that "Partnerships are at the core of IFAD corporate priorities: scaling up, knowledge generation and learning, and policy engagement and influence" (IOE, 2018a, p. 56).

innovations promoted by IFAD.[35] IFAD also has a **Private Sector Engagement Strategy (2019-2024)**, which recognizes the importance of partnering with the private sector in terms of expertise, knowledge and financing for innovations and scaling up (IFAD, 2019e). Finally, the **2019 ICT4D Strategy** (mentioned above) also aims at strengthening partnerships through its Action Area-2, to generate innovative ICT solutions for enhanced rural development outreach and impacts.

82. **Policy engagement**. Policy engagement is needed to create an enabling environment for wider replication and scaling up of innovations (IFAD, 2007a). This can happen at global, regional and country levels. A Plan for Country-level Policy Dialogue was elaborated and approved in 2013; but it failed to establish a bridge to the innovation support. A guidebook on country-level policy engagement was published in 2017 – establishing linkages and giving examples of policy-related innovations in countries (IFAD, 2017b).[36] **Nevertheless, there is insufficient focus on improving national frameworks for greater support at all stages to IFAD-supported innovations processes** (testing/scouting, piloting, uptake and scaling up).[37]

E. Stakeholders' opinions on IFAD's innovation business model

83. The electronic survey enabled to collect opinions of stakeholders (IFAD staff, in-country project staff and grant-recipient partners) on IFAD business processes supporting innovations. Related results clearly pointed out: (i) the importance of IFAD's Strategic Framework and project design and implementation processes; and (ii) the lack of specific guidelines and incentives for staff. They are presented below.

a. Appropriateness of corporate strategies and documents to support innovation processes (figure 9). The Innovation Strategy (2007), the Strategic Framework (2016-2025), the Policy on Implementation Support and the KM Strategy (2007 and 2019) were most frequently mentioned as appropriate, while the SSTC approach, the Private Sector Strategy and the Policy for Grant Financing were less frequently quoted as appropriate. The latter document was highlighted by 23 per cent of respondents as unknown to them, despite it having been used in IFAD for some time (approvals in 2003, 2009 and 2015). Moreover, as discussed above, grant financing has been one of the main sources of support for the promotion of innovations in IFAD, after the IMI (2004) and the Innovation Challenge (2019).

b. Usefulness of IFAD processes to support the promotion of innovations (figure 10). The direct implementation and supervision support, the process for projects design and approval, as well as grant design and approval processes are most frequently mentioned as being useful in supporting the promotion of innovations. The quality processes were less often cited, because these are internal IFAD processes; the COSOP design process is slightly better rated, perhaps because it happens at a strategic level, and thus, does not involve too many field project staff. The last two are: (i) the decentralized model implemented in 2018, which is still very recent; and (ii) the SSTC approach and knowledge centres.

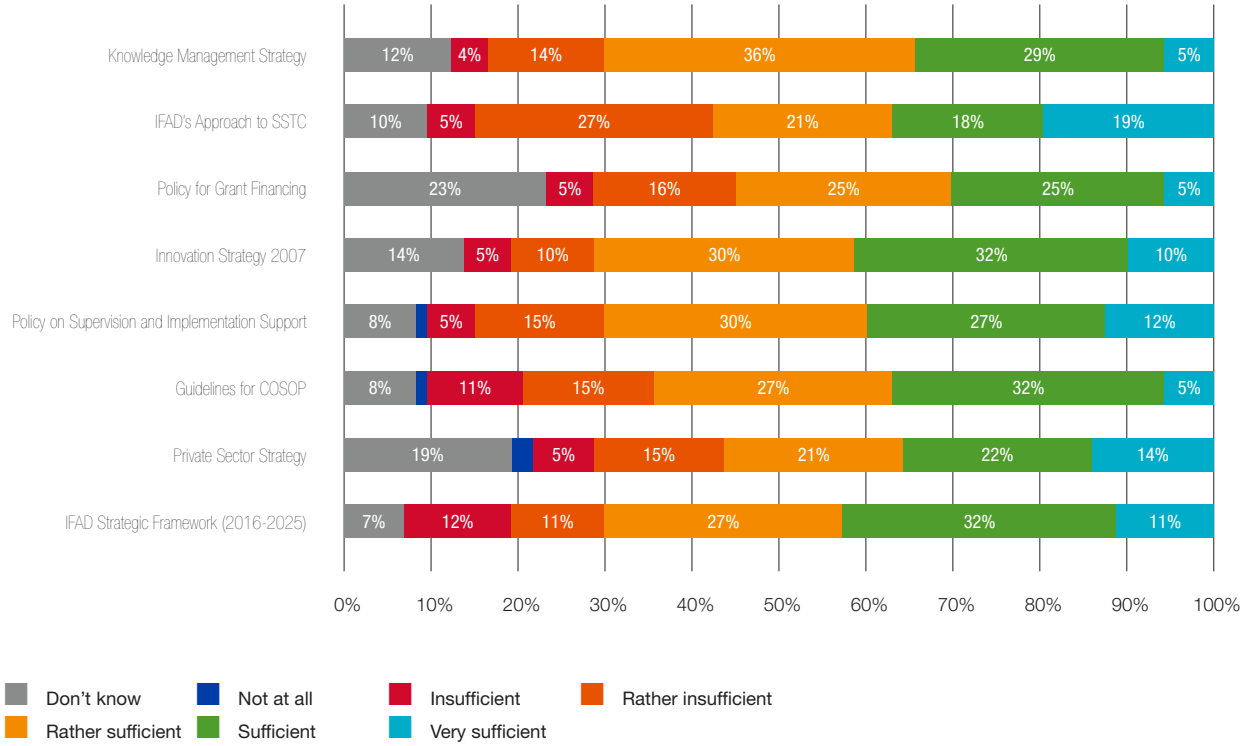
35 Several IFAD-supported initiatives have been related to SSTC and were noted by stakeholders concerned. According to the 2016 ES on SSTC (IOE, 2016a), these initiatives revealed the strengths of IFAD in supporting peer learning among rural champions and their allies, and contributed to generating good practices and successes in a number of cases.

36 One was also identified by the CLE: the policy laboratory innovation in Indonesia. Under the Integrated Participatory Development and Management of Irrigation Project in Indonesia, a policy-focused KM centre will be established under the Ministry of Planning. A key dimension of its role will be to convene relevant ministries involved in the irrigated agriculture sector, strengthen operational collaboration between them, and promote policy dialogue among them at the national and local level for an improved and more consistent policy and regulatory environment for smallholder irrigated agriculture.

37 The focus of IFAD's policy engagement has not been on innovation per se. However, it includes promoting the uptake / scaling up by governments of (innovative) approaches tested and proven through IFAD-supported projects. However, in view of the CLE ToC, policy engagement should also cover the critical innovation stages of testing/scouting and piloting. The point is the governments should provide appropriate financial and other measures; and remove regulatory, institutional obstacles to innovation promotion. See World Bank, 2010.

FIGURE 9

Appropriateness of IFAD's strategies and corporate documents aligned with innovation support



Source: CLE electronic survey results (N=73, IFAD staff respondents).

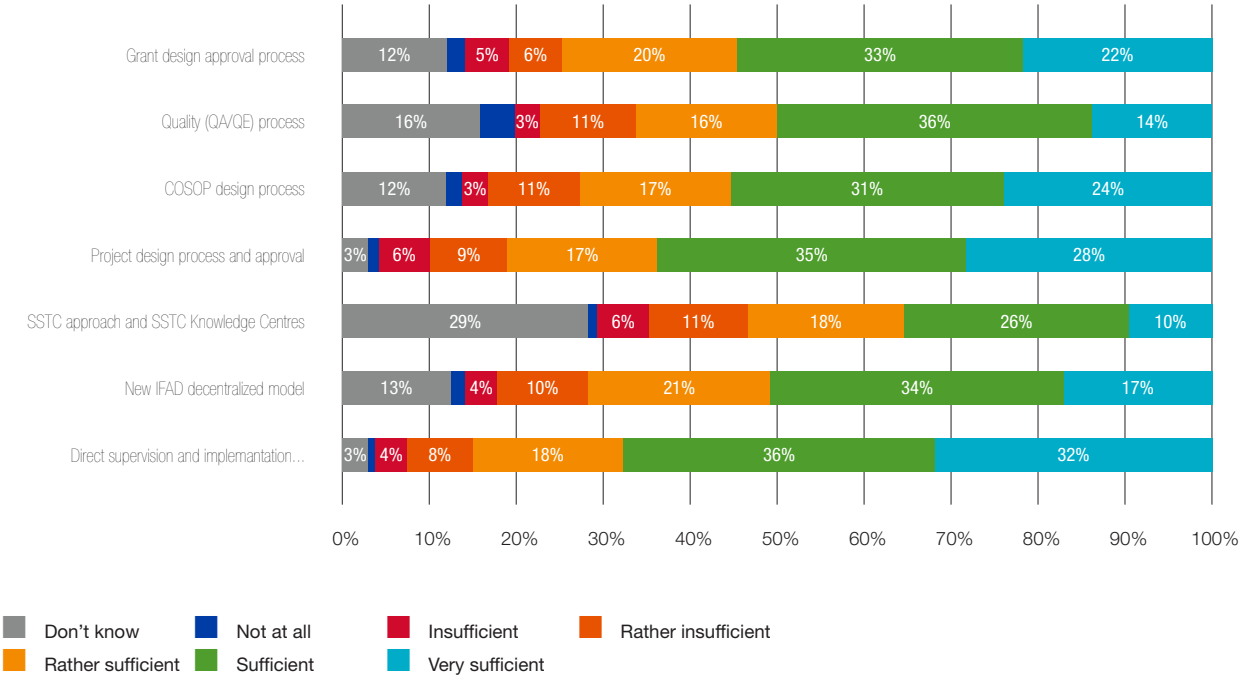
c. Availability of guidelines to support innovation processes (figure 11-i). Responses clearly reflect a negative opinion on this aspect. **Guidelines to help staff for incorporating and promoting innovations in operations were highlighted as being insufficient, although IFAD has numerous corporate documents**. Thus, as highlighted in the previous review, the point is rather the lack of guidance specifically related to innovation promotion approaches. The development of guidelines that give greater attention to systematic approaches and processes may be seen as a limiting factor to the propensity to innovate. However, this assumption does not always correspond to the reality, especially in IFAD's operating context, which entails a diversity of stakeholders and challenges, as well as scarcity of resources. Nevertheless, trade-offs should be applied to avoid preventing or discouraging the generation of organic ideas.[38]

d. Availability of incentives (figure 11-ii). In terms of incentives, the negative opinion of staff is even harsher: 70 per cent mentioned insufficient or rather insufficient availability. Indeed, **discussions with IFAD staff during field visits brought out the fact that, at times, tensions have arisen between achieving loan-supported project results and the identification of very genuine innovations, as the latter can be risky and hamper project effectiveness**. Staff clearly stated (during field interviews) that the judgement of their performance is based on projects' results and financial achievements, not on their innovativeness, in terms of genuine innovations introduced. The latter entail taking failure risks, which may jeopardize a project's results and impacts. Thus, there is less incentive to dedicate time to work on this (discussed further in the section on effectiveness).

38 The United Nations Innovation Toolkit Scan the Horizon helps to address this aspect: https://un-innovation.tools/tools.

FIGURE 10

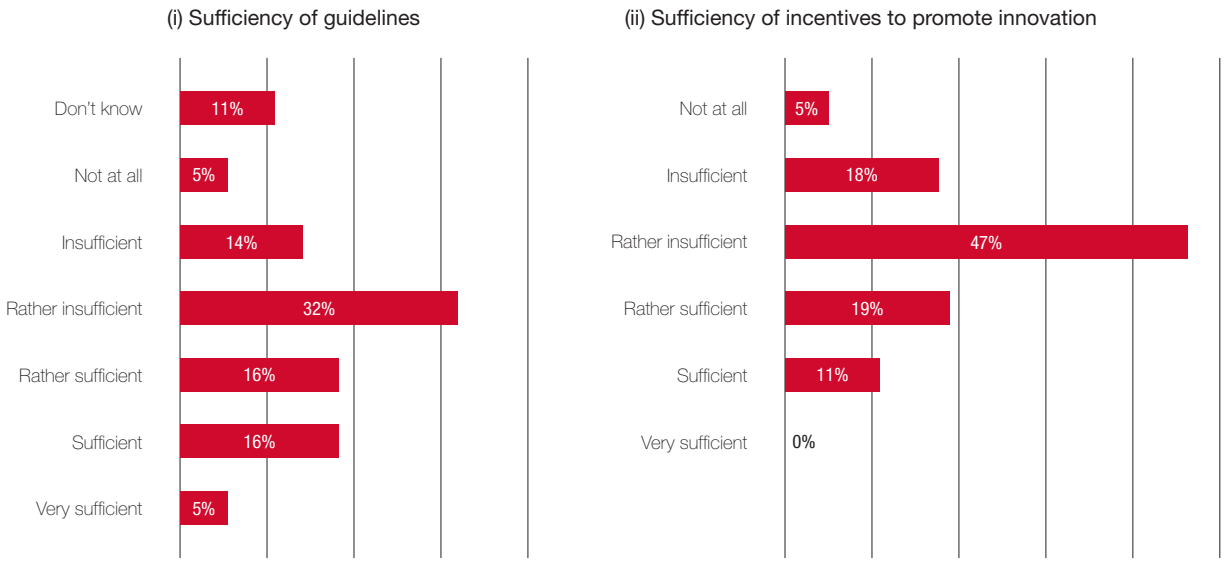
Usefulness of IFAD business processes in terms of supporting innovation promotion



Source: CLE electronic survey results (N=240, respondents: project staff and grant recipient partners).

FIGURE 11

Opinions on the sufficiency of guidelines and culture in relation to innovation promotion



Source: CLE electronic survey results (N=73, IFAD staff respondents).

F. Benchmarking against other organizations' models

84. For benchmarking purposes, the CLE reviewed indicators pertaining to the support of innovations, as applicable with other major partners: (i) the African Development Bank (AfDB), Asian Development Bank (ADB), Inter-American Development Bank (IDB) and World Bank, for IFIs; and (ii) the Food and Agriculture Organization of the United Nations (FAO), and the World Food Programme (WFP), as the Rome-based agencies (RBAs). Those indicators are: the application of an explicit definition of innovation; the existence of an innovation strategy; the acknowledgement of innovation as essential in strategic documents; the availability of specific guidelines, of a dedicated website, of financial resources and of a dedicated unit with staff positions; and the conduct between 2009 and 2019 of a corporate or thematic evaluation linked to the topic. Table 7 presents the summary, based on detailed information in annex VIII.

TABLE 7

Indicators for innovations benchmarking with other organizations

Indicators	Word Bank	ADB	AfDB	IDB	FAO	WFP	IFAD
Explicit, but specific definition	Y	N	N	Y	Y	Y	Y
Specific innovation strategy	N	N	N	N	N	N	Y
Inclusion in strategic documents	Y	Y	Y	Y	Y	Y	Y
Specific guidelines available	Y	N	N	Y	Y	N	N
Dedicated website	Y	Y	Y	Y	Y	Y	Y
Dedicated specific funds	Y	Y	Y	Y	Y	Y	Y
Other supporting tool	Y	Y	Y	Y	N	N	Y
Specific unit/team	Y	N	N	Y	Y	Y	Y
Corporate or thematic evaluation conducted	Y	N	N	N	N	N	Y

Note: ADB = Asian Development Bank;
AfDB = African Development Bank;
IDB = Inter-American Development Bank;
FAO = Food and Agriculture Organization of the United Nations;
WFP = World Food Programme.
Y = yes; N = no.

Source: CLE (see details in annex VIII).

85. Table 7 shows that **IFAD's corporate model in supporting innovations ranks at the top with that of the World Bank**[39] among the benchmarking comparators. None of the organizations has a specific innovation strategy, unlike IFAD. Compared to the World Bank, IFAD has not developed any specific guideline to support its innovation agenda;[40] and FAO has published numerous publications on agricultural innovations and systems,[41] accessible via its dedicated website. In approaching the topic of innovation in their strategic documents, IFIs' objectives are more related to entrepreneurship development, and market access to enhance economic growth for poverty reduction, while RBAs address agricultural innovations in line with the 2030 Agenda, especially targets of SDGs 1 and 2. All the organizations reviewed have identified a dedicated fund to support innovations promotion; among RBAs, these have evolved or increased mainly since 2015.

86. It is worth mentioning the United Nations Innovation Network (UNIN), which is an informal collaborative community of United Nations innovators interested in sharing their expertise and experience with others to promote and advance innovation within the United Nations system. UNIN spans funds and programmes, promoting an approach characterized by three pillars: (i) building an architecture to promote innovation; (ii) activating partnerships and building an innovation ecosystem; and (iii) creating a culture of innovation. IFAD is a member of this network, which has developed several toolkits for the community of practitioners to help accelerate innovation impacts. It uses the SPACE (Strategy, Partnerships, Architecture, Culture and Evaluation) framework, which represents five key areas through which United Nations organizations can take action to accelerate and scale innovation.[42]

G. Conclusion on IFAD's strategies, corporate processes and instruments

87. In summary, **the 2007 Innovation Strategy (IFAD, 2007a) was useful at that time**, as it suggested paths for promoting innovations, strengthening innovation capabilities, and incorporating innovations and innovative approaches in IFAD's operations. It set out the conceptual framework of innovation and scaling up. **However, no specific strategic objective was defined for the innovation agenda, and no operational plan was developed later, and nor was a specific budget allocated until 2019, when the Innovation Challenge was launched**. Moreover, no action was taken to develop appropriate guidelines, including to have an agreed operational definition,[43] which would help staff to adequately support innovations processes in IFAD's operations.

88. Furthermore, the strategy has not been updated or revised in order to include evolving methodologies, especially in applying a systems approach to innovations.[44] Indeed, the 2010 CLE concluded that "the relevance of the innovation strategy has been moderately satisfactory, and that it did not have a significant impact in steering the Fund towards becoming a more agile organization in promoting innovations" (IOE, 2010, p. 62). Numerous corporate documents developed after the 2007 Innovation Strategy referred to innovation, but superficially, although this has changed slightly since 2016, after the approval of the 2030 Agenda.

39 Although IFAD and the World Bank have the same number of "Ys", the difference relates to the scope and volume of funding.

40 For instance, the World Bank published Innovation Policy: A Guide for Developing Countries (World Bank, 2010). The document suggests pragmatic approaches to innovation, offering a comprehensive view of innovation policy, in which government, acting as a gardener, supports the innovators by: providing appropriate financial and other measures ("watering the plant"); removing regulatory, institutional or competitive obstacles to innovation ("removing the weeds and pests"); and strengthening the knowledge base through investment in education and research ("fertilizing the soil"). It addresses: (i) the rationales and the main principles of innovation policy; (ii) the basic functions that governments should fulfil to create a climate favourable to innovation – support to innovators, removal of obstacles, strengthening of research and development structures, and adaptation of education and training and elements for evaluating innovation systems and policies; and (iii) a strategic framework with pragmatic agendas and stepwise approaches adapted to the context of low- and medium-income countries.

41 One interesting guideline document is Enabling the capacity to innovate with a system-wide assessment process (FAO, 2015). The document identifies key areas that influence innovation processes, including stakeholders and their interactions, equality, and policies and trends that can influence the ability to innovate. It also suggests methods and tools that can be used to analyse these areas and tie them all together in an actionable picture.

42 For more details, see table A9 in annex IV.

43 The CLE team heard various interpretations or "understanding" of the Innovation Strategy definitions.

44 For instance, the Tropical Agriculture Platform (TAP) launched in 2012, has embraced the Agricultural Innovation Systems perspective, which recognizes that agricultural innovation is a process involving many different actors and factors, and that it can only take off if it meets the demands of its principal users (see http://www.fao.org/in-action/tropical-agriculture-platform/background/en/). Concepts and principles of the TAP Common Framework have been tested as part of the CDAIS project, implemented by FAO and Agrinatura with financing of the European Union for the period from 2015 to mid-2019.

89. Finally, **the IFAD model of supporting innovations is well positioned among IFIs and RBAs, based on benchmark indicators developed by the CLE**. Changes in the IFAD business model implemented in 2018 and 2019 have also provided strong positive signs of an intention to break with "business as usual", and incorporate innovative approaches. **However, in the absence of a specific operational framework and action plan,[45] as well as improved dedication of specific resources and incentives, it may prove difficult for IFAD's innovation agenda to lead to sustainable and resilient transformation in rural areas**.

45 By comparison to the topic of KM, the situation is quite different. A strategy was also approved in 2007, which identified four strategic components: strengthening knowledge-sharing and learning processes; equipping IFAD with a more supportive knowledge-sharing and learning infrastructure; fostering partnerships for broader knowledge-sharing and learning; and promoting a supportive knowledge-sharing and learning culture. After this, there have come been: the KM framework (2014-2018); the KM action plan (2016-2018); and the revised KM Strategy in 2019, which includes the action plan (2019-2021).

Key points on IFAD's strategies and corporate processes in support of innovations

- IFAD's Innovation Strategy in 2007, as the first corporate document that identified organizational elements that required specific attention, paved the way to build IFAD's innovative capabilities and its ability to identify and implement innovative solutions to address rural development challenges. Pathways suggested to approach the topic were through: (i) IFAD's Strategic Framework; (ii) RB-COSOPs; and (iii) lending and non-lending activities.
- Since 2007, IFAD's strategic and policy documents, as well as operational guidelines, have mentioned the topic of innovation. However, it has been better addressed in more-recent documents, especially since 2015. In fact, after the 2007 Innovation Strategy, IFAD's operational framework for scaling up results (2016) was the next document that explicitly addressed the topic of innovation, together with scaling up. Overall, the failure to develop an action plan for the 2007 Innovation Strategy, weakened its follow-up.
- In relation to IFAD's PoLG, all loan investment projects have to include innovations to a certain extent, while grant-financed projects may have innovation objectives. Analyses have revealed that innovations promoted through IFAD's support have mainly been related to the SEP of the agrifood system, followed by the GP. It appears that loan investment projects have mainly supported innovations at the stage of dissemination, while grant-financed projects have supported innovations at the stage of development/piloting.
- Finally, the review of other organizations (IFIs and RBAs) have revealed that IFAD compares favourably in terms of supporting innovations.

VIET NAM

Ngo Thi Kim Lien, 41 yr, operations manager of Tuan Linh Mushroom cooperative stands for a portrait at its production facility in Sonly Village, Son Loc Commune, Quang Binh Province, central Viet Nam, in November, 2017. The cooperative produces different types of mushrooms and also sells mushroom grow kits to the farmer groups, enabling low-income households to grow mushrooms close to their house and earn extra income.

Chapter 3

THE PHILIPPINES

Carlos Taplin is the president of the Bobok Bisal Organic Arabica Coffee Producers and Growers Association in Bobok-Bisal, a remote municipality in the Philippines' northern Cordillera Administrative Region. Thanks to IFAD's Second Cordillera Highland Agricultural Resource Management Project (CHARMP 2), Carlos and the members of his group attended a farmer field school where they learned about coffee plant rejuvenation, quality control, bookkeeping, organic fertilizer, roasting and packaging; they were also given funds to start their consolidation and processing activities. He says "we are really grateful, because we learnt a lot about improving our plantation, and since our coffee's quality has improved we now get a better price".

3. Performance of IFAD's support to innovations

90. Following the ToC, IFAD-supported operations should generate innovations that contribute to achieving short- and medium-terms outcomes, and, in turn, to impacts. For that to happen, relevant and effective innovations and related processes are critical. This chapter assesses the relevance, effectiveness and contribution to impacts of innovations promoted through IFAD-supported operations in recipient countries. As discussed in the methodology sections, the assessment was based on data collected through in-depth country visits and desk reviews, and analysed in accordance with the CLE definition of innovations, and by applying the CLE analytical grid (macro and specific domains). Therefore, case study innovations were rated by the CLE team for different aspects: relevance to stakeholders and to the context; success in achieving intended objectives; and contribution to short- and medium-term outcomes.[1]

A. IFAD-supported innovation processes in motion

91. Relevance assesses the extent to which the interventions are aligned with SOs and stakeholders' needs, while effectiveness ascertains the extent to which objectives and expected results have been achieved. In line with the ToC, innovation processes within IFAD follow the programming cycle – start at the planning stage, proceed during the implementation of operations, and lead to results (short- and medium-term outcomes) at completion. Considering this, it is difficult to clearly delineate the relevance and effectiveness of the innovation processes as supported by IFAD. Thus, the sections below include:
(i) a review of innovations supported by IFAD (according to the CLE analytical grid);
(ii) the innovation processes at planning and during implementation; and (iii) the extent to which loans and grants are complementary to support innovation processes.

Diversity of IFAD-supported innovations and their importance

92. **The CLE identified a diversity of innovations** promoted through IFAD-supported operations. A total of 219 innovations were identified over the 20 case study countries, most of them being small, free-standing and proven good practices. They were not genuinely innovative, but practices or solutions transferred from elsewhere and locally pilot-tested or adapted to solve problems in different contexts, in order to ensure greater effectiveness of loan-supported projects.[2] Most of the innovations address two or more specific domains; however, only one has been retained for the analyses, aligned with the main or initial purpose that justified the introduction or implementation of the innovation (table 8).

1 Rating was mentioned in the methodology section (above).

2 This was already a conclusion made by the 2010 CLE (IOE, 2010). There is a great preference for "safer innovation" rather than "risky innovations", to minimize risks both for the borrowing countries and for IFAD as a financial institution. It appears there is a tension between innovativeness and achieving results (as mentioned in paragraph 83d).

TABLE 8

Distribution of case study Innovations according to macro and specific domains

Macro domains	Specific domains	All projects (%)
Agricultural production and value chain (APVC) (31%)	Production	13.2%
	Processing	3.2%
	Marketing	12.8%
	Consumption	1.4%
Socio-economic pillar (SEP) (26%)	Human capital	6.4%
	Social capital	9.1%
	Economic capital	10.0%
Natural pillar (NP) (6%)	Natural resources management (NRM)	4.1%
	Environment and climate change (ECC)	2.3%
Governance pillar (GP) (37%)	Policies	0.9%
	Project implementation procedures and approaches (PIPA)	35.2%
	Regulations	1.4%

Note: The total per domain is 100 per cent, because one specific domain is assigned to each innovation.

Source: CLE (case study innovations N=219).

93. Considering the macro domains, the innovations within the GP were more numerous, followed by the APVC, SEP and NP. Thus, the order identified using the project database (PoLG analysis in chapter 2) is partially confirmed for innovations related to the NP (the lowest percentage) and the GP (among the highest percentage). When considering the specific domains, the top six categories are: PIPA, production, marketing, economic capital, social capital and human capital (same order as found with the PoLG analysis). This distribution reflects **the relevance of the APVC- and SEP-related innovations to IFAD, as they address challenges of agrifood system components, linked to SDG 1 and SDG**. PIPA-related innovations, which are enabling factors that affect the APVC and SEP, also appear to be very important.[3]

94. **Farmer-driven innovation**. Farmer-driven initiatives and innovations were observed in only a limited number of cases – box 3 presents one example. There may be other local innovations taken over and embedded in project innovations. For example, in NRM, innovative practices may derive from local stakeholders' best practices (farmers, fishers or livestock-keepers) but this is not documented. Comprehensive approaches to include producers and their organizations in the decision processes concerning innovation at different project stages are also rare.[4]

3 As found with the PoLG analysis, the number of NP-related innovations has been increasing in recent years.

4 There were too few projects in fragile contexts in the CLE database, and only one country case study, from which to infer general remarks on innovations in fragile situations. In post-conflict situations, it can be expected that the innovation system stakeholders and their linkages will no longer be effective and that innovations identified prior to the beginning of the conflict will still be only partially relevant. In particular, this will affect projects planned before the conflict and executed after a return to more peaceful conditions. Opportunities and eroded capacities of the beneficiaries should be checked again, but delayed projects are under pressure for prompt implementation.

BOX 3

A farmer-driven innovation in Senegal

In Senegal, the productivity of the millet crop in the Sahel region had been decreasing due to climate uncertainties; sowing of dry millet seeds often results in the dispersion of seeds by the wind if the rains are late. Considering these constraints, young farmers decided to test the method of sowing wet millet, while the ancestral practice was to sow dry millet, before the first rains.

The trial was successful and allowed producers to save time and to focus on other crops such as groundnuts, which require intensive work at planting, after the first rains. The innovation is still at a piloting stage.

Source: CLE.

IFAD-supported innovation processes

95. **Identification of innovations in COSOPs**. The identification of innovations started with COSOPs, where specific domains are anticipated, in view of challenges identified to be tackled by the IFAD country programme. COSOPs of case study countries were reviewed and a cross-analysis of main challenges was conducted, compared to innovations implemented by subsequent projects.[5] It appears that innovations supported by subsequent projects can be traced back in COSOPs. For instance, the Bangladesh COSOP (IFAD, 2012a) highlighted specific areas for innovations – such as flood resilience (e.g. concrete roads and reinforced houses to withstand storms), renewable energy (biogas and solar energy), new marketing channels and institutional arrangements (such as market management committees, usage of ICT), and economic empowerment of women – that have been incorporated in successive projects.

96. However, there are issues. **One issue is the generic formulation of innovation domains**, due to unsystematic analyses of: (i) rural development challenges; and (ii) innovation needs. An example that illustrates this situation is the Ethiopia COSOP (2016). It states "IFAD will support innovation through specific technical assistance missions and ongoing implementation support, as well as through knowledge exchange within the context of South-South and Triangular Cooperation" (IFAD, 2016d, p. 10). This statement does not provide any clarity on domains or areas of innovations. An opposite example is provided by the Rwanda COSOP (IFAD, 2007d), in which identified innovation domains were very specific, because key agricultural constraints or challenges were explicitly identified and summarized.[6]

97. Another issue pertains to the variability (weak to moderate) of the rationale that underpins the identification of innovation domains in COSOPs in terms: of **linkage between anticipated innovations and expected outcomes; linkage between the project (or local) innovation process and the national innovation system; and how to involve key actors, taking into account their capabilities**. All these points relate to the absence of a systems approach to agricultural innovations. Therefore, types of innovations are identified according to activities foreseen, rather than as a response to the system key needs or challenges, and do not rely on the identification of leverage points for systemic change.[7]

98. Overall, COSOPs are important for the identification of innovation domains to be supported by IFAD country programmes. However, **the lack of a framework for analysing the IFAD-supported innovation system, its constraints, enabling factors and outputs, has weakened the relevance of innovation processes at this stage**.

5 Some COSOP documents of case study countries were reviewed in order to capture main challenges described, as well as anticipated categories of innovations to be supported through IFAD programmes, as per system subcomponents (or specific domain) of focus.

6 Key agricultural constraints or challenges were explicitly summarized in the Rwanda COSOP as: declining agricultural productivity; land tenure security; poor water management and irrigation; poor support services; and poor access to markets. Therefore, opportunities for innovations were identified in areas such as: novel agricultural and environmental practices (e.g. conservation farming, watershed management, crop-livestock integration to increase soil fertility); new forms of water retention for supplementary hillside irrigation; and mechanisms for developing market linkages and to improve farmers' access to financial and extension services.

7 Refer to Meadows, 2008.

99. **Identification of innovations at project design stage**. The second stage for the identification of innovations is the design stage. With loan-supported projects, the identification process at design leads to better alignment with domains of needs for innovations. As discussed in chapter 1, the CLE reviewed 540 PDRs. The description of innovation domains was clear in almost all (94 per cent of cases), and this allowed the trend analyses presented above to be performed. The same applies for grant-supported projects, as the CLE reviewed 240 design documents of large grants, enabling the identification of innovation domains in 62 per cent of cases. The main point is how the innovation identification process occurs at the design stage. In the case of loan-supported projects, innovations already developed and pilot-tested, or implemented in other contexts or countries, were suggested for application or adaptation during the project implementation process. In these cases, the novelty was not genuine in general, and, in a few cases, grant-supported projects were useful to fill this gap. Experts (national and international, including the IFAD team) tasked for preparing the design reports, following a series of consultations and interactions, played a pivotal role at this stage. **Therefore, the innovation process at this level was moderately relevant; again, the issue was the non-application of an analytical framework**.

100. **Identification of innovations during implementation**. The third stage to identify innovations is during project implementation. In the 12 countries visited by the CLE team, beyond innovations identified in the design documents and applied (as observed during visits), some additional innovations were implemented that had not been planned. In fact, analyses revealed that, in 30 per cent of innovation cases, their specific domains were identified during implementation, not at the design stage. This reflects the challenging context of IFAD-supported projects. Even if the project design is supported by solid background analyses, implementation and supervision teams have to take actions to identify innovative solutions to tackle issues that emerge while projects are ongoing. Local teams and experts performing supervision and review missions are the key actors at this stage. **IFAD's approach to implementing projects is conducive to the identification of adaptive innovations in evolving contexts**, and this was confirmed by the majority of national stakeholders interviewed. However, this adaptive approach to innovations is not well reported and documented, nor is it evaluated.[8]

101. Most respondents interviewed (during the field visits) considered **that innovation ideas in loan-supported projects come mainly from IFAD staff, consultants or project staff, followed by farmers' organizations**.[9] However, these innovations may originate from research organizations or NGOs or other sources.[10] In some countries, there were deliberate attempts to support in-country stakeholders to identify innovations. For instance, in the Philippines, IFAD supported the Agriculture and Rural Development Knowledge and Policy Platform, where farmers, NGOs, government staff and others come together to present innovations, identify problems and look for solutions. Potentially, this could be a good method to facilitate the identification of adaptive innovations. The electronic survey results show that, respondents (62 per cent), project staff and partners, consider the effective linkages with communities and grass roots as a comparative advantage for IFAD. In the same survey, grant recipient partners indicated the importance of their organizations in supplying innovations.[11]

8 The management self-assessment highlighted the fact that innovation is taken explicitly into account at design, but not analysed during supervision missions, which indeed help introduce new ideas and instruments. Moreover, at completion, there is no systematic tracking and analysis of the innovation products and processes. To the electronic survey question regarding where innovation ideas come from in loan investment projects, the top three answers were: IFAD consultants and staff; national project staff; and farmers or beneficiary groups (283 respondents).

9 Confirmed by the electronic survey results: to the question to know where innovation ideas most frequently come from, IFAD and government respondents (283) indicated first, IFAD consultants and projects staff, followed by farmers' organizations.

10 The CLE team was unable to trace the origin of the majority of case study innovations, because it was impossible to interact with stakeholders that had been involved at the time of their introduction.

11 Stakeholders interviewed during case study missions found IFAD's comparative advantage to be its strong linkages with grass-roots and rural communities, and the adaptive approach to addressing smallholder agriculture challenges that IFAD brings. Country teams develop skills in identifying solutions, at a very local level, to tackle complex issues in complex environments for particularly vulnerable groups, and to involve communities in the implementation (but probably not at design).

102. **Innovation processes at completion**. All loan investment projects undergo a final review process at completion.[12] Innovation and scaling up are among criteria assessed in PCRs. With regard to innovation, the PCR guidelines suggest assessing the extent to which IFAD built innovation into the project design, how well innovative elements (e.g. strategy, approaches, technical solutions, and managerial aspects) were implemented, and what the outcomes were. The PCRs were one of the information sources during in-depth reviews by the CLE team. The main issue found was that **information on innovations (confounded sometimes with good practices) in PCRs was mainly descriptive, instead of being analytical of processes that generated them**, enabling factors, the key players, their role and interactions among them, as well as the links between promoted innovations (or innovative solutions) and project results (outcomes and impacts).[13] In fact, M&E systems do not capture specific data on innovations (see subsections on non-lending below). Moreover, studies carried out at completion stage, to document results achieved, do not include the assessment of innovation processes and their contribution to project performance, qualitatively or quantitatively.

Innovations in loans and grants

103. **Loan-supported innovations**. Innovations were rated by the CLE team for their relevance to local context and smallholders' needs.[14] Figure 12 shows that **most innovations depicted in country case studies were relevant or very relevant to their context and smallholders**. Innovations in the NP were the most relevant with regard to the context, followed by GP-related ones. With regard to the smallholders, innovations in the SEP rank top, followed by the NP. Many innovations were very relevant to both context and smallholders. An interesting example is the multi-stakeholder platform (APVC) in Nepal, presented in box 4.[15]

12 However, this is not the case for grant-supported projects, either small or large.

13 The management self-assessment highlighted the fact that, at completion, there is no systematic tracking and analysis of innovation products and processes.

14 Context refers to the local context where the project was implemented. It includes, in general terms, the sociocultural, technological, environmental and economic contexts of smallholder farmers as described in the project documents and reports. Stakeholders refers to smallholder farmers, which can be individuals or groups (including women, young people and marginalized groups) that were targeted by the projects.

15 Other examples are: beel user groups (NP in Bangladesh further described in the NRM section); participatory planning and M&E (GP in Burkina Faso); small-scale irrigation schemes (APVC in Malawi); revitalizing indigenous leadership (SEP in the Philippines); and youth contractor strategy in inland valley swamps (GP in Sierra Leone).

FIGURE 12

Relevance of case study innovations according to the local context and smallholders

Note: APVC = agricultural production and value chain; SEP = socio-economic pillar; NP = natural pillar; GP = governance pillar.

Source: CLE (N=219 innovations identified by the CLE team).

BOX 4

The multi-stakeholder platform in Nepal

The multi-stakeholder platform in Nepal was conceived to drive value chain development by firmly placing the market as the starting point with a series of interactions. These interactions were designed to select, prioritize and shortlist possible interventions addressing critical bottlenecks in the respective value chain. They also identified business opportunities among value chain stakeholders, developed both formal and informal buy-back arrangements between producers (sellers) and agribusinesses/traders (buyers), and also developed contracts between value chain actors and service providers.

This arrangement has resulted in the ability of the producers to fix the type of commodity to be produced, the quality of produce, the quantity to be produced and also the price at which the produce will be purchased.

Source: CLE.

104. Examples of innovations that were less relevant to smallholders, but still relevant to the context, are for instance: (i) the very recent flash-flood information system (NP, in Bangladesh), as not yet accessible to illiterate farmers (IT interface in preparation); and (ii) the chain of plant solidarity (APVC, in Madagascar), which is based on the principle of reimbursing rejects of seedlings provided to farmers; however, the latter were not keen to follow the reimbursement principle. An example of innovation identified as moderately relevant to the context, but highly relevant to smallholders, referred to the improved poultry-husbandry practices introduced for women in Senegal. This is because challenges related to poultry husbandry were not among the top priorities within the context, but very important for the targeted group (women, who are the main players) for the purpose of economic empowerment.

105. **Grant-supported innovations**.[16] Grant projects identified were assessed for the relevance of innovations they supported and their ability to nurture loan investment projects. About 18 innovations among innovations in the case study countries visited were supported by grants. **The CLE found all innovations promoted by grants to be relevant or very relevant**.[17] It was observed that in-loan grants were specifically designed for the purpose of testing solutions to problems encountered in loan projects so that outputs could be directly taken up, provided enough time was given. Grants from the Global Environment Facility (GEF) in loan projects contributed to the inclusion of "green" innovations, as seen in the Republic of Moldova for instance, with innovations improving adaptation to CC (conservation agriculture; grassland restoration, shelterbelts, water-saving irrigation, etc.) pilot-tested by small and medium-sized enterprises (SMEs). Again, in the Republic of Moldova, the ASAP grant allowed the loan projects to initiate lending activities combined with matching grants helping young entrepreneurs to invest through credit from banks. In-loan grant innovations tend to be better incorporated in investment projects than were stand-alone grants. An exception was related to the regional grant FoodSTART, which was deliberately tied to loan projects in putting innovation results into use.[18]

16 As mentioned in the methodology subsection, it is very difficult to collect reports on grants at later project stages, and formats are disparate. Most information on grant-based innovation was collected during country case studies as well as by in-house and e-mail interviews.

17 They addressed challenges such as: low productivity (crop or animal, or aquaculture) in difficult environments (using breeding programmes); poor and unsustainable water management (waters and watersheds); low incomes (business development models); low access to financial services of smallholders and youth (matching grants); and erratic effects of climate change (payment for environmental systems).

18 At a regional level, the grant project FoodSTART was designed to link with a project in each country to introduce the innovations developed on roots and tubers in APR.

106. **Innovation in global grants can also be relevant**, as illustrated by the example of payment for environmental services. This is a global issue for which a regional grant pilot-tested an innovative partnership relying on co-funding by the private sector (see box 5).[19] R&D activities directly managed by country project teams (for example, with the help of ASAP or GEF funds when directly managed by IFAD) had a better chance to be immediately included in the loan project propositions, but not all teams took advantage of other types of grant results.[20]

19 The same SmartInvest grant was well embedded and produced positive outcomes in the Philippines, but limited ones in Indonesia, due to a timing mismatch between grant and loan. Even in the Philippines, the approach could not be scaled up to the point where payment for environmental services became a legal instrument. Results from grants are better taken into use if regional and country grants are interwoven; scientific activities conducted at the regional level can be translated into ready-for-use results through country grants.

20 Other examples of regional grants were not positive either. Malawi is said to be the beneficiary of five regional grants but only one could visibly feed its results into a project (conservation agriculture). Rwanda has been benefiting from seven global and regional grants. However, only the one (concerning a dairy hub model) could be traced among loan project innovations. Other innovations in development in the grant projects will feed the loan projects in some way, but this is not visible yet.

BOX 5

Grant developing an approach on payment for environmental services

Payment for environmental services is a global innovation responding to a global issue. However, the World Agroforestry Centre (ICRAF) reports that this was new in the Philippines when IFAD began its support. ICRAF developed two grants (SmartTreeInvest, and Rewards for Water Services / Payments for Environmental Services [RUPES]).

Via the SmartTreeInvest regional grant, for instance, the regional Mindanao Development Authority set up co-investment schemes cofinanced by private-sector companies. With the RUPES grant support over many years from IFAD, payment for environmental services has become part of the national discourse, with inclusion in major national policy documents (the Philippines Development Plan, the National Strategic Plan, National Economic and Development Authority documents, and the relevant government climate policies).

A working group drafted a national administrative order to institutionalize implementation of payment for environmental services nationally. Congress has filed a law twice already as a result of this work, so there is some traction in the legislative area. Thus, the innovation can be said to have "stuck".

At local level, results have been slow. In 2012, innovation platforms that had been working with the RUPES project in Benguet for many years had not received any financial payments, as the financing mechanism had not yet been finalized.

If payment for environmental services becomes a legal instrument, it will have a significant influence on both global and national climate targets, but should also contribute to the livelihoods of small forest owners and support local-level environmental protection.

Source: CLE.

Conclusion on innovation processes

107. In summary, **the innovation process at the planning and design stage is moderately relevant; while the adaptive process during the implementation of projects is relevant**. Innovations supported were relevant considering the local contexts and smallholders' needs. COSOPs and PDRs are important stages for identifying specific domains where innovations are needed in order to achieve intended results. However, no framework is used to guide the conduct of systematic analyses at design stages, especially in applying a systemic analytical approach, leaving room for individual or localized approaches. The consequence has been that the innovations promoted, although relevant in their majority, have been scattered and stand-alone. **At completion stage, innovation processes are incomplete, due to insufficient analyses and documentation**.[21]

21 M&E systems in IFAD-funded projects are not conceived to specifically capture information on innovations. Information on "innovative activities" is usually documented, but not in a systematic and thorough manner, as there is no specific requirement on innovation in project supervision reports. Project completion reports include a section and a rating on innovation, but it is often not rich enough, as information is not consistently collected and analysed during implementation.

B. Effectiveness of IFAD-supported innovations

108. Innovations are effective if they are able to bring useful results (i.e. improved performance) into the agrifood system, but also if they are accessible, responding to needs, and viable, in particular for smallholder agriculture. Therefore, the sections below assess how IFAD-supported innovations were aligned with short-term outcome results and critical conditions, as presented in the ToC. The following points are addressed: (i) the extent to which innovations were successful in addressing smallholder agriculture challenges (needs or demands); (ii) the effective complementarity of grants and loans in supporting innovation processes; (iii) innovations and non-financial instruments; and (iv) transformative innovation features.[22] As for all interventions, the overall context is crucial for the effectiveness of innovation processes. For instance, in fragile situations, characterized by weak institutions and governance frameworks, classic innovations processes may be less effective, requiring the applications of more flexible options for supporting the promotion of innovations.[23]

Effectiveness of innovation in addressing agricultural challenges

109. The CLE rated the case study innovations according to their success level in addressing the challenges for which they were introduced. This enabled identification of the effectiveness trends by macro and specific domains.[24] Figure 13 shows the effectiveness ratings of innovations according to system macro domains. Ratings for innovations within the NP domain were highest (but with a small number of innovations) followed by the SEP, GP and APVC domains.[25]

Effectiveness of SEP-related innovations

110. Innovations in the domain of NRM, environment and CC may target the generation of information on natural resources (weather, flood, soil, water, etc.) or the development of improved farming practices and procedures for the payment for environmental services these practices provide. Natural resources management is often combined with productivity improvements, targeting more efficient water use, or sustainable harvesting of wild species combined with their domestication. All these innovations have a potential for high effectiveness. Examples and features of these innovations are provided in the related chapter below.

111. **The effectiveness of innovations related to economic capital was satisfactory in general**.[26] An example is in Ethiopia, where rural savings and credit cooperatives (RUSACCOs) were established. Technical support and wholesale finance to microfinance institutions (MFIs) and RUSACCOs allowed them to increase their clientele to more than 30 per cent of the country's households, and savings and credit associations (SCAs) organized into powerful unions and associations. In addition, the project supported MFIs and SCAs to develop linkages to the formal financial sector. Another example is that of the cow health insurance scheme in Rwanda, through which farmers were able to overcome challenges related to veterinary treatment costs, thus reducing significantly the rate of animal mortality.

112. Political and institutional contextual circumstances affect innovation effectiveness, and, therefore, similar innovations may yield different results in different contexts. In the Republic of Moldova, for example, a long-term strategy to involve financial institutions in providing credit to rural small enterprises– first out of IFAD repayment flows, later by adding their own funds – was ruined by a major fraud in the banking system.[27] The warrantage (storage) credit model was used in several countries (Cameroon and Ethiopia) with mixed effectiveness.[28] Less-successful examples of

22 Enhancing the focus on transformative innovations was a major recommendation of the 2019 ES on technical innovations (IOE, 2019a). Therefore, a subsection is devoted to that.

23 The CLE cases studies included only one country (Sudan) that is on IFAD's list of fragile States. This is too few to make any inference.

24 Although innovations can affect several specific domains, only one domain was retained for the analyses, as discussed in the subsection on the CLE methodology.

25 The NP domain had the highest proportion (74 per cent) of ratings (5 and 6) but with a small number of innovations, followed by the SEP (64 per cent), GP (58 per cent) and APVC (54 per cent) domains. It is important to recall that most (about 95 per cent) were single and isolated innovations. The NP domain had the highest proportion (74 per cent) of ratings (5 and 6) but with a small number of innovations, followed by the SEP (64 per cent), GP (58 per cent) and APVC (54 per cent) domains. It is important to recall that most (about 95 per cent) were single and isolated innovations.

26 Sixty-five per cent were rated very effective or effective, 30 per cent moderately effective, and 5 per cent lower. Of 22 case study innovations related to economic capital, 12 were found relevant, with 8 moderately relevant and 2 less relevant.

27 Examples of innovations related to financial services with moderately effective results were found in El Salvador, Ethiopia, Peru, the Philippines, the Republic of Moldova and Sudan.

28 Credit is guaranteed in kind by the product stored. The seasonal price fluctuations and the value added by storage are expected to pay for the storage costs. However, unpredictable circumstances and price policies, for example, may reduce credit to zero.

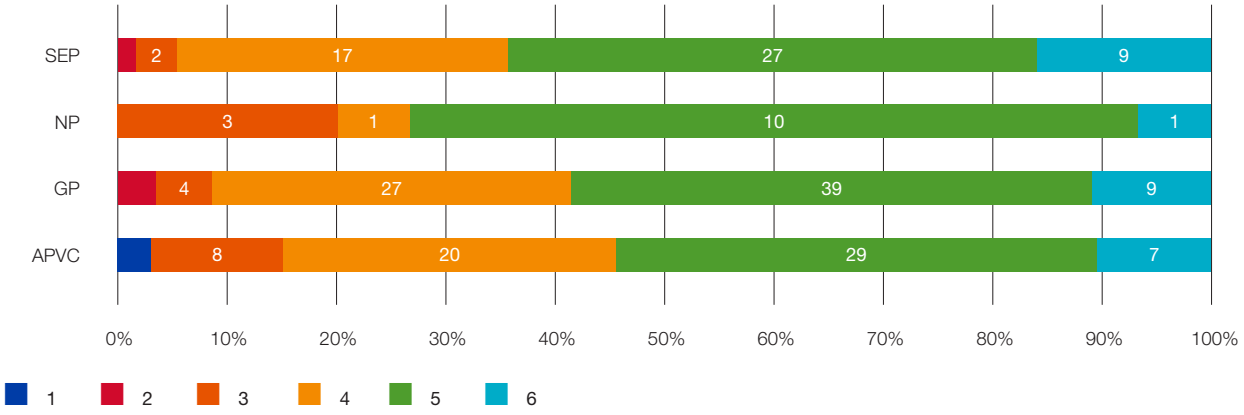
innovations in this specific domain were related to difficulties in establishing financial funds for MFIs, namely, guarantee funds in the Republic of Moldova and facilitation funds in Cameroon.[29]

113. Innovations related to human capital were effective or very effective. For instance, the Rural Talents platform in Peru enabled projects to provide good extension services, keep skilled people in their home base, and enhance the sense of cultural value (see box 6). Other interesting examples can be found in several countries, as they enabled beneficiaries to effectively improve their skills and capabilities. Some examples are: strengthening capacities to use agroclimate information in El Salvador (although not significantly implemented yet); farmer development of conservation agriculture and peer-to-peer training in the Republic of Moldova; mentoring approach of individual households in Ethiopia; training of women and young people with innovative curricula for developing off-farm activities in Bangladesh; the youth incubation programme in Cameroon; and the young professionals'programme in Sudan.

29 Although the establishment of these funds had been delayed, actions were still ongoing at the time of the CLE.

FIGURE 13

Success level of innovations, by macro domain, rated by the CLE team



Note: APVC = agricultural production and value chain; SEP = socio-economic pillar; NP = natural pillar; GP = governance pillar.

Source: CLE (N=219 innovations).

BOX 6

Rural Talents platform in Peru, a successful innovation

The Rural Talents platform in Peru has been used in all projects since Sierra Sur and is now closely integrated with the community projects. The contracting of local expertise by groups of beneficiaries in fact began in the Promotion of Technology Transfer to Peasant Communities in the Highlands Project, whose main objective was to promote technology transfer. Farmers and vulnerable groups obtained direct access to, and management of, project resources, which was an innovation at that time.

They could contract their own technical assistance, thus developing the market for technical assistance services in the mountains. Capacity-building was provided to local technicians or "yachacchiqs". This concept was developed in many of the subsequent projects, gradually improving local capacities. Now, a database has been established, with assessment of competencies and training. Groups that successfully compete for grant funds must dedicate a proportion of their budget to procuring technical assistance.

For instance, livestock producers groups have contracted advisers regarding veterinary advice, infrastructure, feeding and breeding. They remain in touch with a range of local persons with relevant skills (either professionals or locals with recognized competencies).

Groups have commented on the advantage of getting advice from people who understand local conditions, with the same language and culture, rather than bringing in someone from Lima. This is particularly appreciated by women in the groups.

It has also been partly developed with support from PROCASUR and the International Potato Center (CIP). The Government has scaled this up within legislation (in the Family Farming Law, National Strategy for Talent Promotion, and Rural Management for Family Farming, called the National School of Rural Talents), and AGRO RURAL is providing training and certification.

Source: CLE.

114. **Innovations related to social capital were mostly effective**. A good example is the local management and supervision committee (LMSC) in Rwanda. This was a driving engine that ensured the participation of local/community stakeholders in watershed management. Each watershed has an LMSC, whose role is to define and oversee all priority activities within the watershed through the Watershed Natural Resource Development and Management Plan. Its strength lies in the fact that it includes all major categories of rural stakeholders living within the watershed. This makes it a key community collective decision-making body that takes into account the interests of all stakeholders in the management of a common resource.[30] Only one less successful case was observed in relation to social capital in Bangladesh, with the application of the Learning Route (LR) approach and demand-driven public extension for community interest groups.[31]

Effectiveness of GP-related innovations

115. **Innovations related to the GP were overall effective, with few exceptions**. The CLE rated 59 per cent of them very effective or effective, 33 per cent moderately effective and 8 per cent lower. Innovations for regulation were assessed effective, and they were found in Kyrgyzstan (pasture and veterinary systems restructuring) and Madagascar (land regulatory framework). These reforms enabled positive change in other domains, namely production and social capital. One innovation (out of two) on policy was effective, and it pertained to securing land rights for women and men settling on accreted lands in coastal areas of Bangladesh, a policy framework that enabled both wife and husband to become co-owners of a plot, thus affecting positively both social and economic capital.

116. With regard to PIPA innovations (the most numerous), their effectiveness was, in general, good with a very effective or effective rating in 71 per cent of cases, moderately effective in 26 per cent, and less effective in 3 per cent. Good examples relate to innovative implementation practices established to enable: (i) the participation of beneficiaries in the projects' activities, meaning improving human or social capital, in Burkina Faso, El Salvador and the Philippines;[32] (ii) improved access to economic capital in Malawi, the Republic of Moldova and Uruguay; and (iii) improved management of natural resources and the environment – meaning improving performance within the NP macro domain – in Ethiopia, the Republic of Moldova, Rwanda and Sudan. One innovative approach was found in Bangladesh. This pertained to the promotion of R&D activities for agricultural technologies and development, through competitive grants financed by an IFAD-supported project (co-funded by the World Bank), which resulted in productivity increase.[33]

117. Some innovations were rated as less successful, due to the fact that they were very recent and still going through the learning phase. An example in PIPA is the KM centre established with IFAD support within the Directorate of Water Resources and Irrigation of the Ministry of Planning in Indonesia, in order to take stock of the experiences of innovative management user groups in small irrigation schemes promoted by IFAD-supported projects, and scale them up countrywide. Instruments to enable lessons to be drawn were still lacking at the time of the CLE, as the initiative was recent.[34]

118. The common effectiveness feature of GP-related innovations is the fact that they have enabled positive change in another subcomponent of the agrifood system, which can be within the SEP, AVPC or NP. **Due to their enabling role, the effectiveness of GP-related innovations matters for IFAD**, and this may explain why IFAD's focus on them has been significant in the past, in particular in low-income countries.

30 More examples were found in Bangladesh (demand-driven public extension for community interest groups), Peru (Mapas Parlantes / Talking or Cultural Maps), Rwanda (innovation community centres and community competition), and in rural dialogue groups in El Salvador, land rights management by users association in Malawi, community networks in Sudan, etc.

31 For the Learning Route (LR), the initiative, funded through a regional grant, was phased out before demonstrating results. For the demand-driven public extension for community interest groups, the initiative evolved to a private service provision.

32 The community facilitators in Burkina Faso, the youth organization in El Salvador, the young farmer irrigators in Philippines, and the demand-driven approach in farmer field schools in Madagascar.

33 Further details in table A3 in annex IV.

34 Other recent initiatives were: in the specific domains of PIPA, combining sustainable marine and coastal natural resource management, and support of development of nutrition-sensitive value chains in Indonesia; and in policy, the policy laboratory in the Ministry of Planning in Indonesia.

Effectiveness of APVC-related innovations

119. **The effectiveness of APVC-related innovations was mixed**. The CLE rated 54 per cent of them very effective or effective, 32 per cent moderately effective, and 14 per cent lower. Production- and marketing-related innovations were the most numerous (see table 8). The majority (74 per cent) of production-related innovations were effective or very effective. They were mainly agricultural technologies, for instance, related to: new varieties (better performing or more resistant); seed certification; improved cropping techniques (with better management of soil nutrients and water); irrigation techniques (small-scale and drip irrigation); improved animal husbandry practices; and access to veterinary services. These innovations are critical for productivity enhancement (see section on impact). One good example is that of onion-seed certification in Cameroon (see box 7). Another example is the chisel ploughing technique introduced in Sudan, which was greatly appreciated and adopted by farmers, and which helped increase crop productivity. Several other examples of production-related successful innovations were found in low-income countries.[35] Less-successful production innovations were observed with recently introduced initiatives. For instance, in the Philippines, with mud-crab fattening and hatching, lobster-raising, seaweed harvesting and drying, not yet rated as effective because they were still in an early phase.

120. With regard to marketing, innovations were very effective or effective in 43 per cent of cases – identified in middle-income countries (Bangladesh, Indonesia, Peru, Philippines and Tunisia) and low-income countries (Malawi, Nepal and Rwanda) – moderately effective in 36 per cent, and lower in 21 per cent of observed cases. In Peru, "concursos" have supported improved market linkages within and across groups and cooperatives. The participatory process of applying for funds and receiving technical assistance has encouraged groups to launch livestock and agriculture businesses, to use improved technologies for more diversified products, and to apply for a recognition of origin of some of the products. In the Philippines, a market-led value chain approach is identifying a product with a good potential market, and linking many agrarian reform beneficiary organizations (ARBOs) into clusters with one lead (this is the reverse of the normal process of looking at markets for whatever the groups produce). The group ARBOs produce the product, and may do some level of processing, before delivering to the lead ARBO. The lead ARBO then handles all the bulking and processing. It receives the primary intervention from the project, and receives and manages any equipment. There is also a complementary approach. The participating ARBOs and the lead one are not necessarily all producing the same thing – some might be producing fertilizer or growing the product, others might be focused on processing.

35 These include: the introduction of improved aquaculture techniques and rice varieties in Cameroon: the Society for the Intensification of Agricultural Production (SIPA) in Senegal (analysed later as one of the transformative innovation); the system of rice intensification (SRI) in Rwanda and Senegal; irrigation schemes in Malawi and Rwanda; a drip irrigation system in Senegal; and conservation agriculture and drought-tolerant crops in Malawi.

BOX 7

Onion-seed certification in Cameroon

The challenge was the weak productivity and poor competitiveness of onions produced in the Sudano-Sahelian region of Cameroon. Therefore, a great effort was made to purify Goudami seed, which is a local variety, resulting in a variety with a higher yield potential.[1] Thereafter, a network for certified onion-seed production was established, consisting of farmers groups.

The first certified onion seeds were produced locally by the end of 2016. The professionalization of seed producers was also supported, with more than enough quantity of onion seed produced and distributed to producers, with germination rates exceeding those of imported varieties by more than 12 per cent (on average). All these results were achieved thanks to the partnership with the World Vegetable Center.

1 The comparison of yields between 2011 and 2017 indicates an increase of 70.2 per cent for onion producers.

Source: CLE.

121. Several 4Ps innovative approaches, with moderate success, were observed in El Salvador, Madagascar, the Republic of Moldova, and Senegal.[36] A less effective example is the agricultural market information system in Ethiopia, which was unsuccessful because it was driven by the public sector with little engagement from the agribusiness sector. It was also implemented just before, and independently of, the launch of Ethiopia's commodity exchange.[37]

122. Processing-related innovations were very few in number (2 per cent of innovations in total), and rated effective in 50 per cent of cases. One good example was observed in Rwanda, with the cocoon-processing unit established to produce silk, which also demonstrated the effectiveness of linking farmers to the private sector, even if the initiative was still being piloted. A less-effective example pertains to solar dryers for seaweed in the Philippines, as it was still in an early phase at the time of the CLE.

Complementarity of grants and loans in promoting innovations

123. **Grants are effective in supporting the promotion of innovations when innovation results are timely and adequately transferred to subsequent loan projects**. A good example was found in Bangladesh, where innovations related to fisheries, such as "beel" and house pond management, which have been developed with grants allocated to WorldFish (over a decade), could still be traced in several subsequent loan projects, after they had been disseminated. However, the results of the electronic survey pointed out weaknesses of grants in supporting the promotion of innovations. These included: weak synergy, timing issues (either the grant or the loan ended before the other, interfering with the uptake of the innovation), or some innovations requiring a long time to be ready for dissemination, and weaknesses in the reporting, monitoring, evaluation and learning of lessons (see figure A15 in annex V).[38]

124. **Grants can improve the effectiveness of innovations, when they fund a specific aspect of loan-based innovations**, especially in relation to adaptation to CC. In the Republic of Moldova, grant components came from other donors (first the United States Agency for International Development and then the Danish International Development Agency) and could be used for matching grants in the loan programmes and for the first training activities parallel to credit components. Since 2014, it has also been possible to mobilize climate finance, first from GEF and then from the ASAP trust fund directly managed by IFAD. Matching grants encourage young people and poor women as well as other entrepreneurs, farmers groups or municipalities in developing new technologies to improve climate resilience. Many training activities and pilot-testing of technologies to improve climate resilience can now also be supported to complement investments, which are being "greened".

125. The analysis presented in figure 14 shows that **the insertion of a grant component in a loan project tended to improve innovativeness**. IOE rated innovations at 5 or 6 in 32.7 per cent of projects without a grant, 38.9 per cent of projects with a DSF component, and 42.9 per cent of projects with a grant (ASAP, GEF, bilateral, etc.). These results show that in-loan grants contributed to increased innovativeness of projects. This can be explained by the fact that embedding other grants in loan projects contributes to better incorporation of innovations, in order to address more diversified challenges and achieve expected results. The DSF funding component also improved the project propensity to innovate.[39]

36 They were also found in countries where very successful innovations have been observed, e.g. El Salvador, Indonesia, Peru, Philippines and Rwanda.

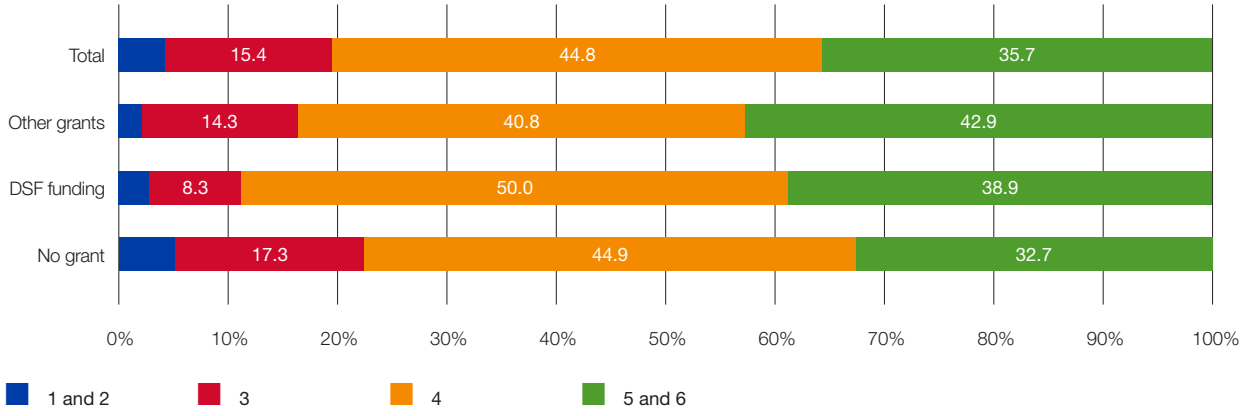
37 See http://www.ecx.com.et/Pages/AboutUs.aspx. Other less successful examples were: the warehouse receipt system in Ethiopia; and the commodity and value chain focus in Malawi.

38 The IFAD self-assessment also highlighted weaknesses in terms of lack of synergy, lack of systematic approach, and deficiencies in reporting/tracking and lesson-learning.

39 Ratings by both IOE and IFAD's Programme Management Department show significant correlation coefficients between the criteria of innovations in project and project effectiveness – 0.569 and 0.594, respectively.

FIGURE 14

IOE ratings of innovations in projects, with and without grant component



Note: DSF = Debt Sustainability Framework.

Source: CLE database (290 completed projects).

Innovation effectiveness and non-lending aspects

126. **Knowledge management at national level. Continuous KM efforts were observed in countries visited to disseminate innovation information through booklets, training materials and other means, with the support of loans and/or grants**. The annual country programme review remains an opportunity for national and IFAD stakeholders to identify and share lessons learned, including on innovations. Nevertheless, **because most IFAD country programmes lacked a specific KM action plan, the integration of innovation aspects was rather ad hoc and managed case by case, not following a programme-wide approach**. One consequence has been the low awareness or recognition of IFAD as a key player in national innovation systems, especially in low-income countries, and thus, with weak synergy among key players in national innovation systems. The IFAD self-assessment concluded that, despite KM initiatives, there is "a dearth of practical integrated organizational tools, e.g. toolkits for innovation and scaling up" and "lack of discipline in sharing innovations and of more participatory community of practice".[40] However, there are some exceptions, as demonstrated by the Philippines IFAD country programme (see box 8).

40 The IFAD self-assessment for the CLE highlighted weaknesses to that extent. Publicizing project-based innovation across portfolios and regions did not occur in a consistent and complete manner. Ad hoc, project-specific innovations were disconnected, limiting a "global", systematic approach. Approaches were not really innovative, and where they were, they were generally as dispersed smaller-scale initiatives with limited lesson- learning and diffusion, and insufficient advocacy in national languages.

BOX 8

Sharing lessons within the country programme in the Philippines

The Philippines IFAD team has been very active in facilitating lesson-sharing via workshops with a wide range of stakeholders YouTube videos, and preparation of a book on innovations. IFAD also supports the Agriculture and Rural Development Knowledge and Policy Platform, with a focus on knowledge- and learning-sharing. Prior to 2014, IFAD ran knowledge and learning marketplaces, showcasing the supported programmes and innovations. However, this has now developed into a broader platform, which goes beyond only IFAD's work, and deals with policy as well.

This embraces projects, and government staff, NGOs, civil society organizations, cooperatives and farmers' organizations participate, all with a focus on helping smallholder producers and rural development. The platform has an annual forum, with five thematic areas: climate change and resilience; youth and gender; market empowerment; good governance; and asset and land reform.

Panels present innovations, good practices and experiences, and there are opportunities for networking. The groups identify common challenges and action points, and make policy recommendations to government organizations. Farmers also have the opportunity to provide feedback. Representatives also meet during the year in a technical working group, originally hosted by IFAD, but now being taken up by the organizations as well (which also provide financing).

The participants rate it as a very successful advocacy and knowledge-sharing method – giving good opportunities for scaling up innovations. In addition, many of the projects participate in the knowledge learning and management fair held annually at regional level, with IFAD support, where experiences can be shared internationally.

Source: CLE.

127. **Knowledge management at global level**. At global level, the CLE identified numerous existing KM tools and COP initiatives to promote the exchange of information and discussion within and across regions. The CLE could not: (i) make a systematic inventory and assessment of their relevance and effectiveness to support IFAD's innovation agenda; or (ii) assess the effectiveness of the involvement of IFAD staff in these.[41] For instance, the IFAD Rural Solutions Portal was planned to be a key website for sharing innovations created by the South-South cooperation team. However, while it does have some very good presentations and stories,[42] it is not clear how outsiders find out about the site, or how useful insiders find it for promoting COPs on innovations. There is no system of prompting with e-mails, and no clear linking to other financiers' websites. This makes it difficult to assess who the key actors targeted within the global knowledge system are. Interviews with field staff revealed that time and incentives are seemingly insufficient to develop and take an active part in COPs.

128. **Interactions for sharing lessons** are very critical, as reflected by the learning loop in the ToC. Innovation effectiveness can be improved by linkages between organizations, as well as individuals, involved in innovation creation, transfer, pilot-testing, dissemination and scaling up, especially through KM initiatives. In Bolivia (Plurinational State of), Ecuador and Peru, the International Potato Center (CIP) won a prize as the best IFAD grant recipient for knowledge management and sharing. The CIP provided technical information for APVC development and worked with 56 organizations in total– governmental, NGOs, public and private researchers, universities, consulting companies, local municipalities and regional governments– creating a network of actors, which can spread information widely. The CIP acted as a broker, bringing people together, looking for problems and suggesting solutions. Horizontal knowledge-sharing has also been systematically promoted using the LR approach. These cases provide a good example how important it is to **enhance linkages among actors for greater effectiveness of innovation processes and systems, using innovative KM approaches**.[43]

41 The CLE found some websites only by chance that are supported by IFAD and dedicated to this.

42 In theory, it should also be sharing the most innovative solutions from projects, but the CLE could not ascertain this fact. The CLE noticed that there is a team working on this, and members can even visit a country to look at the innovation and prepare materials on it, and this is highly laudable.

43 An additional example related to PROCASUR is presented in table A2 in annex IV.

129. **Partnerships**. The case study innovations were supported by projects, which involved different partners.[44] However, looking at the number of project partners only is not sufficient to understand the type and depth of partnerships involved in innovation and scaling-up processes. This is especially the case because partners can also be outside the project area and even outside the country. As discussed (in several sections),[45] **the effectiveness of innovation processes depends on the system stakeholders' initiatives, their capability to scout for and implement innovations**, as well as the linkages they have developed within IFAD's innovation system, and to national, and international systems (beyond IFAD). Partners of IFAD-supported innovation processes include extension services (governmental and private), research centres (national and international), multilateral partners, the private sector, NGOs and farmers' organizations. Government representatives mentioned that they are not always informed about innovation activities undertaken within the country financed with IFAD grants. Subsequently, **while IFAD-supported innovation processes rely on project and grant-recipients' teams, a linkage should be well established to national innovation systems**.

130. **Monitoring and evaluation (M&E)**. The M&E system of projects neither provides information specifically on innovations, nor assesses the causal results pathway, from scouting to pilot-testing on a small scale and then up to scale. In many cases, innovations become more complex and bundled as they evolve over time. Results of IFAD-supported innovation processes (outputs, and short- and medium-term outcomes) are not measured during the project's progress beyond project timelines. This is because no specific framework has been suggested for this.[46] **This lack of specific M&E data and information on innovations restricts the possibility to learn lessons (the what, how, why, and so what)**.

Transformative innovations

131. The 2019 ES on technological innovations (IOE, 2019a) recommended that the current CLE assess IFAD's capability to support transformative innovations. Promising innovations from the case studies were analysed by the CLE team for their transformative power.[47] **A transformative innovation can lift poor smallholders out of poverty in a sustainable way in helping them reshape their livelihoods' system in a new way**. Not only practices (e.g. in the AVPC domain and the NP domain) have to change, but also assets and rules governing access entail changes in the SEP and GP domains. A transformative innovation will bundle single innovations that affect different pillars and enable one another. The CLE found a few innovations that included transformative features. Examples are: (i) the 4Ps with the Mars Academy and the cocoa village clinic approach in Indonesia; (ii) hillside irrigation schemes in Rwanda; (iii) the Society for the Intensification of Agricultural Production (SIPA) in Senegal; and (iv) the Gender Action Learning System (GALS) methodology in Rural Women's Economic Empowerment (RWEE) project countries. They are described in box 9. Those innovations, which are a set, or bundle, of single innovative solutions, are influential at two or more macro domains, namely the APVC or the NP in addition to the SEP; and also include (directly or indirectly) an enabling GP-related innovation.

44 Funding partners, including governments.
45 In the ToC, and in sections on the review of IFAD's innovation agenda and the review of corporate strategies and policy documents.
46 Discussed above in the section on limitations.
47 The 2019 ES (IOE, 2019a) defined transformative innovation as highly disruptive, which entails a higher risk and higher rewards, specifically when the target population has never experienced that kind of innovation or has been affected by major resource constraints (access to land, labour availability, technical knowledge, and specialist support).

BOX 9

Innovations with transformative power

4Ps with Mars: the Mars Academy and cocoa village clinic approach in Indonesia

4Ps with Mars through the Mars Academy approach: The Mars Cocoa Development Centre and cocoa village centres provide improved cocoa production training, and cocoa doctors support cocoa farms. Mars has contributed to interesting and replicated models. It has trained "cocoa doctors" for 97 village clinics, which provide cocoa producers with healthy saplings, inputs and advices. These clinics are now a new type of rural institution.

They are transformative because they contributed to resolving a major plant health issue impeding cocoa development as well as the limited access of many smallholders to extension and inputs, opening an avenue for intensification in cocoa-based farming systems. In this case, the transformative power of the innovation might also result in the emergence of larger farmers purchasing the land of poorer ones, and in increasing social differentiation.

Hillside irrigation scheme and organization in Rwanda

The scheme was coupled with water users' associations (WUAs). The challenge was the need to ensure effective management of the use of natural resources in agricultural production. The hillside irrigation scheme, entailing mini-dam ponds or cisterns for water storage, was therefore applied, with about 2,000 ha targeted.

WUA committees and their members were trained, and management agreements of irrigated perimeters signed with them. Irrigation schemes showed results in addressing challenges of productivity, natural resources management (NRM) and climate change adaptation.

The users' organizations showed effectiveness in terms of higher social capital and applied regulations. Combining significant improvements in productivity and internal organization has enabled significant and reliable increases in productivity and income, and ensured maintenance of the investments. The entire process has been backed up by a committee linked to district authorities, e.g. for watershed management.

Society for the Intensification of Agricultural Production (SIPA) in Senegal

A SIPA is a type of small rural company with about 150 associates who are young men and women living in rural areas. The innovation has targeted young people and also reached significant numbers of women. SIPAs are specialized in modern, intensive, diversified and commercial agricultural production. These SIPAs have been professionalized, and the resulting small and medium-sized enterprises (SMEs) have been given access to public-private partnerships, financial resources, innovative technologies and capacity-building. One main purpose of the SIPA concept was to reduce youth migration, and it has been successful.

Source: CLE.

132. **Transformation relates to a significantly better conversion of resources into valuable outputs (in their wide sense)**. Incremental single innovations help smallholders improve their situation, but not in a very significant way. As smallholders are trapped in a low-asset situation, they cannot mobilize the additional resources required to make use of individual innovations. When innovations are in bundles, they are more likely to become transformative, with higher and more sustainable results for significantly fewer inputs. Hence, a transformative innovation has to bundle single innovations, some improving productivity as well as post-production and market access issues; and others contributing to socio-economic improvement, while protecting and replenishing the NP elements. As such, they can lift smallholders out of the poverty trap in a sustainable way, reducing risks that may affect their upward mobility, securing their asset accumulation, and ensuring the diversification of these assets.[48] The 2019 ES on technical innovations (IOE, 2019a) differentiates between those innovations inducing incremental changes in productivity, assets and health enhancement, and those with a transformative power. Transformative changes were seen with innovations capturing new opportunities and inducing diversification of economic activities.[49] The CLE found instead that transformative features of innovations lie with their capabilities to tackle successfully and simultaneously the challenges of multiple specific domains. This can happen effectively with bundles of innovations.

133. **Transformative innovations should be able to lift poor farmers above a threshold from which they cannot easily fall back after a shock**.[50] When the asset base is very thin and the context highly risky, any new assets accumulated may not be sufficient to protect livelihoods

48 The context may also have to be improved, reducing remoteness and improving physical access to markets, for example. With these considerations in mind, the relevance of an innovation package can be assessed through its ability to spark or leverage radical changes in the farming system of interest, and, again, this can happen in many ways.

49 Such innovations require higher investments in resources and knowledge, and bring higher risks. The 2019 ES (IOE, 2019a) found that most innovations were of low technical complexity and, therefore, feasible for most smallholders and low risk; only a few (28 per cent of the 416 innovations studied), aimed at diversifying production with new activities requiring new knowledge, could be assessed as inducing a transformative change, but were then accessible only to the better-off.

50 This also entails not having to sell their productive assets to survive, or suffer from their total loss.

in the event of new shocks. For instance, in Bangladesh, labour construction societies have been developed for decades, and are a source of income for poor people (by providing labour on road, protection and other community works). With IFAD support, these societies have included women on an equitable basis. Intensive human-labour work is now institutionalized in the public infrastructure sector. Outcomes of such work in the Haors, a region prone to seasonal floods, have been threefold in nature: (i) reduced risks of assets and human lives lost due to flash floods and other erratic events (that affect mostly the ultrapoor); (ii) incomes generated used for further small investments (e.g. in livestock); and (iii) women's social position de facto improved, as they have the same rights to work and earn incomes. However, these achievements are still insufficient to lift the majority of the ultrapoor out of poverty. More radical changes in their productive assets (land and water especially) are required. These changes can be achieved through both income enhancement and direct resource improvements.

134. **Innovation does not need to be radical to be transformative**. Transformative change may also arise gradually. This step-by-step pathway is illustrated by the duck APVC case in the Bangladesh Haor floodplains. Over more than a decade, an NGO under the umbrella of a large IFI apex, worked with smallholders and: (i) adjusted simple technologies (egg hatching, duckling feeding and housing); (ii) addressed the internal organization of the lower parts of the APVC (specialization of the egg hatchers into input and extension providers as well); and (iii) coordinated organization of duck raisers into associations for egg collection, sale in bulk, and vet input supply. Combined with savings and credit activities in the groups, and in a context of reliable market demand for duck eggs in Asia, it opened opportunities for smallholders, including landless men and women, to safely increase their flocks of ducks, significantly improve their income, and accumulate new assets. In parallel, the context had to be improved, such as the accessibility of the marketplaces. However, radical innovation should not be completely ignored. The CLE team could not find good examples of radical innovations,[51] but country teams expressed ideas, such as using blockchain in contractual transactions, which may induce radical changes. Changes in women's position in the household, or major changes in land rights are also potentially transformative, through incremental or radical innovations. Here again, the lack of system analysis prevented a creative search for novel and radical solutions within IFAD. **Radical innovations could be pilot-tested through specific funding mechanisms, for instance, the Innovation Challenge funds**.

135. As long as innovations are considered individually, and not in bundles, their influence on the agrifood system will be scattered, and their transformative character will be very limited. Considering the CLE in-depth case study reviews and field visits, it appears that very little or no attention is given to this feature in IFAD's support to agricultural innovations. The few examples found were the result of strong individual project staff engagement and government support. This is corroborated by the lack of guidelines related to innovation. These guidelines would be helpful for staff (both IFAD and project) to: (i) incorporate transformative features when performing prior analyses of innovation needs at the design stage; and (ii) properly monitor and evaluate innovations during the implementation and at the closure of IFAD-supported operations.

Conclusion on effectiveness

136. In summary, **the effectiveness of IFAD-supported innovations is, overall, satisfactory**. With regard to agricultural challenges, the effectiveness of innovations was assessed to be satisfactory within the specific domains of NRM and social capital. The good effectiveness of innovations in social capital is indicative of IFAD's efforts to bring about notable changes, through supported operations, in capacity-building and the strengthening of rural organizations for sustainable livelihood improvements. Nevertheless, **innovations within the economic capital subdomain were less successful, due to challenges related to rural finance**.[52] The results of GP-related innovations were satisfactory in general, and this indicates the importance given to enabling factors. With regard to APVC innovations, the results were mixed, and this can be appreciated in view of their recent rise in IFAD's operations. Less-successful cases have been observed,

51 Aligned with the CLE approach, radical innovations will bring radical change into one or more subcomponents of the agrifood system, which entail some risks for the system stakeholders.

52 Concluding points of the 2019 ES on rural finance corroborated this, for instance: "At design stage, many projects envisaged the use of innovative approaches, services or products. However, these were later dropped or, if they were implemented, performed poorly, as shown in the examples of leasing, equity funds and guarantee funds." (IOE, 2019c, p. ix).

especially in the specific domain of marketing and access to markets. In terms of non-lending activities that support the promotion of agricultural innovations, mixed results were also observed.

137. **Lower effectiveness often occurred when innovations were stand-alone; this was reversed when they are bundled, giving the package a transformative character**. The CLE found few transformative innovation packages. The approach is interesting and effective, and deserves greater attention in IFAD-supported innovation processes, particularly when planning for innovation at the design stage.

C. Contribution of innovations to project efficiency

138. Efficiency assesses how economically resources/inputs (funds, expertise, time, etc.) are converted into results. Quantifying the costs and benefits of innovations is challenging, not least because few IFAD projects collect sufficient impact data to quantify their total benefits, let alone to attribute part of the project benefits to individual innovations. Similarly, it is difficult to apportion total project costs to individual innovations from the available project data.

139. Figure 15 compares IOE efficiency ratings of projects for each of the four macro domains.[53] **Projects with APVC innovations have the highest concentration of favourable (4-6) efficiency ratings, followed by the SEP**, meaning that they were assessed to be more efficient. Similar findings are obtained when using the PCR ratings. An underlying explanation, for APVC innovations, comes from ex post analyses results found in a few PCRs, which reported high internal economic return rates.

140. Small-scale irrigation projects, for example, are reported to have high ex post economic rates of return (15-22 per cent in Ethiopia, and 40 per cent in Malawi), despite their relatively high development costs per hectare. Innovations related to water technologies and water management play key roles in achieving these high returns, as do complementary innovations in crop production.

141. Another measure of efficiency is the average cost per beneficiary in a project, compared to similar projects in the same country or region. This measure is at best indicative for assessing the efficiency of innovations within projects, when project costs cannot be apportioned. Analysis of financial data of the 508 projects shows no significant differences in the total project cost per beneficiary by innovation macro domain.[54]

142. The CLE identified cases where costs per beneficiary actually increased over subsequent phases of a project (e.g. the pastoral community development projects in Ethiopia), but this may simply reflect changes in other components of the project rather than an increasing cost of individual innovations. One would expect the costs per beneficiary for individual innovations to decline once they are scaled up in later projects by IFAD, governments or other partners. However, these cost savings would only be apparent in the cost data for subsequent projects and would not be captured in the data for the innovating project.

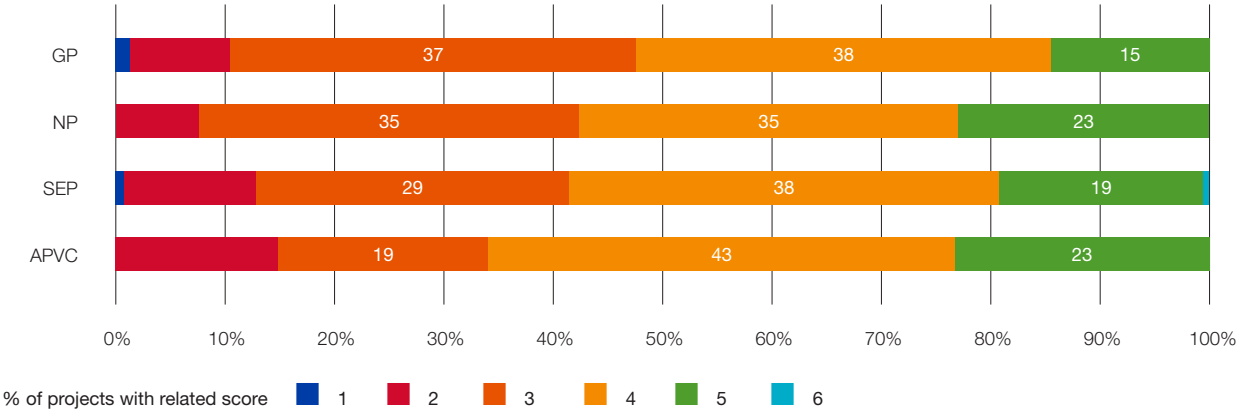
143. **Project costs per beneficiary were also reduced in some projects through social capital innovations that enhanced the participatory involvement of local communities**. In Malawi, for example, large shares of total project budgets were channelled directly to supporting investments identified and managed by community and village organizations on a participatory basis, and at unit costs that compare favourably with regional averages despite the high initial costs of establishing the required social capital. Pastoral community development models piloted in Ethiopia, Kyrgyzstan and Senegal also proved to be an efficient way of providing basic services to pastoral communities. In Ethiopia, for example, the unit construction costs for health posts (human and animal) and schools were about half those incurred in similar NGO-led initiatives. Many of these efficiency gains can be attributed to the involvement of beneficiaries in the prioritization, procurement and supervision of local project investments, which not only improved the relevance of the investments, but also helped keep costs down and reduce the time taken to undertake them.

53 This refers to the rating of efficiency criterion in project performance evaluations and project completion report validation.

54 See table A17 in annex VI.

FIGURE 15

Distribution of IOE efficiency ratings by innovation macro domain



Note: APVC = agricultural production and value chain; SEP = socio-economic pillar; NP = natural pillar; GP = governance pillar.

Source: CLE (N=290 completed projects).

144. **Innovations in PIPA can also have an incidence on project costs per beneficiary**. Countries that innovated to have a single project management unit (e.g. in the Republic of Moldova and Rwanda) overseeing all of IFAD's projects enjoyed efficiency gains, in part because this enabled a core team of trained and experienced personnel to stay in place, reducing hiring and training problems and providing better coordination and information flows across projects. Supporting government decentralization policies by implementing projects through local government agencies (e.g. Ethiopia, Kyrgyzstan and Malawi) has the potential to lead to long-term efficiencies as their capacities improve, but it can have short-term costs for projects.[55]

Conclusion on efficiency

145. Owing to the lack of specific data, the CLE could not make any conclusion on the efficiency of IFAD-supported innovations and related processes. However, the best available evidence lies with a few production-related innovations, which show good economic rates of return. There is insufficient availability of project monitoring and financial data to substantiate any qualitative claim on the relationship between innovations and project efficiency. Interactions and synergies with other players of the innovation system, through a continuous presence within countries, are important attributes for IFAD to achieve and maintain efficient innovations in projects.

D. Contribution to impact of IFAD-supported innovations

146. Within the evaluation framework, the CLE considered the question of "to what extent (how and why) have agricultural innovations, promoted through IFAD-supported operations, had positive impacts on smallholder farmers, taking into consideration IFAD's impact domains?" The CLE considered the potential impact of innovations in several areas within these domains – agricultural productivity, food security and nutrition, household income and assets, capabilities of the poorest farmers, capacities of farmers' organizations, communities and rural institutions, policies, gender, youth and indigenous groups, and environment and CC impacts.

147. Assessing the impact of innovations within IFAD projects is challenging because most projects do not collect sufficient data to quantify their effects. Even when quantitative data are available on impacts, such as with the impact assessments conducted by the Research and Impact Assessment Division and with IOE impact evaluations, they are for projects as a whole, while an impact analysis of individual innovations requires attributing a share of those benefits to each innovation. This is

55 In Malawi, the efficiency of several projects was inevitably conditioned by the use of decentralized government agencies as implementing agencies and service providers, as their capacities varied and were often limited, especially in some of the poorer areas targeted by IFAD. It can also be difficult to coordinate across government ministries and departments at decentralized levels, and many agencies operate with standardized guidelines that may constrain flexibility and innovation at local levels.

sometimes possible when key innovations are a major and identifiable part of a project (e.g. a major component of an irrigation project). However, more generally, innovations are deeply embedded within projects and there are often several of them, making it almost impossible to break out their individual contributions. Thus, in the absence of specific monitoring and impact data on innovations, the analyses of contribution to impacts have been done qualitatively, based on in-country innovations, rated for change observed, discussed or reported, following their implementation (see methodology sections above).[56] The assessment is in line with medium- and longer- terms outcomes in the ToC and related critical conditions.

Production and productivity

148. Evidence on the impacts of innovations on production and productivity can be drawn from country case studies. Figure 16 shows that production-related innovations stand out as having the highest impact for agricultural productivity (4.8 on average), followed by PIPA and economic capital innovations. In production, innovations are related to improved cropping or husbandry practices, technologies and irrigation schemes. The country case studies add support to the findings of the recent ES on technical innovations for rural poverty reduction (IOE, 2019a) that **many production-oriented innovations contributed to increased agricultural productivity among beneficiary farmers**.

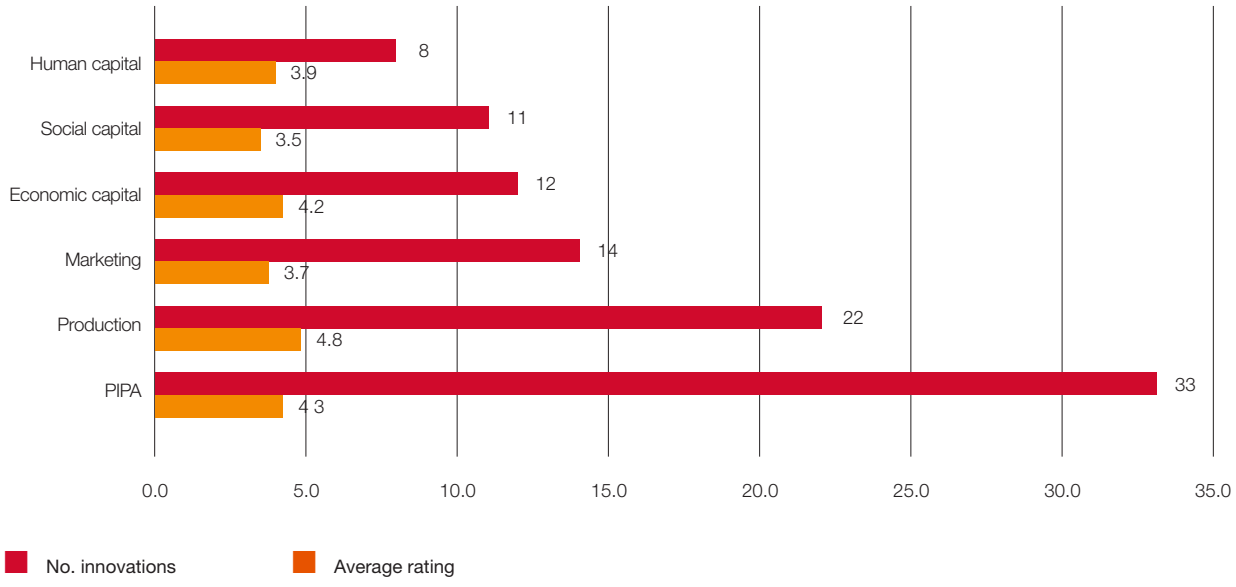
149. The evidence is particularly persuasive for innovations in small-scale irrigation (e.g. in Ethiopia, Malawi, Rwanda and Senegal), better seeds (e.g. Cameroon), improved agricultural practices (e.g. Bangladesh, Peru and Senegal), and post-harvest activities (e.g. Bangladesh and Rwanda). Productivity gains were also achieved among pastoralists in Ethiopia and Kyrgyzstan through GP-related innovations in property rights and grazing rights, and by improving access to infrastructure and key inputs like veterinary services. In Kyrgyzstan, innovative improvements in pasture management and veterinary care not only contributed to a steady increase in livestock numbers, but also dramatically reduced the transmission of brucellosis to the pastoralists.[57]

56 Not all impact aspects could be ascertained for each innovation, either because innovations had not been implemented for a sufficient time frame to measure their contribution to change, or they did not relate at all to the aspect considered. Therefore, the number of observations (N) varies from one aspect to another.

57 It takes longer for some types of production-related innovations than others to have an impact on agricultural productivity and farm incomes. This may lead to disappointing results within the reporting period of some projects; something that can only be properly rectified through follow-up studies after a project has been completed.

FIGURE 16

Case study innovations rated by the CLE team for their effect on agricultural productivity

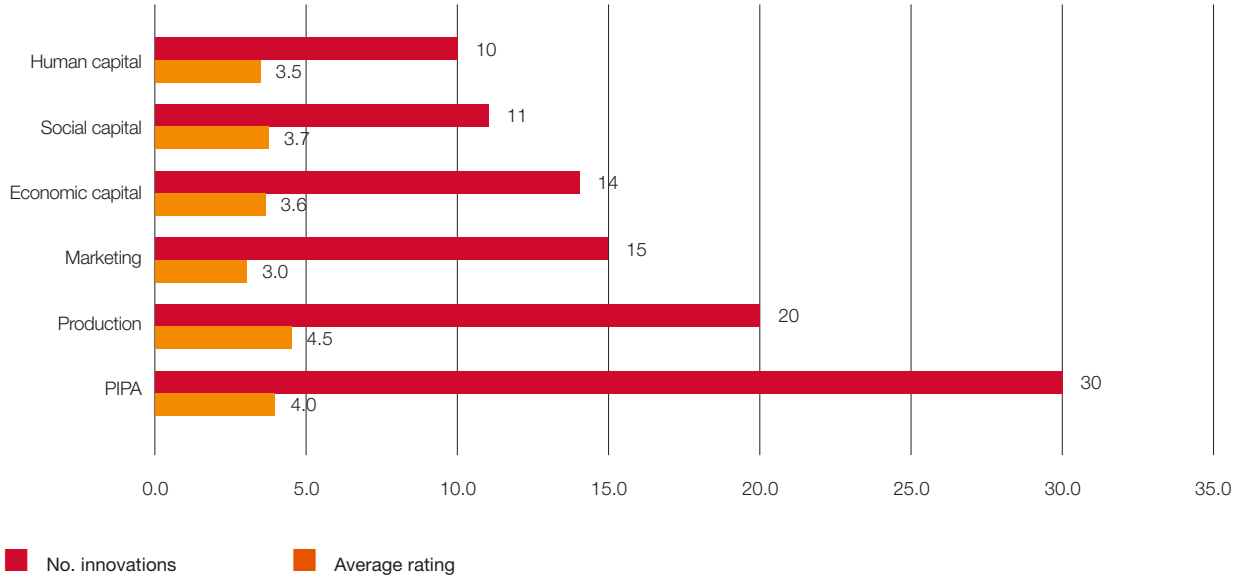


Note: PIPA = project implementation procedures and approaches.

Source: CLE (N=115; only the six main specific domains are reflected).

FIGURE 17

Case study innovations rated for their effect on food security



Note: PIPA = project implementation procedures and approaches.

Source: CLE case studies innovations (N=113; only the six main specific domains are reflected).

150. Another important finding is that **many production-oriented innovations could not have had the same level of impact if they had not been supported by economic and PIPA innovations**. Implementing, in parallel, innovations for improving farmers access to finance (e.g. in Bangladesh, Cameroon and El Salvador) and enhancing farmers' business skills to leverage them to commercial farming (e.g. of the farmer field schools, adapted in different contexts, in Malawi and Philippines) were decisive for guaranteeing improvements in productivity and production. Moreover, PIPA innovations (e.g. water users associations [WUAs], matching grants for production activities, and participatory approaches) also contributed to enabling changes in production-related aspects. The findings corroborate the above discussion pertaining to the bundling of innovations. **Most innovations have the highest impact when they are part of a package or bundle, meaning they can be transformative**, because they are influential within different system subcomponents.[58]

Food security

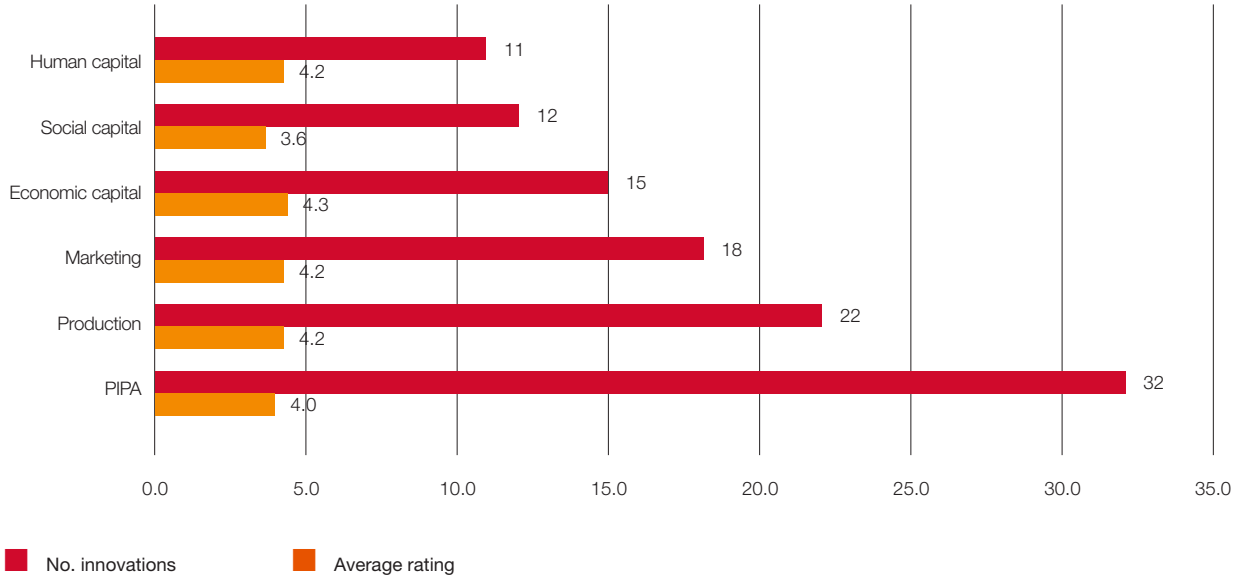
151. Figure 17 shows the ratings for the six main specific domains, with a significant number of innovations. **Again, production innovations contributed to greater impacts than did the other types, followed by PIPA**. This is not surprising as they also had greatest impact on productivity (as analysed above), thereby helping to expand the available supplies of food locally. Specifically, on nutrition, innovations in aquaculture in Bangladesh (to promote complementary mola fish, not for sale but for home consumption, to address malnutrition issues) and on home gardening in Ethiopia (demonstration on home vegetable gardens with women) were assessed to have made important contributions to the nutrition status of beneficiary households.[59]

58 This means it is difficult to make attributions to individual innovations. However, key indicators on the transformative features could be measured well and the causality assessed.

59 Nutrition became an IFAD priority in 2016 (see IFAD, 2015d).

FIGURE 18

Case study innovations rated for their effect on households' income and assets



Note: PIPA = project implementation procedures and approaches.

Source: CLE case studies innovations (N=126; only the six main specific domains are reflected).

Income and assets

152. Figure 18 shows the ratings for the six specific domains, with a significant number of case study innovations. **Economic capital innovations performed better, and were closely followed by marketing and production**. The latter two are related to the APVC component, which confirms the effective linkage between these types of innovations with SEP-related ones, and could lead to higher impact if combined (i.e. bundling). Thus, greater impacts on household incomes depend on farmers having access to markets or better prices for selling part of their increased production. Indeed, analyses (PoLG) show that APVC-related innovations increased significantly between 2013 and 2019 in loan-supported projects, and the SEP also increased within the same period, illustrating great efforts by IFAD to contribute to improving rural livelihoods (SO1 and SO2 of the Strategic Framework 2016-2025) through supported operations.

153. As most IFAD-supported projects target poor smallholders, one would expect the incomes of poor people to rise when on-farm productivity increases, but the results are mixed, especially for reaching some of the poorest households. One reason is that poorer households typically have little land and, hence, little opportunity to gain directly from productivity innovations, and must rely more on indirect benefits such as increased employment by better-off farmers whose productivity has increased. Another reason is, again, the market access issue. Targeted economic, social and human capital innovations to the very poor can help boost the indirect benefits of productivity innovations, as well as provide direct benefits of their own. However, as they are often only applicable to a relatively small number of adopters, their impacts may not be very visible in project data without more detailed micro studies to tease them out.

154. There is persuasive evidence that innovations in business training, rural business and microenterprise initiatives, and technical support can help create jobs and raise incomes, especially for women and young people, with examples found from the case studies in Burkina Faso, Cameroon and El Salvador (see sections on youth). Household assets may be built up directly through project investments and transfers. For example, innovative community-managed approaches to pass on animals (such as goats in Malawi and cows in Rwanda) enabled many poor women to acquire breeding animals that build a valuable asset as well as provide offspring for sale and milk for family consumption. Infrastructure innovations that protect against climate disasters (e.g. submersible roads in Bangladesh; or in Peru, using concurso funds to construct water catchment and storage ponds to assist with water availability and recharge) can also help protect assets and facilitate their longer-term accumulation.

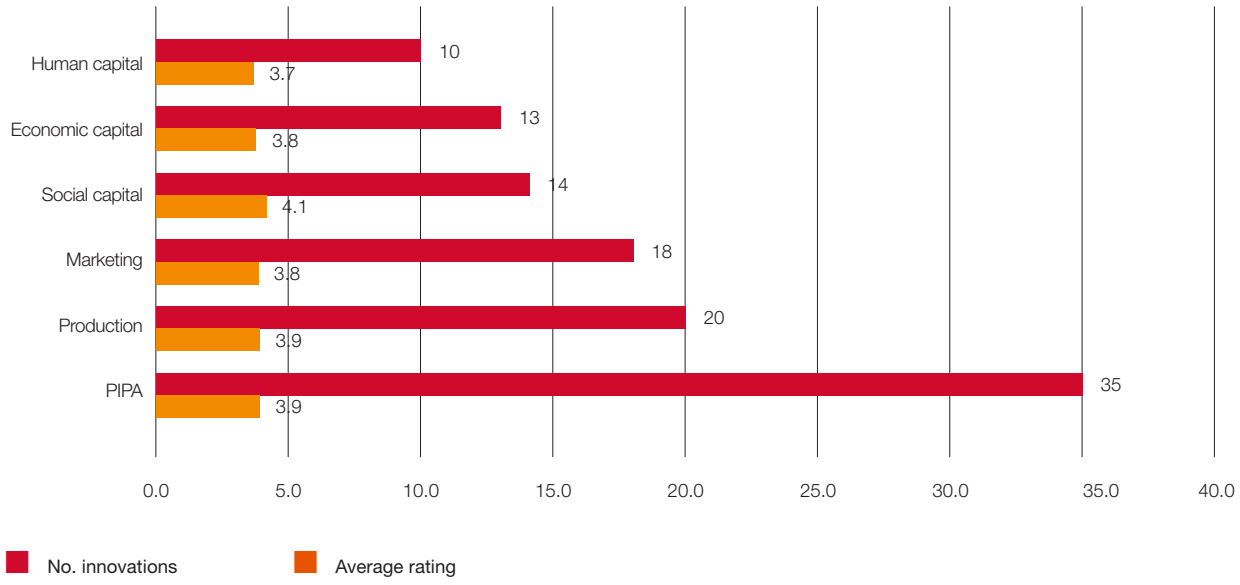
Capabilities of farmers' organizations

155. Farmers' organizations are key beneficiaries and partners of IFAD, supporting their members and interacting with government and the private sector. **Social capital innovations contributed to greater impact on the capabilities of farmers' organizations, followed by PIPA and production-related ones** (figure 19). An example of innovation with great impact was found in Indonesia, where community initiatives with membership that crosses gender and religious lines, are supported by NGO village facilitators. In the Philippines, it is probable that the farmer business schools, and their later development into the aquatic business schools, have had the greatest positive effect as an individual innovation currently, covering many projects and supporting impacts in various ways, including technical, social and institutional impacts.

156. The creation and promotion of agricultural development groups (GDA) by PRODESUD in Tunisia had an impact on social capital and empowerment of local communities. Indeed, GDAs allowed strengthening of the position of the population in relation to development agents and policymakers. The training of GDA members and the recruitment of the technical directors made it possible to support the GDAs and equip them with technical and decision-making autonomy. The strengthening of their administrative and financial management capabilities allowed them to negotiate a better programme with the various administrations. Moreover, the acquired resource management knowledge (particularly, pastoral resources) led to a significant change in the perception and use of common resources thanks to the adoption of sustainable participatory management of rangelands.

FIGURE 19

Case study innovations rated for their effect on the capabilities of farmers' organizations

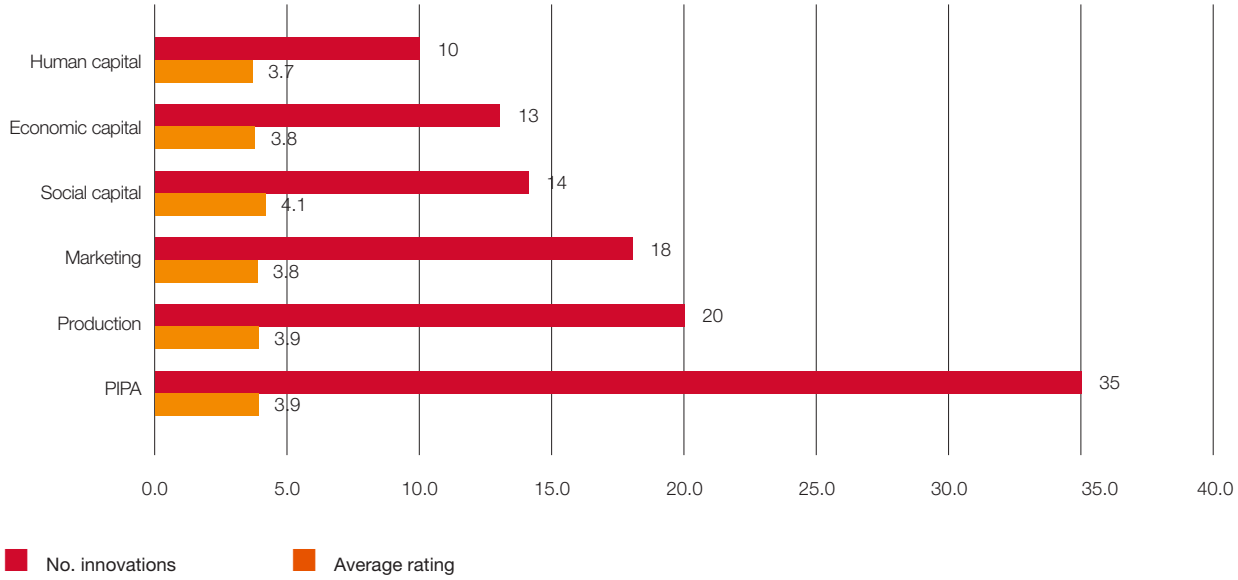


Note: PIPA = project implementation procedures and approaches.

Source: CLE case studies innovations (N=126; only the six main specific domains are reflected).

FIGURE 20

Case study innovations rated for their effect on rural institutions



Note: PIPA = project implementation procedures and approaches.

Source: CLE case studies innovations (N=123; only the six main specific domains are reflected).

157. In Peru, the innovations in projects linked to operational practices and approaches, and developing human, economic and social capital (such as the competitions [concursos]), the local resource allocation committees, and Rural Talents) have had many impacts at community level. These have included a notable impact on the recovery and valuing of intangible assets, mainly KM and cultural assets, such as customs, dances, music and food.[60] In the case of indigenous land titling in the Philippines, and the strengthening of the indigenous leadership, stakeholders commented that it had made a big change to the sense of security, ownership and power of indigenous peoples (IPs): "This is our land and our life. You must consult us to do anything in this community – you must respect us." IPs have been trained and their political importance has increased – they have more confidence and feel that they can preserve their culture.[61]

60 There has been significant development of human capital and empowerment of beneficiaries (including women in particular) and promotion of local leadership and management skills. A market has been established for knowledge transferred via local professionals and technical assistants. In addition, Rural Talents and related training initiatives have considerably boosted knowledge and competencies at local level. The local resource allocation committees are developing local organizations, and, via the LR approach, local individuals and group members are sharing experiences.

61 It also gives the tribe confidence to plant crops, including longer-term crops such as abaca palm, and thus improves their livelihoods and the local environment. There is also a better understanding among outsiders (such as local government units [LGUs], government staff, and private companies) of the reality of the lives of the indigenous people (IP), and the need to respect them.

Rural institutions and policy

158. For rural institutions, again, **social capital innovations rank first, followed by PIPA and production**, reflecting their importance and linkage (figure 20). An interesting example was found in Senegal with the National Interprofessional Framework for Agricultural Sectors, which are interprofessional organizations that bring together all professional organizations involved in a commodity value chain, leading to effective functioning institutions in rural areas that are able to attract other development partners and cooperate with them for improved sustainability.

159. In many countries, IFAD has used innovative processes to establish or build the capacities of rural institutions (at local or national level), combined with development of national-level policy (good examples from El Salvador and Peru are discussed in other sections of this report). In these cases, sustainability is more likely. South-South Technical Cooperation has been very useful, for instance, in some middle-income countries, for establishing innovative regional discussion bodies. In the Southern Common Market (MERCOSUR) region, IFAD encouraged dialogue on public policies between governments and participating social organizations. The work conducted by the IFAD MERCOSUR programme has facilitated the identification of public policies for family farming, resulting in 2004 in the creation of the Commission on Family Farming and MERCOSUR's Fund for Family Farming, which are today entirely funded by MERCOSUR governments. The policy dimension of the Commission on Family Farming is driving investment projects and pipelines – for instance, farmers' insurance against climate events in Rural Development Project for the Northeastern Provinces in Argentina. Family farmers' organizations sit with governments in regular meetings to discuss policy development in various areas such as climate, gender, IPs and insurance. In particular, the development of 4Ps has shown successes across several regions (see box 10).

160. For policy impact, **PIPA innovations rank first, followed by social capital** (figure 21). An innovation found in several countries, but in variable forms, was the single project implementation unit for IFAD projects. Varieties of this concept were applied in El Salvador, Peru, the Republic of Moldova, Rwanda and Uruguay. This method allowed close coordination and synergy with ministries, thus improving the ability of using IFAD-supported projects to influence sectoral policy. In Peru, for instance, the central implementation unit concept served as a method to decrease bureaucracy and speed up operations. According to one respondent, this was "the most fundamental innovation – [it] wouldn't have been possible to implement IFAD projects effectively and efficiently without that".[62]

62 Further descriptions are presented in table A4 in annex IV.

BOX 10

Examples of approaches in strengthening institutions

In Rwanda, public-private-producers partnerships (4Ps) have had a significant positive impact on the livelihoods of the beneficiaries (through reduced post-harvest losses and increased quality of inputs/products, which both lead to increased profits, and creation of linkages with participating financial institutions and/or market partners).

A performance-based grant has been used to support cooperative-led business proposals. Also in Rwanda, the Innovation Community Centre (ICC), a physical infrastructure, is a technical and organizational framework body that serves as an information, coordination and service delivery platform for farmers. It aims to ensure ownership, continuation and sustainability of the achievements of the Support Project for the Strategic Plan for the Transformation of Agriculture, and the Kirehe Community-based Watershed Management Project, within their spheres of action.

The ICC acts within an institutional and farmer-organization capacity-building framework that aims to promote and disseminate community innovations that contribute to the implementation of watershed development and management plans.

The ICC was noted by IFAD Management as a key innovation (self-assessment workshop). It falls mainly under the domain of social capital.

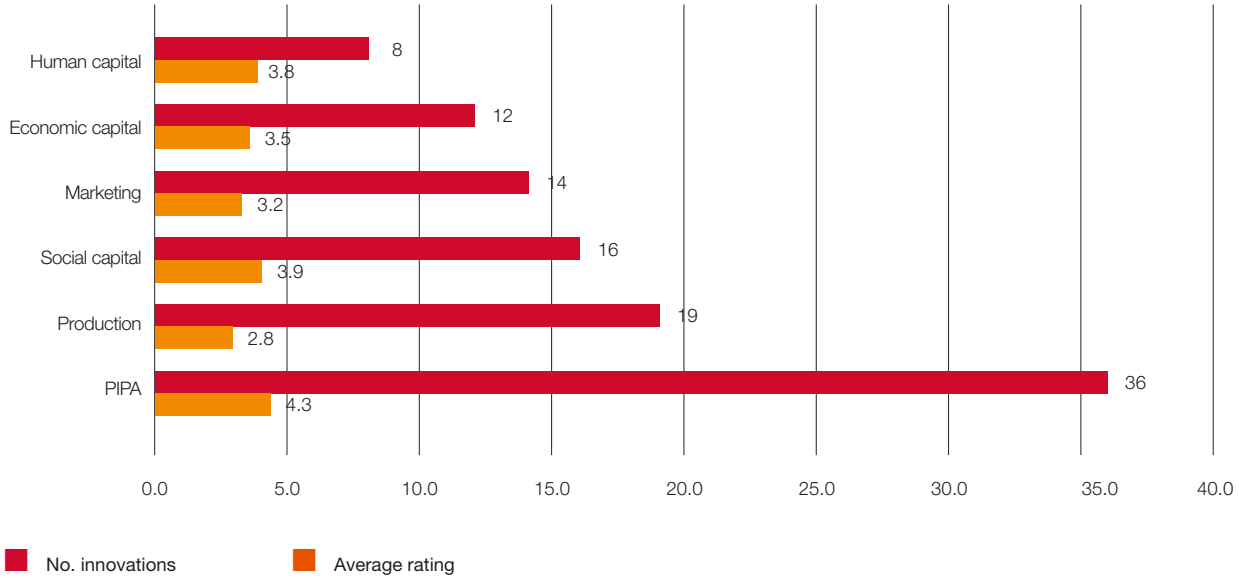
A global grant was provided to the SNV (Netherlands Development Organisation) to develop and test 4Ps brokering mechanisms in El Salvador, Mozambique, Senegal, Uganda and Viet Nam. This was another example of grants being used to flexibly test innovative approaches together with loan projects. IFAD was able to provide strong technical support, for instance, giving advice on models, and sharing IFAD's experiences of public-private partnerships.

There were two workshops with the participating countries, and IFAD also invited some private-sector representatives, government staff and producers to Rome, where they participated in experience-sharing activities, and the SNV prepared a manual on the experience.

Source: CLE.

FIGURE 21

Case study innovations rated for their effect on rural policy



Note: PIPA = project implementation procedures and approaches.

Source: CLE case studies innovations (N=121; only the six main specific domains are reflected).

161. The link to policies for those innovations in the domain of marketing was weaker, although this is understandable, as not all innovations are likely to have an impact across all areas. An example of a successful innovation, yet with virtually no impact on policy, could be found in Bangladesh. Climate-resilient and connected market facilities, and maintaining a women's corner in markets, have had a good impact in several areas, including gender; however, they were rated poor for their impact on government policies.[63]

Negative or unanticipated impacts

162. There were very few negative or unanticipated positive impacts reported during the field visits. An example of unexpected positive impact when the context changed was in Papua, Indonesia, with the National Programme for Community Empowerment in Rural Areas. Following decentralization, the government realized the value of using local NGOs to help municipalities with planning in the new context. The innovative planning approach was expanded and turned into a national policy, achieving considerable impact.

163. When innovations were replicated and further improved over a series of loan projects (or when loans picked up successful grant-funded innovations in subsequent phases), there were more chances to achieve impact (such as in Peru). Where there were gaps, innovations were unable to flourish. For instance, in Indonesia, there was a gap between the Rural Empowerment and Agricultural Development Programme in Central Sulawesi (READ) and the Rural Empowerment and Agricultural Development Scaling-Up Initiative (READ-SI) loan projects, staff moved on and institutional memory on the innovations was lost, inhibiting impact.

164. In some cases, the innovation was too ambitious for the context. For instance, in Madagascar, management standards were set too high for a community organization. The type of management conferred to the market access centres (CAMs) was that of a commercial enterprise, with all the standards and corresponding tools. Those tools provided an excessive degree of bureaucracy that was not adapted to farmers' conditions, and ended up being a burden for the farmers involved in collecting and marketing products. Moreover, the effort to make the CAMs profitable was not necessarily linked to the interests of the producers. Apart from the price conditions offered by the CAMs, which were certainly advantageous with correct weighing, the CAM membership offered no particular motivation for

63 An innovation specific to policy relates to the policy laboratory established with an IFAD-supported project under the Ministry of Planning in Indonesia. As this was still being piloted at the time of the CLE, it is too early to draw conclusions on its impact (see also the section on effectiveness).

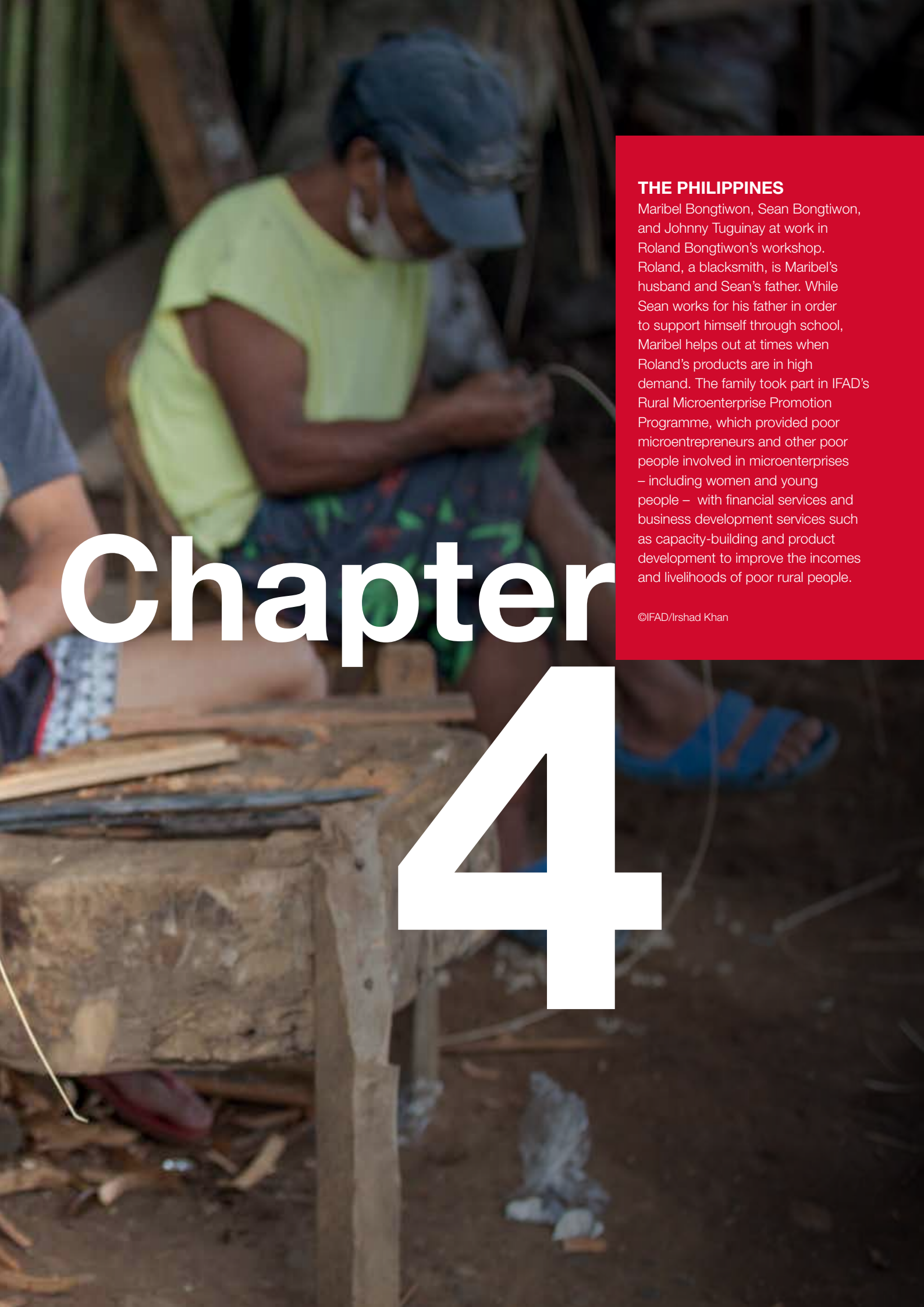
the producers, compared to the flexibility of the traditional collectors and operators, who, despite the disadvantages, maintained an organic and social link with producers.

Conclusion on impacts

165. **The evidence corroborates the view that IFAD-supported innovations have made satisfactory contributions to impacts**. However, this can only be judged as a high likelihood, based on a qualitative assessment, rather than on a quantitative one. Production-oriented innovations have made important contributions to increasing agricultural productivity among beneficiary farmers. In turn, productivity gains have often contributed to improvements in food security, and in household incomes and assets, although the results have depended on other factors such as market access and enabling governance factors. Innovations linked to social and human capital, together with the ones in PIPA, have contributed to the development of strong capacities within farmers' organizations and to enhancing rural institutions and policies. **Positive impacts increased when innovations within a macro domain (e.g. APVC) were complemented or supported by innovations of another macro domain (the SEP and/or the GP)**. This confirms the need for bundling innovations to induce transformative results– but these were not much observed during field visits. Failures in achieving impact were usually linked to difficulties with finance, poor targeting, or excessively complex innovations for local organizations. Gaps between projects sometimes led to a loss of momentum, meaning that innovations stalled or could not achieve the expected impact.

Key points on performance

- Most COSOPs and PDRs anticipated specific domains where innovations were needed, although they did not do so comprehensively or consistently. A framework for analysing the agricultural innovation system, its stakeholders, their linkages, outputs, constraints and enabling factors was lacking.
- IFAD-supported innovations in loan projects were found relevant to the context and stakeholders in most cases. Innovations developed through grants were found relevant. However, they were not systematically put into use by loan projects, and, therefore, did not always contribute to project effectiveness.
- Many relevant KM activities were conducted. Their effectiveness was constrained by their great number, which was not helpful.
- No systems approach was taken to assess agricultural innovation ex ante and ex post. Project monitoring was only partly adequate to monitor innovation processes, which extend beyond a single project framework.
- Most IFAD-supported innovations were successful in addressing challenges of smallholder agriculture. However, the developing of linkages among stakeholders of the agricultural innovation system at work around a project was performed in an ad hoc and incomplete manner.
- A majority of innovations contributed to impacts in the four domains. Innovations related to production, social and human capital had the highest contributions. Innovations to link APVC actors (4Ps approaches) were more effective when combined with innovations enabling access to financial inputs.
- Few negative impacts were identified. Failures in achieving impact were usually linked to difficulties with finance, poor targeting, or innovations that were excessively complex for local organizations.



Chapter 4

THE PHILIPPINES
Maribel Bongtiwon, Sean Bongtiwon, and Johnny Tuguinay at work in Roland Bongtiwon's workshop. Roland, a blacksmith, is Maribel's husband and Sean's father. While Sean works for his father in order to support himself through school, Maribel helps out at times when Roland's products are in high demand. The family took part in IFAD's Rural Microenterprise Promotion Programme, which provided poor microentrepreneurs and other poor people involved in microenterprises – including women and young people – with financial services and business development services such as capacity-building and product development to improve the incomes and livelihoods of poor rural people.

4. IFAD-supported innovations for inclusiveness

166. This chapter relates to inclusiveness and assesses the contribution of IFAD-supported innovations to promote gender and youth, as well as marginalized groups. Analyses covered the support of innovations to: gender equality and women's empowerment (GEWE); innovations that focused on youth and their economic empowerment; and innovations supporting IP or particularly disadvantaged groups.

A. Contribution of supported innovations to gender equality and women's empowerment

Overall trends in gender equality and women's empowerment

167. The three main objectives of IFAD's policy on GEWE (IFAD, 2012b) are: (i) promote economic empowerment to enable rural women and men to have equal opportunity to participate in, and benefit from, profitable economic activities; (ii) enable women and men to have equal voice and influence in rural institutions and organizations; and (iii) achieve a more equitable balance in workloads and in the sharing of economic and social benefits. In the IFAD Strategic Framework 2016-2025, gender equality is identified as one of the five core principles of engagement. However, despite emphasizing the need to cultivate mechanisms for knowledge-sharing that help identify key issues, and accelerate innovation and the scaling up of best practices – such as LRs – the GEWE policy does not have a focus on innovation.[1]

1 One action area of the policy aimed to continue to cultivate mechanisms for knowledge-sharing that help identify key issues, accelerate innovation and the scaling up of best practices – such as LRs – and contribute to the evidence base for more effective policies and practices.

168. The ES on GEWE (IOE, 2017b) found that interventions that have a clear transformative purpose were more effective for GEWE. Although this was considering interventions in general and not specifically innovations, **it is likely that, as per the current CLE's finding, bundling GEWE-related innovations will lead to transformative change**. The ES argued that an important transformative purpose is to break traditional gender roles and stereotypes through activities that can range from training, income generation or marketing, to participation in decision-making. This can also be part of social mobilization and leadership strategies. The ES recommended that potential gender-sensitive innovations for scaling up should be identified at the design stage and monitored throughout. This is aligned with this CLE's finding on transformative innovations.

169. The CLE team rated the case study innovations according to their contribution to GEWE (see figure 22). When considering the six domains with the greatest number of innovations, there is no big difference in the average score. **SEP-related innovations rank first, followed by production-related ones, most likely due to the fact that many women are actively involved in production activities**. An example of basic production having a strong impact on women was in Bangladesh, where domestication and production of mud crabs was linked to marketing and involving women involved in the value chain. However, the ES on GEWE noted that, while simple production elements such as home gardens can help enhance women's role in household food production and income generation, they were less likely to be transformative. Previous findings corroborate this, as most of the innovations assessed were stand-alone. In practice, **loan projects were found to be less likely to introduce targeted innovations benefiting women, while grants offered a more flexible way to address GEWE**. This indicates the difficulties in convincing partner countries of the importance of prioritizing gender within loan projects, and in

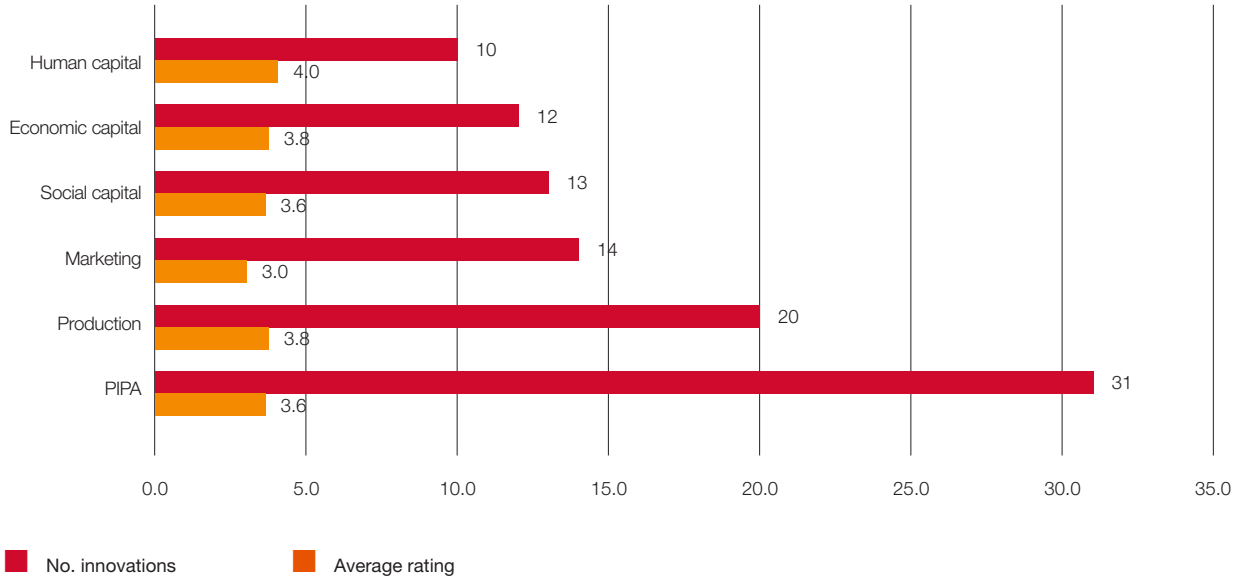
particular, when introducing potentially riskier innovations. For example, in Kyrgyzstan, it was noted that innovations introduced in the loan projects were relatively gender-neutral, while the grant activities were focused on activities for women (including public-private partnerships, and processing and marketing of fibres). The FoodSTART+ project grant (IFAD and CIP in four countries of Southeast Asia) carried out an assessment of the gender dimensions of roots and tuber crop farming practices, but also had the flexibility to go further, to prepare gender checklists and plans to share, as well as being an active participant in the IFAD Philippines network.

170. **Innovations supporting GEWE include those that did not specifically target women or gender relations, but from which women have benefited**, with increased assets or income. There were also some targeted innovations. While innovations might not have been planned to target women, in most cases there were effective involvement of women and positive effects on gender equality.[2] There was no evidence of innovations that particularly targeted work with men on gender equality, although they were often involved (such as with the GALS work).

2 The recent ES on technical innovations (IOE, 2019a) found that very few technical innovations were targeting gender outcomes. Only 7.9 per cent of the innovations studied reported a positive impact on gender equality and women's empowerment (GEWE), while a small number (0.9 per cent) reported a negative impact. The positive impacts were seen under the topics of: home garden development, and cassava and food processing; and reduced drudgery in fuel, fodder and water collection. In very few cases, the introduction of new technology or participation in meetings led to more voice and greater status for women at household and community level. One example of a negative impact on women was the introduction of cash crops, which increased women's workload.

FIGURE 22

CLE rating of case study innovations contribution to gender promotion



Note: PIPA = project implementation procedures and approaches.

Source: CLE case studies innovations (N=113; only the six main specific domains are reflected).

171. Topics regarding GEWE were identified in the electronic survey as being addressed by innovations in IFAD-supported activities.[3] They are discussed in examples below and pertain to: economic empowerment, equality, voice influence and balanced workload.[4] In many countries, it was difficult to obtain adequate gender-disaggregated monitoring data, as the activities targeted households rather than individuals. While this is considered to be culturally appropriate, it does tend to mask the involvement of women. Few unintended effects of innovations were reported, other than increased workload.

Innovations promoting economic empowerment

172. **SEP-related innovations contributed to empowering women, complemented by PIPA-related ones** (similar average rating to social capital). There is a risk that, when introducing new value chains or technologies, women will miss out due to infrastructure or financial requirements. In addition, if value chains become successful, there is a risk that men will take over (or that larger enterprises will become involved, with largely male leadership). Typically, rural finance activities such as savings and credit schemes are focused on women; however, these are not necessarily particularly innovative. Examples of more innovative activities in Peru that particularly targeted women included introducing rural micro life insurance and financial education, and exploring very new ideas for remote areas, such as electronic transfers and financial services using credit cards. In Bangladesh, the land titling process has placed the woman's name first on joint titles. This has promoted women's economic empowerment and confidence.

Innovations improving equality of voice and influence

173. In Bangladesh, the systematic involvement of destitute women in construction, providing them with training and contracting them for work with labour-contracting societies (LCS), has strengthened both their economic and social status.[5] In addition, linked to the LCS, women's market sections were installed in several community markets, offering permanent shops with favourable rent agreements in a safe environment. Remoteness (permanent and seasonal) is a main issue in Bangladesh, and this, coupled with the low involvement of women outside the homestead, restricts the expansion of productive activities. However, in this context, the Impact Assessment of IFAD-supported Coastal Climate Resilient Infrastructure Project (CCRIP) in Bangladesh (IFAD, 2019f) found that, although qualitative results were positive, there was a significant difference in impacts between groups of different women. There was a significant positive effect on some women's autonomous income generation and their decision-making involvement for family decisions, agricultural production and, for some groups, sales, but this was not seen for others. This indicates that the sociocultural constraints on some women participants inhibited their voice, despite project support.[6]

174. In particular, **IFAD has developed household methodologies (HHMs), as an innovative approach to promote gender equality and livelihoods development** (currently, 50 IFAD-supported projects across the five IFAD regions apply HHMs in some form). The HHMs are participatory approaches used to promote equitable intrahousehold relations, fair division of labour, and shared decision-making processes. The term HHM refers to two different approaches. Under the first, the GALS methodology and household mentoring have in particular addressed unequal gender relations within the families. The second HHM approach is presented in the section on marginalized groups.

3 See figure A6 in annex V.

4 Some partners may be useful to leverage IFAD's work with innovations and gender and bring them to scale. These include the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) and international and national NGOs. However, this is usually problematic via loans, as governments are reluctant to spend outside government networks (and particularly on other United Nations agencies).

5 The ES on gender (IOE, 2017b) noted that women had improved their status within the family, as they received more respect for their opinions and became more involved in discussions and decision-making.

6 The impact assessment found that "some women were forbidden from joining the LCS by their husbands, and that after the work with CCRIP had finished, female members had difficulty in obtaining additional employment, and when they did find work their wages were often lower than men's" (IFAD, 2019f, p. 46).

175. GALS has been widely used since its beginnings, with a small grant to Oxfam Novib in 2009. It has been promoted as a key tool from IFAD's part within the RWEE joint programme. A facilitator works at household level to support the family (all members) to develop a shared vision for their future, and analyses their current situation – including gender inequalities – in order to address current constraints (see box 11). Of the case study countries, the GALS methodology was highlighted in Kyrgyzstan and Rwanda. **The CLE identified GALS among one of the few transformative innovations**.

176. **The HHMs (both GALS and more general HHMs) were useful SEP-related innovations in most of the countries studied**. However, the disadvantage of the HHMs is the time, staff and budget required in order to work at household level, rather than at group or community level. This requires the commitment of the IFAD team at country level and of the government or NGO stakeholders. In several countries, it was apparent that women had not benefited significantly from collective infrastructure grants, such as irrigation small-schemes rehabilitation for innovations for climate resilience (for instance, in several projects in the Republic of Moldova).

Innovations supporting more balanced workloads and benefit-sharing for women

177. The ES on GEWE (IOE, 2017b) found that activities or innovations that relieve drudgery contribute to gender impacts, as they free up women's time for income generation or community participation. The present CLE found a few examples of this. The introduction of time-saving equipment for women in El Salvador, such as bicycles and washing machines, within a joint project with UN Women, reduced drudgery for women. The bicycle itself, for instance, is not innovative. What is innovative is the use of the bicycle to address the constraint of women's lack of time (thus addressing a human capital issue). In Rwanda, the flexi-biogas innovation was appreciated for easing life of women at household level. Cooking with biogas instead of fuelwood or coal reduced the time spent collecting fuelwood and reduced the amount of smoke and health-damaging particles. This had a beneficial effect on the health status of the households concerned, especially women and children. A double-hob gas cooker was provided as part of the biogas kit. Rocket stoves introduced in Malawi had similar benefits for women and girls.

BOX 11

Gender Action Learning System (GALS): a transformative innovation

The Rural Women's Economic Empowerment (RWEE) programme is implemented as a joint programme by FAO, UN Women, WFP and IFAD. Within RWEE, IFAD has supported the GALS methodology (which began with an IFAD grant to Oxfam Novib in Uganda). GALS begins with workshops to train "change catalysts" or "champions" at community level – these can be women or men.

They then move to household level to facilitate discussions and visioning at individual and household level, and preparation of an action plan. Local NGOs, together with participants, have also modified the GALS methodology to better fit local conditions. GALS challenges cultural norms, but it must also fit with the community. Staff need to engage with the leadership in the community to discuss the changes that might come up, in order to limit any backlash.

They can apply two approaches – one for the poorest households, using mentoring, hygiene, etc. – and one for slightly stronger households, to discuss possible business plans. GALS can be difficult to scale up, as it works very locally. However, some GALS participants speak of transformations in their personal lives, starting a chain towards significant socio-economic and political impacts.

In Kyrgyzstan, women report that, as a consequence of using GALS, they have a changed role within the family. They feel empowered and the decision-making within the family has become more balanced, with more respect from their mother-in-law and husband. They are also trusted to go out to work, rather than only staying at home.

The women have also been empowered politically. Within the community, they have become more active, lobbying the local self-governance office on issues and even standing for election in some cases. In Rwanda, benefits of GALS have been empowerment of women through their increased participation in farmer organizations and activities supported by the project. The IFAD Office in Guatemala recently won an award for its work with gender, especially with the GALS methodology.[1]

1 In 2018, the local NGO implementing the GALS methodology in Kyrgyzstan also developed and piloted the Business Action Learning for Innovation (BALI) methodology. BALI is facilitated by the same community champions as GALS. BALI promotes business capacities, management and marketing skills, and financial skills of rural women. It aims to promote women's (and low-income men's) business innovations and to diversify them from the typical range of activities considered "women's business". They are supported to plan their business and monitor progress, and network with one another. However, this is a very early innovation, and it is not yet possible to say whether it will "stick".

Source: CLE.

Context-specific issues

178. With regard to the current CLE, **the influence of innovations on gender equality issues was found to be highly dependent on local culture**. For instance, in Tunisia, social conservatism greatly limited the participation of women and youth in the decision-making processes of the projects. Despite efforts to involve them in income-generating activities and training, the results were negligible; and technical innovation did not lead to any fundamental change in gender balance. On the other hand, IFAD innovations have been very positive in some countries. The Philippines is a country with strong gender results in global rankings, yet the consensus is that more work is needed. The Philippines is the only country globally with an IFAD gender network, which has been a successful innovation for gender information-sharing and learning, and policy engagement. Participants from the government, research institutes, projects, IFAD and civil society organizations meet regularly to share resources and discuss topics. They also make an annual visit to one project, with visitors paying for their own time and travel costs. This responds to the 2012 Gender Policy under Action Area 4 (gender and diversity balance in IFAD), which requires documentation of innovative approaches and lessons learned at programme/project level.

Knowledge management in relation to gender

179. Knowledge-sharing in gender has also been a successful innovation in Uruguay. Already towards the end of the project, in 2010 the Uruguay Rural Project (PUR) represented the Ministry of Livestock, Agriculture and Fisheries (MGAP) in the Regional Program for Strengthening Gender Equality Policies in MERCOSUR, and an agreement was made to strengthen the social base of the Rural Women's Association of Uruguay. After the conclusion of the PUR, the MGAP has continued with these initiatives to support the empowerment of women led by the PUR.

180. In Senegal, a gender-specific innovation is the creation of the Observatoire Régional Genre de Matam. The gender observatory has a watchdog and alert role on gender issues in development programmes in the region.[7] The advocacy of the gender observatory has allowed groups of women and young people from deprived areas with high emigration to: (i) benefit from drip irrigation systems; (ii) master the techniques; (iii) generate very significant income; and (iv) employ young farmers. The introduction of the drip irrigation system has lightened the workload of women and young people, and has proved a good way to channel remittances generated by emigrants.

Conclusion on gender and women's empowerment

181. With regard to gender, **IFAD-supported innovations were satisfactory**. Although few innovations specifically targeted women, many were useful to address challenges faced by the latter. **Innovations in the SEP domain were critical for GEWE, complemented by PIPA-related innovations, reflecting once again the importance of the latter as enabling factors**. Innovations focusing on women were scattered in general, with the exception of GALS in the RWEE, a bundle of small innovations leading to transformative change. Context is critical, as gender considerations vary considerably between countries and, for this reason, gender-linked innovations have varying effects in different settings. Therefore, a bundle of innovations is necessary to ensure good impact for women.

B. Contribution of innovations to youth promotion

Overall trend

182. Youth is a complicated issue to address in many countries. While a large proportion of the population of developing countries is under 25 years old, most young people do not have access to their own land or resources, and often lack skills. This has led to migration of youth to the cities, searching for work outside of agriculture (which is often burdened with perceptions of being dirty, hard labour or old-fashioned). In practice, it is often the most innovative or entrepreneurial youth who migrate away from farming. In loan projects, in particular, this can limit the involvement of young people.

7 The members of the gender observatories are representatives of women, youth, people with disabilities, neighbourhood groups, health workers, school principals, and representatives of technical services, programmes and NGOs at the local level.

183. IFAD's new Rural Youth Action Plan (IFAD, 2019f) emphasizes the importance of grants and resources for innovation.[8] However, this plan was not used within the period evaluated. Despite this, attention was given to incorporating youth in innovations, especially grants. **Some countries have paid more attention to young people, attempting to keep them within agriculture**. For instance, the CLE noted that both loans and grants in El Salvador gave particular attention to young people, particularly with regard to innovations in the area of organizational practices and human and social capital. However, even there, a risk exists that young people will migrate outside of the country, searching for income. A similar example was seen in Cameroon (see below).

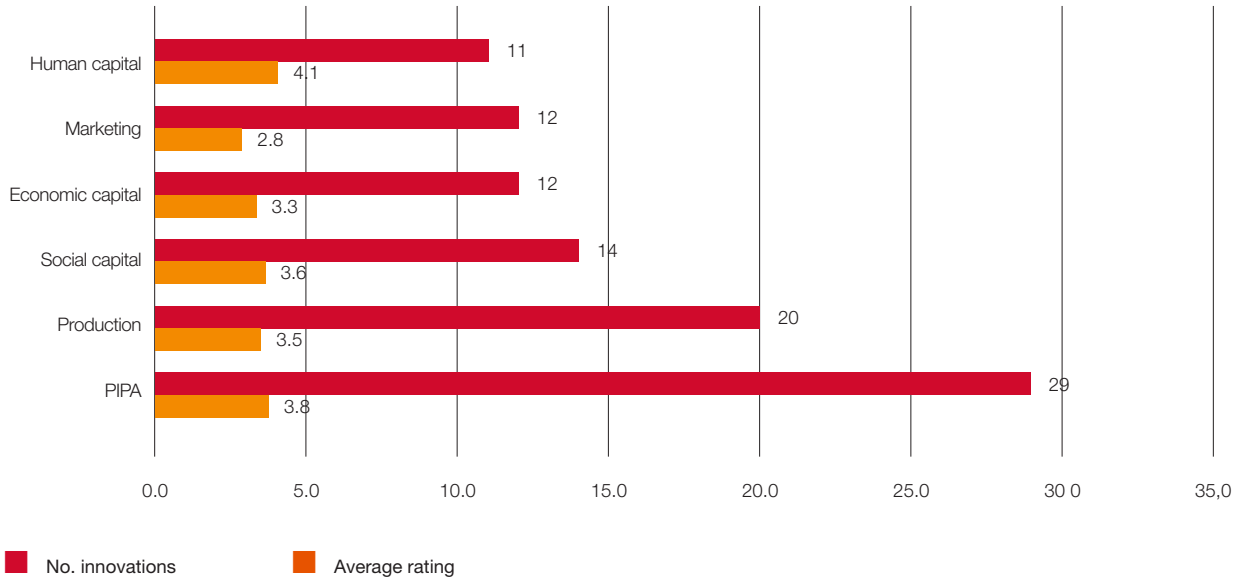
184. The ES on rural youth (IOE, 2014b) noted that IFAD sometimes uses grants as strategic tools to promote innovations for youth. An example was the Global Youth Innovation Network, a network led by youth, for youth, which IFAD supports with grant funding. The network arose from the IFAD Governing Council meeting of 2011 and the Global Youth Innovation Workshop Fair "Youth Entrepreneurs – Agents of Change", which explored how best to support and promote entrepreneurship and innovative ideas of young people in rural areas. This support for the network is an innovative process in itself, along with support for the initiation and continuing work of the organizations PROCASUR and Fundación ACUA.

185. The CLE ratings of the contribution of innovations to youth and indigenous groups were assessed together (figure 23). Among the top six domains, **innovations in the domains of human capital had the greatest impact, followed by PIPA-related ones**. These results are quite similar to the ones for women, illustrating once again the complementarity of PIPA-related innovations. Innovations related to economic capital and marketing (in particular) performed less well, reflecting the difficulties young people face in gaining access to financial inputs and to markets.

8 Strategic directions comprise: (i) business development services; (ii) investments in mechanization and the use of modern technologies, including ICT; (iii) vocational and technical training; (iv) actions targeting youth, including credit/equity financing for youth-owned enterprises and start-ups, innovative use of migrants' remittances to spur investment in rural youth, agricultural risk management and involving youth as stakeholders in farmers' organizations, youth associations and cooperatives; and (v) engagement with governments and youth for conducive policy frameworks.

FIGURE 23

CLE rating of the contribution of case study innovations to promotion of youth and indigenous groups



Note: PIPA = project implementation procedures and approaches.

Source: CLE case study innovations (N=111; only the six main specific domains are reflected).

186. **Insights from the electronic survey**. Of the 73 IFAD staff respondents, only 18 per cent considered youth to be among the top three issues to be promoted. Of 167 project staff respondents, only 23 per cent rated youth aspects among the top three issues. With regard to the types of innovations supported for youth, IFAD staff and project staff responses were similar. They considered that the most common types of IFAD-supported innovations for youth were increased enterprises for youth, and better capacity-building for youth, while multilateral/grant-partner responses were slightly different.[9]

Innovations addressing the promotion of youth

187. El Salvador was noted for the strong work on institutionalizing youth work at policy level. A youth network was supported from 2012 within the Rural Development and Modernization Project for the Eastern Region (and later by Rural Development and Modernization Project for the Central and Paracentral Regions and the Rural Territorial Competitiveness Programme). The projects worked locally to train young people, building leadership skills, planning, and strengthening organizations, and then they began to legalize the organizations. As a result, the National Institute of Youth (INJUVE) has now been established within government. The projects also supported the formation of networks in three regions, and then formed a national network of rural youth. Interviewed stakeholders were clear that no other financing organization in El Salvador had given such significant and long-term support to youth work as has IFAD.

188. **Information and communication technologies (ICT) is an area considered to be of particular interest for youth, and related technologies can be useful to keep them involved in agriculture**. ICT can be a tool to link youth to financial support, information-sharing or capacity-building; or ICT can be an end in itself. Examples include an innovation involving youth nominated by IFAD Management, the Baby Loan platform – an application developed by Malian migrants in France to make small online loans to rural micro-entrepreneurs in Mali (within the Rural Youth Vocational Training, Employment and Entrepreneurship Support Project).

189. In Lima, Peru, a joint effort between LAC and the Sustainable Production, Markets and Institutions Division of IFAD (PMI) devised a hackathon (the first of its kind within the institution) in 2019. The competition gathered teams of programmers and other professionals to create technological solutions to specific problems – in this case, to generate a technological solution to link small rural farmers with formal value chains, specifically, with large food chains and franchises, giving both parties a clear channel for orders, sales, logistics, delivery and payment for quality fresh produce. From an initial 29 applicant groups, seven teams competed. IFAD organized the event with sponsorship and assistance of private-sector actors, in the framework of IFAD's new private-sector strategy. The main private-sector sponsor (Subway) will also provide the framework on which the winning team will test its idea. It is anticipated that the new technological platform will promote the economic empowerment of farmers, greater access to markets, improvement in product quality, and fair prices.

190. Often, **young people require a combination of supports, including finance and capacity-building**. Incubation units can be a good entry point. In Cameroon, IFAD has supported youth incubation and promotion within the Youth Agro-pastoral Entrepreneurship Programme. This innovation was developed to address challenges related to youth unemployment and the lack of economic opportunities, and to ensure access for young people to mid-term credits. **The incubation approach is effective in enabling young people to identify their project idea, reorienting training to be more practical, and supporting the development of their business plan**. Beneficiaries interviewed reported positive changes in terms of: income generation through activities; improved technical and management capabilities; better capability to mitigate CC burdens; improved morale and family well-being; job creation by employing other young people; and increased social role and responsibility of the young entrepreneur. However, only 668 enterprises[10] had been created and supported at the time of the CLE, four years after the project started. **The main challenge remains the reluctance of MFIs to remit credit to young entrepreneurs, as the majority do not have collateral to guarantee their loans**.

9 See figure A7 in annex V.

10 Very low, considering the needs.

191. In Sudan, IFAD began a young professionals programme, which has built the human capital of young people. **It has been instrumental in advancing project implementation, especially in mobilizing communities, raising awareness on gender inclusion, and increasing women's participation**. In the Republic of Moldova, IFAD opened a window for youth to access credit and non-financial services in 2010, thereby improving financial inclusion. This window has now been expanded to retain youth talents in rural areas. Matching grants are tied to a loan, but only disbursed after the young entrepreneurs have successfully purchased their assets and begun to use them. The grant improves the cash flow and reduces risks for loan repayment.

Conclusion on youth promotion

192. Based on the case study analyses and evidence, **IFAD's support to innovation directed towards youth promotion is moderately satisfactory**. Some innovations have been very recent and have not yet shown results, while others are facing challenges. Innovations related to human capital were very effective, followed those related to PIPA. However, **the mixed success of innovations in economic capital and marketing reduced the overall performance of IFAD's supported innovations directed towards youth promotion**. This is the consequence of the fact that young people do not have resources and collateral to access credit. In addition, IFAD-supported projects focus more on capacity-building and institutional development.

C. Innovations for marginalized groups and the very poor

193. Indigenous groups often live in marginal areas in many countries, ranging from remote uplands to tropical forest areas, with complex environmental issues. They may face economic, social, political and cultural marginalization. For this reason, IFAD considers it important to design targeted interventions, and to consider nine fundamental principles: (i) cultural heritage and identity as assets; (ii) free, prior and informed consent; (iii) community-driven development; (iv) land, territories and resources; (v) IPs' knowledge; (vi) environmental issues and CC; (vii) access to markets; (viii) empowerment; and (ix) gender equality (IFAD, 2009c). However, while the IFAD policy for engagement with IPs makes reference to IFAD's need to support IPs in enhancing the resilience of the ecosystems with innovative adaptation measures, it is not particularly specific on the role of innovations.[11]

Indigenous groups

194. For instance, Fundación ACUA – a group promoting the rights of Afro-descendant populations in Latin America – began with grants from IFAD, and has now had several projects in different countries (including Colombia, Ecuador and Peru). Its main objective is to focus on Afro-descendant populations. Topics vary according to the country. In some, the projects examine cultural expression; in others, they focus on territory and environment, including: the landscape approach; links to land; Afro-descendant business development and resources mobilization; influencing the public agenda; intellectual property registration; mapping resources; and food and music.

11 The ES on IFAD's engagement with IPs (IOE, 2016b) recommended that IFAD should promote innovations targeting IPs that could be scaled up in investment projects.

195. Another successful support for indigenous organizations from IFAD at global level has been the development of the Indigenous Peoples Assistance Facility (IPAF). Established in 2006, **IPAF is an innovative financial instrument in itself** that facilitates direct partnerships among IP communities, grass-roots organizations and NGOs working with IPs globally. It has served as a model for other donors and is facilitating the growing role of IPs in funds such as the Green Climate Fund. IPAF is owned by IPs. It runs calls for proposals for small grants, both free-standing and linked to loan projects, with a particular focus on innovative approaches, ideas and processes. **IFAD has also used the IPAF experiences to improve indigenous sensitivity and lessons on what works in other loan projects** (although further work is needed) (IFAD, 2019h).

196. In Nepal, care has been taken to ensure proportional ethnic and caste representation among project participants and group leadership, for instance, in the leasehold forestry project. The country evaluation reported strong gender and ethnic inclusion and empowerment, and women members showed a high degree of ownership and interest in the programme.[12]

197. Indigenous issues have been a key focus of innovations in many projects in the Philippines (touching on the majority of the principles in IFAD's policy on indigenous peoples). This has included innovations in: IP leadership strengthening (see box 12); the covenant approach to NRM; the use of participatory 3D mapping tools to identify lands; and strengthening indigenous land ownership.

Poor and marginalized groups

198. **There is a risk with some innovations that very poor groups in the community will be missed**. For instance, some market-linked innovations favour those with more land and entrepreneurialism. Wealth mapping or other tools are important for planning and ensuring equity (for instance, the Western Uplands Poverty Alleviation Project [WUPAP] in Nepal). Technological innovations may require land, or strong literacy and education. The successful innovation of community-based competitions (concursos) for grant funding introduced in Peru, and replicated in many projects, runs this risk. The poorest members of the community may not have the skills to prepare business plans, and also could find it difficult to collect the counterpart funds. For instance, in the Strengthening Local Development in the Highlands and High Rainforest Areas Project, in Peru, the groups competing for funds had to provide a 20 per cent cash contribution. This was a struggle for some – but most respondents considered that this was important for ensuring commitment. In addition, the evidence from the field visit, and from project reports (the recent collection Stories of Value Creation), suggests that groups supported some members who could not pay in cash in return for extra work in kind. Not everyone is entrepreneurial, and some would prefer employment only (which could be a downstream outcome of some of the projects).

12 Moreover, many innovations listed in the projects in Peru have benefited IPs. However, they were not necessarily designed specifically for these groups.

BOX 12

Strengthening and revitalizing indigenous leadership

One of the loan projects in the Philippines – the Northern Mindanao Community Initiatives and Resource Management Project – worked with 17 indigenous communities belonging to six tribes to revitalize their leadership. It had become clear that there was a need to identify the true leaders within the communities, following years of political interference.

The project mobilized young indigenous people with professional education and linked them with selected elders ("keepers of traditional knowledge") to team up as co-facilitators to support indigenous development, reconstruct tribal identity and revitalize indigenous leadership. Traditional processes were used to identify the genuine customary law holders (257).

IP professionals sought their permission to put into writing the oral traditions and customary laws, and provided an interface between traditional and mainstream ways of working. Tribal leaders were trained and capacitated, and later about 100 became members of the local government units (LGUs). Under the LGU system, there are committees where they can represent their community. This ensures that IPs are recognized as partners in the development process, and that their interests and concerns are addressed. The young professionals who worked with IP leaders to revitalize the culture and leadership of their tribes are still actively involved as tribal leaders. Learning sites/schools (schools for indigenous knowledge arts and traditions) were also established to train the IPs (young people and adults) and share indigenous culture and knowledge.

Source: CLE.

199. **The second innovative HHM approach, household mentoring, is particularly effective as a mechanism for social inclusion and a graduation model for ultrapoor households**. This has been applied in Malawi (a case study country) and Uganda (IFAD, 2014a). Mentors from the local community are trained and then befriend poorer households that are beyond the reach of usual community development initiatives. In Malawi, the Irrigation, Rural Livelihoods and Agricultural Development Project piloted use of the individual household approach, and this was scaled up by the Sustainable Agricultural Production Programme, proving particularly successful in empowering women, and in addressing health issues such as HIV and AIDS.

Conclusion on indigenous and marginalized groups

200. Few innovations targeted indigenous groups and the very poor, but those that did were successful overall. Some countries have introduced highly innovative ideas for working with IPs or the very poor. These should be better shared globally. Most successful innovations for the capabilities of the poorest farmers were related to production and the SEP, followed by PIPA. **The CLE assesses the performance of IFAD-supported innovations to promote indigenous and marginalized groups as satisfactory**.

Key points on inclusiveness

- In culturally conservative societies, innovations targeting GEWE may still struggle to achieve impact.
- Not all innovations can and should consider all groups. However, potential impacts should be considered. For instance, gender-sensitive reviews of innovations should be carried out to ensure there are no negative impacts, and that the activity is as inclusive as possible, and not gender-blind.
- Household-level methodologies appear to be a useful innovation for reaching disadvantaged groups, particularly women.
- When considering innovations focused on marginalized groups or women, grants have proved to be more flexible than loans. However, a committed CPM is also an important element for gaining acceptance. While IFAD staff and partners do give some consideration to inclusion issues when developing innovations, more focus is needed.
- Innovations targeting young people provide them with opportunities within the agribusiness sector, not only on the farm. To enable young people to enter SMEs within agrifood APVCs, capacity-building is a key requirement.

MALAYSIA

The Jakun ethnic group, are the second largest among the 18 Orang Asli indigenous peoples in West Malaysia. The occupations of the villagers varied from working in oil palm plantation, rubber smallholding, to the gathering forest products. This project focused on diversifying environmental and cultural economic activities. Eco-farming, chicken breeding and a homestay venture brought together families on a common enterprise with the participation of traditional authorities.

On a continuous growing goal towards protecting traditional land and territories, the project to Enhance Ulu Gumum Jakun Orang Asli livelihoods through diversity, social enterprise and sustainable agriculture improved the unity of the community, strengthening leadership, and moved them closer to becoming one voice to campaign for their land rights. Traditional leadership structures were strengthened among the growing number of farmers and collective social enterprises. Understanding of markets and pricing was improved and the bargaining power of the community was developed.

Chapter 5

TONGA
Tupu Molia, 36, Community Facilitator, tending seedlings at the Malau Building community nursery, ‘Eua. Mordi, the NGO that implements the Tonga Rural Innovation Project, provides an extension service that teaches Tupu to grow and care for the plants and tree saplings, which include new varieties and new cash crops. Tupu’s goal is to own a nursery of his own some day.

5. Contribution of innovations to natural resources management and adaptation to climate change

201. This chapter assesses the extent to which IFAD-supported innovations contributed to addressing challenges related to NRM and CC. As most smallholders rely heavily on natural resources, NRM is a major issue for IFAD. In this specific area, several types of innovations in relation to production, social, regulation and policy play a major role in the degradation or rehabilitation processes.

202. NRM is also a global issue in a context where resilience to CC and adaptation to a growing population require a healthy environment supporting rural transformation.[1] Therefore, IFAD has given attention to the topic through its policies (see box 13).

203. NRM and CC are interlinked. For example, a lower level of the water table makes peatland susceptible to fire and creates mazes, which cause significant carbon emissions as well as health issues for inhabitants. Some of the innovations promoted enhance the adaptation capacity of farming systems to CC, but very few[2] address the issue at scales at which sizeable effects on climate parameters (CO_2 emissions) can be expected.

1 Environment and CC issues are wider-scale issues, and, in many cases, smallholders are not able to tackle the causes and have to adjust and find adaptive solutions rather than mitigating ones. Direct consequences of CC, in terms of temperature, water imbalance and drought, occurrence of erratic events such as typhoons, storms, destructive wind and fire outbreaks, differ from country to country and require context-specific solution design.

2 None, as far as the case study innovations are concerned.

BOX 13

IFAD core principles for environment and natural resources management

IFAD's Environment and Natural Resource Management Policy of 2011 states 10 core principles for environment and natural resource management in projects (IFAD, 2011a). It recognizes the importance of the natural resources asset base for poor people, and the damaging effects of some of the agricultural practices on these resources, and it advocates for "multiple benefit" landscape approaches that reduce poverty, build resilience, increase food security, mitigate greenhouse gas emissions and promote sustainable agricultural intensification. Effective since 2015, the Social, Environmental and Climate Assessment Procedures (SECAP) outline how IFAD addresses the social, environmental and climate impacts associated with its projects and programmes.

Such procedures are mandatory for all investments at seven stages, including design. Projects are assessed according to their environmental, social and climate risks, and to their climate vulnerability. Those with a moderate score must attest the planning of additional measures (SECAP review note, environmental and social management plan); those with a high score must conduct an environmental and social impact assessment at design. In addition, a SECAP preparatory study is conducted when a country strategic opportunities programme (COSOP) is developed. SECAP require a systemic analysis, for example, to identify indirect effects, cumulative effects of incremental outcomes, and potential multiple benefits.

Source: CLE.

A. IFAD-supported innovations affecting natural resources management

204. Previous analyses of the PoLG showed few projects that had NRM as a main domain of intervention (5.3 per cent of the large grants, and 7.9 per cent of the loan projects). The analysis of case study innovations showed that **most innovations related to production also had an influence on NRM**. Nevertheless, one should acknowledge that the assessment of the effect of an innovation on NRM is not always straightforward, as both positive and negative outcomes may coexist. Market improvement may encourage smallholders to increase their cultivated areas while decreasing forest land, or to use inputs beyond sound thresholds. Alternatively, it may improve incomes and allow farmers to abandon exploitative farming practices and adopt sustainable ones. In view of this fact, the CLE attempted to assess the extent to which innovations affected natural ecosystems' management, both terrestrial and water-based and cultivated farmland, and then analysed the approaches developed by IFAD to promote and assess innovation in NRM.

Incidence of innovations on ecosystem management

205. **Several projects intended to develop win-win solutions for the management of marine and inland waters**, developing solutions that sustainably manage biodiversity, restore habitats and allow for greater harvests. Water-based interventions and the related innovations have been developed in APR, with its numerous and densely populated islands and inland waters. The expertise gained there can be of use in other regions as well. Again, this requires care, as for example, developing value chains of wild fish and shellfish may lift poor fishers out of poverty but at the same time deplete stocks. In some specific cases, protecting natural biodiversity may imply the domestication of wild species in order to prevent the destruction of the wild stocks while promoting production, processing and marketing.[3] In the Philippines, the relatively new baywide alliance management approach has brought together several bayside councils and community actors to protect and co-manage a defined coastal area. Some of the activities have included mangrove restoration and declaration and guarding of protected coastal waters. This may even lead to an improvement of the wider environment, as councils are encouraged to deal with pollution from leaking toilets that threaten the marine and fish farming environments.

206. There are also large-scale issues concerning the **management of terrestrial ecosystems, such as peatlands, tropical forests and arid steppes**. Some grants and loan projects developed solutions at country or regional level (such as payment/reward for ecosystem services). How these will impact the ecosystems remains to be demonstrated. Rates of destruction seem to be more rapid than the positive impacts of innovative measures. As these resources are often open-access or common-pool resources, effective innovations are often community-based management initiatives developing sets of rules for users, combined with investments in water or connectivity infrastructures. For example, pasture conservation in the arid steppes of Kyrgyzstan and watershed management in Malawi both relied on such principles, with investments in water for herds and crop irrigation, respectively, and with common rules against soil erosion and degradation of the vegetation cover.[4] In the Philippines, IFAD has supported the introduction and replication of the covenant approach, which uses traditional systems in place of legal contracts, to effectively engage indigenous communities in reforestation and NRM. This approach recognizes the role of indigenous communities as the protector and manager of watersheds in their traditional domains, and uses many indigenous land management practices. Activities to strengthen indigenous land rights – such as the covenant approach, and the issuance of certificates of ancestral domain for land titling for IPs – are expected to improve environmental protection and management. For instance, titling can give confidence to plant longer-term, slower-growing crops such as abaca palm or tree species.

3 In the case of mud crabs in Bangladesh, fishers were used to fattening crablets but did not know how to hatch them. Several devices from other countries were pilot-tested, while marketing for export was being promoted. In other cases, management plans of the wild resources were designed in a participatory manner, with rules to be applied to community users and exclusion of non-members, as in the case of seaweed harvest in Indonesia. Rule enforcement requires monitoring and control by community members. Such initiatives were found in inland waters of Bangladesh and in the Philippines, in the baywide approach. The security of water rights is a major constraint to the sustainability of fisher communities' efforts.

4 See further details in table A6 in annex IV.

207. In general, **IFAD has supported a wealth of innovative agricultural production practices, which also contribute to sustainable NRM**: soil and water conservation, small-scale irrigation, agroforestry, intensive farm and pond systems, and also practices to preserve the environment such as integrated pest management (IPM) and organic farming.

208. In farming systems, several grants have been provided to CGIAR centres for breeding purposes (rice and tubers especially). In parallel, a significant number of projects have invested in small-scale irrigation schemes and water conservation and storage. With the Consortium for Unfavourable Rice Environments regional grant in APR, for example, the International Rice Research Institute is breeding rice varieties together with farmers to combat the challenges of difficult environments, such as too much or too little water, high salinity, etc. In addition, community-based seed systems build on community practices, where farmers (in groups or in a community) produce, save (including storing at community level), and exchange or sell good-quality (even certified) seeds, especially in times of disaster or seed shortages. Such systems support farmer resilience to disasters and CC by ensuring their secure access to seeds. **In a few cases, the introduction of new and more productive varieties may result in the loss of the traditional cultivars and the erosion of the genetic variability of the species**.

209. **Soil conservation innovations, including no tillage, as well as water-saving technologies, are cropping practices that also belong to NRM**. In large-scale, open-field farms in the Republic of Moldova, cultivation practices with recurrent interventions on the same plot each season were damaging the soils. Pioneer farmers experimented with no-tillage farming practices. IFAD-supported projects assisted them in their pilot-testing and peer-training efforts, and this contributed to a significant expansion of conservation farming among large farms. In orchards, tree planting in association with grassland cover for soil preservation was also promoted and combined with water-saving irrigation. **All these practices reduced the climate-related risk of crop failure as well, and after a few years, reduced costs and improved yields**.[5]

210. **Irrigation and water conservation in farming are important NRM issues**. Irrigation can be damaging for the soil when poorly applied, and competition for scarce water is also an issue. These are also areas of effective innovations. In Sierra Leone, the quality and efficiency of water management structures such as dams, head-ponds and peripheral-ponds had demonstrated serious inadequacies in design and materials used, and many were no longer operational. The beneficiaries often did not make use of the right knowledge and/or materials for repair, and had to continue their activities as they did before the project. In repairing the infrastructures, room was created for innovation in lowland rice, contributing to its expansion. In Rwanda, the introduction of more sophisticated irrigation systems reduced soil erosion and prevented community conflicts through improved water control. In Peru, groups competed for funds to construct infiltration ditches, geomembrane water reservoirs, and other types of water catchment or storage. This improved water recharge and provided water for the irrigation of vegetables and for the recovery of pastures for livestock.[6]

5 See further details in table A7 in annex IV.

6 More details are in table A8 in annex IV. Not all conservation and NRM farming practices are easy to adopt. Some reduce farmer incomes for a period before yielding positive benefits (e.g. conservation farming and agroforestry). Others improve food-product quality but reduce yields in contexts where food quality may not be valued in monetary terms (integrated pest management).

Innovations for natural resources management

211. **Innovations may display multiple benefits, including on NRM, with a potential to be transformative, where bundled**. In Rwanda, for example, farmers obtain energy for their homes by producing biogas with cow dung, as well as obtaining organic manure for their small plots to improve soil fertility and crop productivity. All farmers who benefited from a flexi-biogas system (complementary innovation) were given a milk cow as part of the Pass-on-a-Cow scheme (initial innovation). They had to pass on the first female calf born as a way of repayment, thus creating a solidarity chain or family of farmers who benefited from the first cow given; a cow insurance scheme (third innovation) has also been promoted.[7] With the introduction of biogas, the annual reduction in fuelwood use was estimated to amount to one ton per person. For farmers who can increase their cow herds in a significant way (meaning solving the fodder and marketing problems, for example), such an innovation bundle may have a transformative character.

212. Apart from a few grants financing R&D of production-related innovations, **most NRM innovations supported by IFAD were transferred from other settings, adjusted, and then disseminated in loan projects**, where they were also combined with specific institutional settings (PIPA-related innovations) such as community-based management committees, and shared if necessary at a higher-level. In general, such transfer may already require a significant amount of knowledge-sharing and additional pilot-testing in the project context. In some unique contexts, transfer cannot even be envisaged. In Bangladesh, for example, in the lower part of the Ganges River Delta, erosion of the riverbanks in some locations is accompanied by accretion in others. Accreted land (charland) has been stabilized through social forestry measures, partly protected against erosion and resettled by ultrapoor landless people. Innovative agroforestry measures have been developed for intensive use of these extremely fertile soils. This represents a large-scale environmental and social intervention. Protection from erosion requires specific hydrological and engineering expertise (in fact, parts of the investments in the former project phase have already been destroyed).[8]

213. **Since 2015, major progress has been made with IFAD to better anticipate potential outcomes of projects on NRM and the environment**. In Malawi, for example, the Transforming Agriculture through Diversification and Entrepreneurship APVC project conducted a SECAP assessment in 2019, also involving officers of the Ministry for the Environment. It identified in a systematic way all subprojects which might have negative impacts, in order to design mitigation measures. The assessment was much more comprehensive than the 2015 assessment of the Programme for Rural Irrigation Development. Drainage and taking wetlands into cultivation were assessed as the most negative potential impacts. Restoration and mitigation measures were planned over five years, as was their monitoring. IFAD guidance statements encouraged assessments at higher system levels, something which is not performed in usual cost-benefit analyses.

B. IFAD-supported innovations for adaptation to climate change

214. Climate change affects most countries in diverse ways, through higher risks of drought, flood, bush fires, storms, and other erratic events, and through structural changes in cultivation patterns (seasonal distribution of rainfall, floods and temperatures). **Smallholders, the poorest in particular, living in remote places and depending on difficult environments are the most affected by CC**. Out of 124 SECAP assessments, 15.3 per cent of the project situations are facing high climatic risks, and 83.8 per cent are at moderate risk.

7 The "flexi-biogas" system is an innovation that started with an IMI-supported project, and spread across the region.

8 Assessments of such large-scale complex impacts over time are difficult without additional resources. They can be better funded by grants or in-loan grants. Grants are also easier to use for scientific assessments of innovation outcomes and impacts on NRM status, as well as on resource users' livelihoods. These aspects have been undeveloped in the past.

215. The PoLG analyses, which covered all projects within the period 2009-2019, have revealed that only a few projects have CC and other environmental issues as a main domain of intervention (12.3 per cent of the large grants, and 8.7 per cent of the loan projects). Very few innovations in the CLE case studies have adaptation to CC and other environmental issues as their main domain, but most of the production innovations are said to positively affect these issues.[9]

216. Different types of projects and innovations were found in the area of CC. **A number of projects have tried to capture the phenomena related to CC by innovating in information system tools at different levels**. They may use earth observation and geographic information systems for planning and monitoring purposes, for early warning systems and to manage natural resources. For example, a grant was used for assessing Earth Observation Technologies for Well-informed Decisions in Transforming Smallholder Agriculture in West and Central Africa. In loan projects as well, a number of information systems were being developed with user-friendly devices for disseminating the information. In Bangladesh, a flood warning system was developed to inform inhabitants in flood-prone areas of the occurrence and severity of floods 2-3 days in advance. This has given them the opportunity to gather livestock, belongings and people on elevated shelter places and to harvest their rice in time. IFAD's recently launched geospatial database, GeoNode, will systematically integrate geospatial information in corporate operational systems. It also supports the analysis of climatic data and the use of satellite-based information.

217. **Protective innovative measures have also been put in place in storm- and flood-prone areas.** Bangladesh has strong expertise in introducing different types of flood protection walls, elevated shelter places and elevated schools, as well as in the building of infrastructures, which can remain under water half of the year. Understanding the issue of CC and how it affects agriculture and livelihoods is a concern in several countries. A project in El Salvador (Amanecer Rural) supported studies on resilience and adaptability to CC – trying to measure climate parameters at local level, such as rainfall and temperature, and studying what happened with production. They used local knowledge combined with scientific information. This was particularly interesting for young people.

218. In many countries affected by elevated temperatures and changes in rainfall patterns, **adaptation has also been sought with innovations related to improved varieties**. Breeding efforts of rice and roots and tubers have already been noted above. In Tunisia, winter garden crops, late-season crops and early-season peaches (whose peak water requirements fall outside of the driest summer period) have been pilot-tested. Research is active for major crops (see paragraph on NRM) but biodiversity conservation and breeding out of landraces is an issue for minor crops, especially fruit trees. In the Republic of Moldova, for example, the objective of increasing fruit tree productivity and quality has had as a consequence the replacement of local landraces by imported ones. In Kyrgyzstan, the livestock sector is being particularly affected by CC, but the IFAD portfolio did not include any specific technological innovation in this regard.

9 New trends based on recent project validations reveal a higher focus on CC. The full IFAD PoLG climate finance results for 2019 across 38 projects shows that 34 per cent of IFAD's total investments in 2019 count as climate finance (IFAD, 2020). New IFAD instruments, such as the ASAP launched in 2012, to channel climate and environmental finance towards needs have begun to display innovative results, for example in digitalized climate services, renewable energy, and participatory adaptation planning approaches, but these are diluted when the whole portfolio is assessed.

219. Irrigation practices are being adjusted regarding water scarcity as a consequence of CC. In Tunisia, for example, upcoming projects intend to generalize the use of water-saving equipment at plot level. In Ecuador, a country prone to a range of disasters, climate-smart technologies are being introduced as a way to develop a transversal strategy (water harvesting, reservoirs, microsprinkler plot irrigation systems, planting in contour lines and establishment of fruit trees to avoid soil erosion, ecosystem protection in the sources of water, agroecological production, provision of seedlings adapted to the soil and climate conditions, and awareness-raising and promotion of environmental responsibility among the beneficiaries). Beyond these adaptation practices, the expansion of irrigation can be seen as a mitigation strategy to reduce the risks of drought.[10]

220. Some countries are developing strategies and plans promoting a transition to a green economy. This initiative is very recent, and the CLE could not find any related innovations. However, the framework was being operationalized, for instance, in El Salvador and the Republic of Moldova.

Conclusion on natural resources management and climate change

221. Specific NRM- and CC-related innovations are few. However, evidence showed that several production-related innovations have had a positive influence on NRM. In the same line, innovations in other domains (production and PIPA) have also contributed to adaptation to CC. Overall, **the CLE assesses the performance of both criteria as satisfactory**. Moreover, great efforts have been made to develop corporate documents that provide guidance on both aspects, although not on related innovation development.

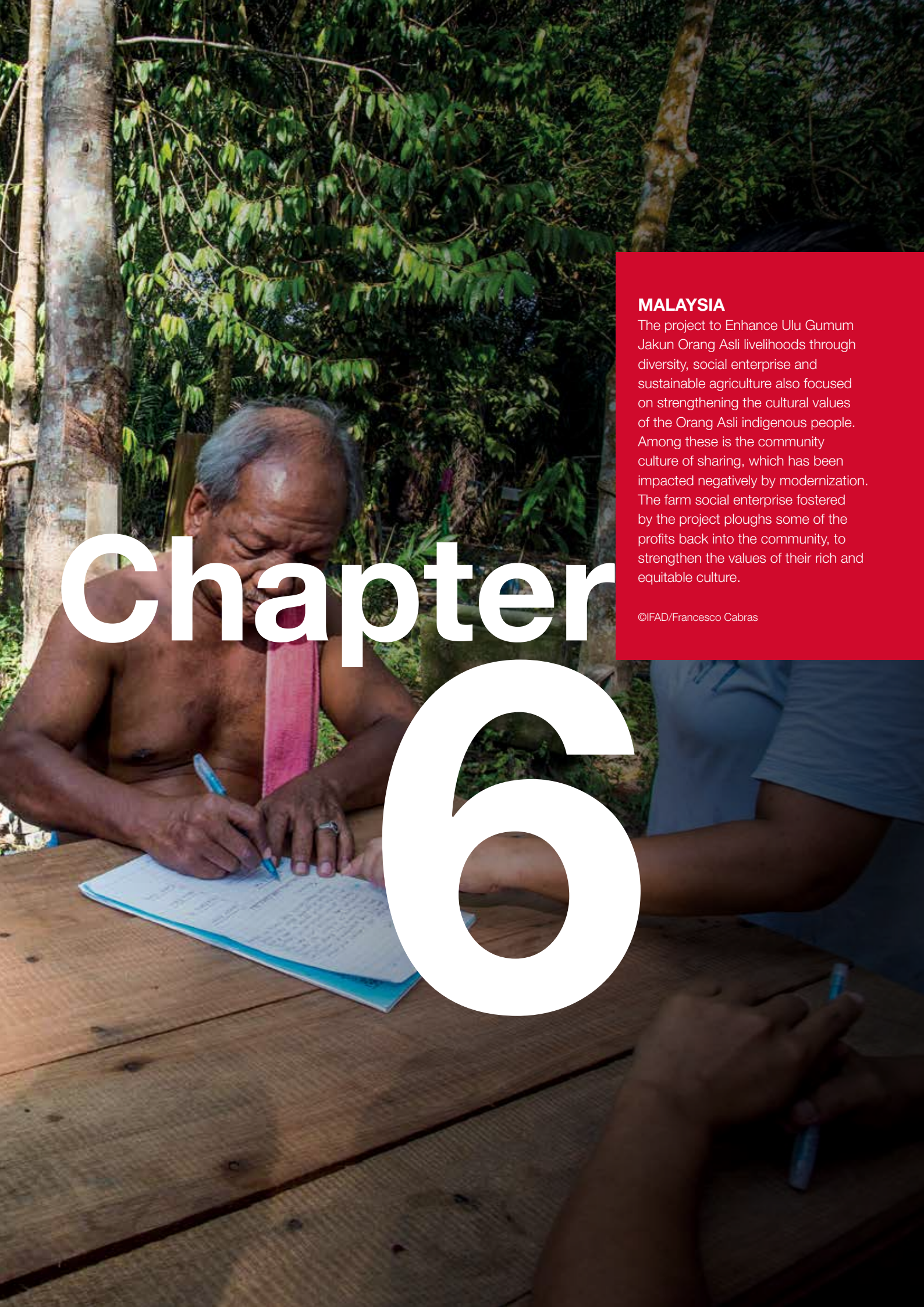
10 The Republic of Moldova has assessed the threats and planned accordingly. One of the reasons to include conservation agriculture in its official agricultural strategy is that it is a water conservation, as well as a soil conservation, measure. Other donors now also consider the issue. In 2017, the World Bank started a climate adaptation project disseminating ecological practices, many of which have been developed in IFAD interventions. As the World Banks works with organized farmers and offers larger loans, some of the farmers who had started investing with the backing of IFAD-supported interventions are now seeking the support of the World Bank. Coastal areas in El Salvador, home to over 30 per cent of the country's population, are highly vulnerable to the combination of sea-level rise and El Niño events. The IFAD-supported Rural Dialogue Group led the preparation of the Strategy and Plan for the Development of the Coastal Region (75 municipalities), which is the basis for a US$3 billion investment from the Millennium Challenge Corporation. The Rural Dialogue Group has also worked with the government on the Food and Nutritional Security and Sovereignty Law, the National Environmental Policy, and the Interministerial Agreement on a Green Sugar Harvest. Uruguay was the first country to assume an international CC commitment, in compliance with the United Nations Framework Convention on Climate Change, but with no influence on (very recent) IFAD projects yet.

Key points on natural resources management and adaptation to climate change

- Very few projects promoted innovations specialized in NRM, but production-related innovations also contributed to addressing this issue, as farming technologies in many cases affect natural resources. There were several cases of addressing NRM challenges in IFAD interventions through innovations aiming at improving productivity, simultaneously contributing to improved management of production resources.
- Innovations in CC are to, a certain extent, innovations in NRM, but better informed and adjusted to CC issues. Countries are at different stages of internalizing CC threats and developing coping strategies. Valuable innovative experiences can be found in all categories, which can be transferred and pilot-tested elsewhere.
- Innovations in CC-related interventions specifically have not yet fully come to bear fruit. IFAD projects are at the outset of a long learning process on how to develop strategies that work in the field of CC and make food systems resilient.

MALAYSIA

The project to Enhance Ulu Gumum Jakun Orang Asli livelihoods through diversity, social enterprise and sustainable agriculture supported the Jakun community in strengthening its administration and management systems, enhancing its organizational ability to navigate the modern world.



Chapter 6

MALAYSIA
The project to Enhance Ulu Gumum Jakun Orang Asli livelihoods through diversity, social enterprise and sustainable agriculture also focused on strengthening the cultural values of the Orang Asli indigenous people. Among these is the community culture of sharing, which has been impacted negatively by modernization. The farm social enterprise fostered by the project ploughs some of the profits back into the community, to strengthen the values of their rich and equitable culture.

6. Sustainability and scaling up of IFAD-supported innovations

222. This chapter assesses the sustainability and scaling up of innovations promoted through IFAD's support.

A. Sustainability

223. Sustainability assesses the extent to which achieved results persisted over time, after IFAD's support had ended. Sustainability is considered to include issues such as: political and institutional; economic and financial; social; and environmental sustainability. In order to be sustainable, innovations should have been successful and gone through, at least, the stage of piloting, and dissemination/replication or scaling up. The sustainability of case study innovations was assessed considering the extent to which they remained over time, and this enabled identification of hindering factors for sustainability.

Trends in case study innovations

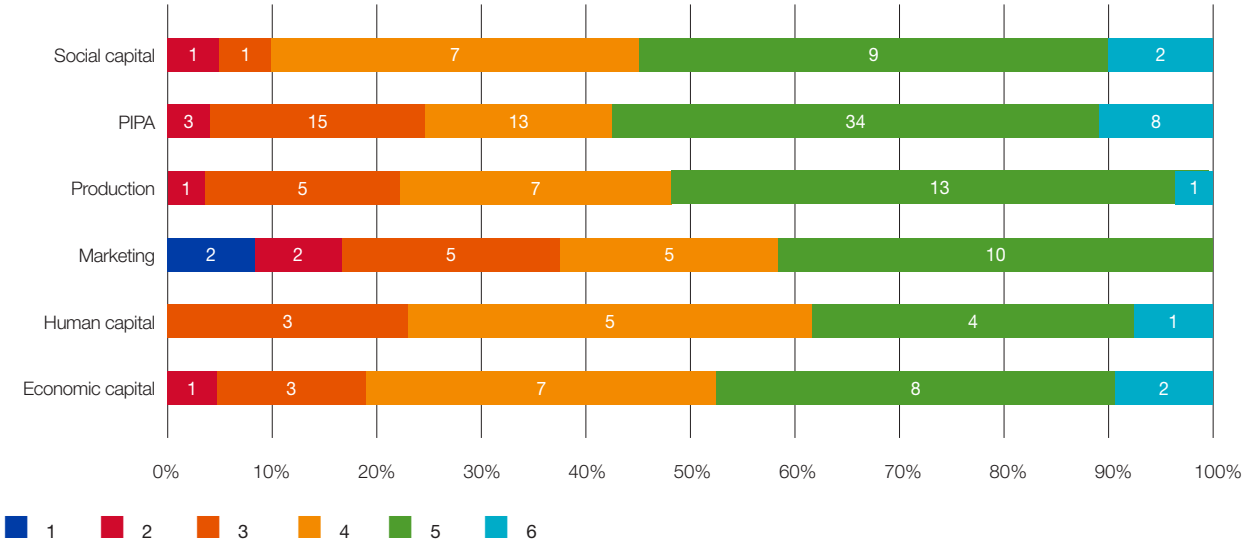
224. The case study innovations were rated for their sustainability aspect. Looking at the specific domains that have the best scores (5 and 6), PIPA ranked first place, followed by social capital and production (figure 24). Implementation of these categories of innovations is easier for government and project actors (for PIPA), and implementing social capital and low-risk, low-input production technologies is easier for smallholders.[1] Again, PIPA-related innovations played an enabling role in enhancing sustainability in those specific domains. An example is the participatory approach for watershed management implemented in Rwanda, which established committees to organize and oversee watershed-level activities. This contributed to sustaining the social capital and the production potential of the watershed.[2]

1 Productivity enhancement: low-risk innovations lead to incremental changes to the farm business without radical or transformative changes. Examples are: the system of rice intensification in Rwanda and Senegal; introduction of improved aquaculture techniques in Cameroon; and IPM in Nepal.

2 The local management and supervision committee (LMSC) is the engine that ensures the participation of local/community stakeholders in watershed management. Each watershed has an LMSC whose role is to define and oversee all priority activities within the watershed through the Watershed Natural Resource Development and Management Plan. Its uniqueness/strength lies in the fact that it includes all major categories of rural stakeholders living within the watershed. This makes it a key community collective decision-making body that takes into account the interests of all stakeholders.

FIGURE 24

CLE rating of case study innovations for sustainability



Note: PIPA = project implementation procedures and approaches.

Source: CLE case studies innovations (N=219, only the six main specific domains are reflected).

Institutional sustainability

225. Institutional sustainability refers to the likelihood that the progress made, the achievements attained, and the capacities developed among organizations, agribusinesses and government institutions will be sustained over time. **Institutional factors provided added possibilities for the sustainability of innovations**. For instance, production-related innovations were more likely to be sustainable if they were embedded in value chain development and/or supported by an adequate extension approach. Another way was to involve cooperatives or private-sector organizations. For instance, in Indonesia, the 4Ps approach with Mars is considered sustainable, as the company has its own strong interests in sustaining smallholders' production and quality. The Government of Indonesia has now extended this 4Ps approach to other companies. **Innovations that have been mainstreamed and incorporated at national policy level are the most sustainable**. In this way, they are no longer innovations, but instead, part of good national practice. Examples are provided in box 14.

BOX 14

Examples of institutional embedding of innovations, leading to sustainability

1. In the Philippines, the buffer stocking concept for certified seeds was piloted within the Irrigated Rice Production Enhancement Project, whereby 10 per cent of needed certified rice seeds for the new planting season is maintained in community warehouses, ready for rapid deployment to farmers affected by disasters. It was found to be beneficial, and the Department of Agriculture adopted the concept across the country to improve resilience against disasters.

2. In Nepal, the Leasehold Forestry Programme is considered an effective forest-based poverty reduction strategy of the government. There is a high level of awareness and sensitization among political parties and local governments about the potential benefits that leasehold forestry could provide to poor people, who lack access to land and other economic assets, for secure and viable livelihood options. The government took over the leasehold forestry activities on its own financing after completion of the IFAD-supported project.

3. The institutionalization of the youth movement INJUVE as a government institution in El Salvador is an excellent example of institutional sustainability. There is a grant project beginning at present with INJUVE, which plans to build on the earlier work with young people and to make rural young people more visible in national debates. It will link to the loan project Rural Adelante. While this grant will be limited in nature, the government hopes to replicate it with government funds across all municipalities.

Source: CLE.

Economic and financial sustainability

226. The economic and financial sustainability of an innovation indicates the likelihood that actual and anticipated economic results will be sufficient to fairly remunerate the work and investments of all stakeholders, that the financial flow generated will be sufficient to replicate the innovation at scale within the agrifood system, and that both features will be resilient to risks.

227. The CLE found that **innovations that were not dependent on access to rural finance services were more likely to be sustainable than those that were**. This has obvious reasons. Financial innovations introduced by donors may also rely on the donor funding. For instance, PROCASUR was established by IFAD, as an innovative mechanism; however, it has proved difficult to gain adequate financial sustainability via other donors and wean it off dependence on IFAD.

228. A good example of potential difficulties with financial sustainability was found in Sierra Leone with the Rural Finance and Community Improvement Programme. It aimed to broaden rural financial service outreach with the introduction of private-sector investment to agricultural financial services, and the creation of several community banks and an apex bank. The institutional and financial linking of the banks, and the establishment of a loan recovery system feeding into an agricultural development fund under the apex bank, were considered innovative aspects. While the results were positive overall, the business model for the apex bank is questionable. There is insufficient emphasis on generating its own revenues other than through IFAD support; no projections of the viability have yet been undertaken; and no business plan has been prepared to determine the path to profitability and independence.

229. Another example relates to revolving credit funds in Indonesia. Revolving funds had not built linkages with a bank before the end of the READ project. Repayment rates of loans may undermine the sustainability of revolving funds in the Smallholder Livelihood Development Project in Eastern Indonesia. In the Philippines, farmer irrigator organizers promoted by the Irrigated Rice Production Enhancement Project were sustained for some time; however, the government has recently ruled that payment of water tariffs in community irrigation is no longer required. This has undermined the financial status of the irrigation groups, and it is unclear whether the farmer irrigator organizers will remain able to provide services to members.

Conclusion on sustainability

230. Analyses showed that **IFAD-supported innovations performed satisfactorily in terms of institutional sustainability; while results were mixed for financial sustainability**. This was due to the fact that innovations pertaining to social capital and governance were the most sustained. Innovations within PIPA appear essential, as they contribute to enhancing sustainability in other specific domains, corroborating the importance of bundling stand-alone innovations. Innovations on economic capital and marketing were less sustainable, probably aligned with their lower effectiveness, as they require continuing involvement of other actors, government and the private sector.

B. Scaling up of IFAD-supported innovations

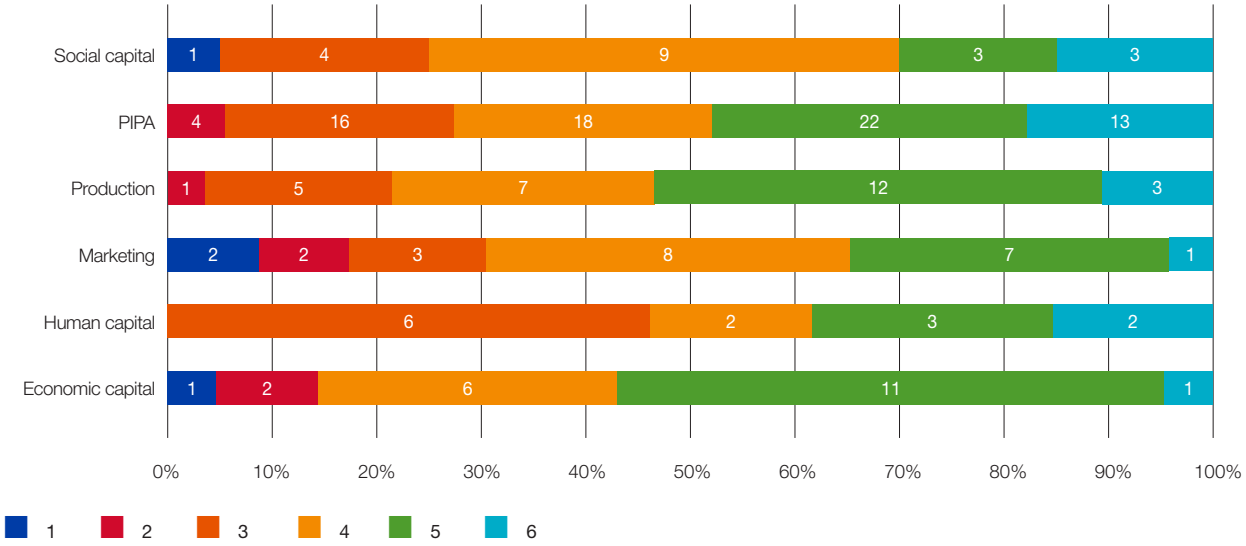
231. With IFAD's operational framework for scaling up results (IFAD, 2015b),[1] scaling up means considering how successful project-level initiatives may sustainably leverage policy or legal changes, additional resources and learning to bring the results to scale. The CLE ascertained the scaling up of case study innovations, in line with the extent to which IFAD-supported innovations were successful in leveraging resources of other partners (including governments), in order to be generalized. The ToC shows clearly that scaling up is one pathway that leads to the desired impact.

232. The CLE team also rated the case study innovations for scaling up for each innovation (figure 25). It appears that **economic-related innovations scored highly for scaling, followed by those related to production and PIPA**. Looking at smallholder agriculture, challenges related to: (i) access to resources (including rural financing); and (ii) productivity within the farming systems, closely linked to issues of NRM. This trend is justified as governments and funding partners are more favourable to supporting the scaling up of successful innovations in these domains. In these cases, governance-related innovations are needed for their enabling role to facilitate buy-in by other partners.

1 Scaling up is defined as "expanding, adapting and supporting successful policies, programmes and knowledge so that they can leverage resources and partners to deliver larger results for a greater number of rural poor in a sustainable way."

FIGURE 25

CLE rating of case study innovations for scaling up



Note: PIPA = project implementation procedures and approaches.

Source: CLE (N=219, only the six main specific domains are reflected).

Evidence from the case studies

233. A good example of scaling up is the WUPAP wealth-ranking innovation in Nepal. IFAD was the first organization to bring wealth-ranking as a targeting method to Nepal; there had been no such mechanism in the targeted districts earlier. Based on this approach, the government developed its poverty card system and started the distribution of poverty cards in 2015. The communities took full ownership, and this led to selection of the poorest among those who had been already considered for WUPAP support.

234. There are general IFAD operational guidelines on **scaling up. However, scaling up of innovations appears to vary according to practice in each country**. In general, government commitment and engagement are essential. National coordination and knowledge-sharing among donors are also determinant factors. Increasingly, the private sector is also becoming engaged in scaling up, especially in relation to APVC activities. As an example, the scaling up of innovations was part of IFAD's strategy in Kyrgyzstan. IFAD carried out a step-by-step countrywide process, which first disseminated an innovation, and in the subsequent project, the innovation was replicated. The idea was to test the innovation for a learning process at the earliest stage, and then strengthen it based on the previous lessons learned.[2]

235. **Planning for scaling up from the start is a good approach**. For instance, in Indonesia, IFAD identified scaling-up pathways for each investment, to build on successful replication and propose approaches for scaling up. This was successfully applied in the National Programme for Community Empowerment in Rural Areas (PNPM Agriculture), which was then widened into the Village Development Programme, the planning approach of which has been turned into a national policy. The Government of Indonesia has recognized the PNPM Agriculture and the Village Development Programme as best practice. The VDP was designed to adapt the PNPM Agriculture approach to the "Village Law" new institutional context in remote and destitute areas of Papua and West Papua. In turn, the Government of Indonesia requested that IFAD

2 One observation in most of the case study countries has been the practice to ensure that there is overlap in part of the implementation period, and to some degree in the location of the loan projects. Hence, it has been possible to review, learn from and constantly develop the innovations. This approach is rather a replication, as it relies mainly on IFAD funding.

scale up the VDP through its successor project, Integrated Village Economic Transformation (TEKAD), with the Government of Indonesia contributing about US$144 million through village fund resources. The ADB will join forces with IFAD in financing TEKAD through an expected contribution of US$85 million. The Planning Ministry has already approved a bridge financing for pursuing VDP activities on national budget in the meanwhile. Comparable examples are found in Rwanda. However, this is not possible in all projects – according to the CLE's findings, about 30 per cent of innovations arise during the implementation phase (discussed in the section on relevance).

Paths for scaling up innovations

236. **Similar contextual and socio-economical characteristics can facilitate the scaling up of innovations in neighbouring countries**, facilitating building of synergies and partnership at the government level. An example is the scaling up of the pasture management system from Kyrgyzstan to other countries in the region (see box 15).

237. Another method observed the use of regional sharing of lessons to promote scaling up to other countries. For instance, PROCASUR, in itself an innovation supported by IFAD,[3] has been used by IFAD to share lessons learned, via LRs. This can be seen clearly within Latin America, but also globally.

3 See table A2 in annex IV.

BOX 15

Examples of institutional embedding of innovations, leading to sustainability

Pastoral livestock management is an important source of livelihoods for many rural communities in Central Asia, with similar natural and socio-economic environments, composed of steppes, mountains and deserts, and experiencing the same challenges after the collapse of the Union of Soviet Socialist Republics. Thus, the pasture management system developed in Kyrgyzstan and the resulting approach have been shared with those countries.

The Kyrgyz Pasture Law of 2009 was one of the first pasture laws in the area. Tajikistan adopted a national law on pastures in 2013, followed by Turkmenistan in 2015 and Kazakhstan in 2017. Last, Uzbekistan approved a pasture law in 2019. In all cases, Kyrgyzstan has been a pioneer with this innovation. Among these countries, IFAD has worked in Tajikistan and Uzbekistan, and supported exchange meetings between Kyrgyzstan and both Tajikistan and Uzbekistan.

Source: CLE.

238. **Scaling up by different donors for replication at larger scale**. IFAD has often piloted innovations that have been picked up and disseminated at much larger scale by other financiers (for instance, in Indonesia). An example includes the SIPA model in Senegal. At the time of the case study mission, the West African Development Bank had put funds towards the scaling up of the model, with complementary government financing. However, there were few successes, considering the diversity of innovations supported. **The two examples provided pertain to transformative innovations, which suggest that they contribute to more success in scaling up**.

239. In Malawi, IFAD has been able to replicate successful innovations across its own projects, but also help internalize innovations within the operations of the government agencies and attracts other financiers. The World Bank considers both the SRI technology and WUAs demonstrated through the Irrigation, Rural Livelihoods and Agricultural Development Project (which it cofinanced through the International Development Association) sufficiently successful to have become part of mainstream policy for enhancing agricultural productivity and management of irrigation schemes in Malawi. The World Bank also stated that the project helped clarify a number of legal issues regarding water regulations, including mechanisms for irrigation management transfer, registration of WUAs, land leases, and water abstraction rights, all of which have now been adopted as general practice in Malawi.

Impediments to scaling up

240. Many of the innovations seen during the CLE field visits, or described in reports, were still at the piloting stage. Consequently, it was not possible to judge whether they will be scaled up. **Not all innovations will be scaled up**. They may be developed for a unique set of circumstances– for instance, it remains to be seen whether the novel submerged lobster cages, trialled in Mindanao in the Philippines to cope with heavy waves, will be scaled up. In addition, novelty is not necessarily in line with scaling up, and it may be difficult to do both.

241. However, some of the **reasons for the failure to scale up innovations include poor social fit, not addressing geographical and cultural differences between regions** in a country, overly complex technology, and inadequate follow-up once project support ended. Sometimes, there were also unexpected impediments, which interrupted the scaling process, such as natural disasters. Then, there was the case in the Republic of Moldova in 2014 of large-scale fraud by three banks misusing credits (more than 25 per cent of the country's banking assets), which brought the country to the brink of financial collapse.

242. **A key impediment to scaling up is that governments may have only short-term plans**– a change of government means a change in higher management and policies in the ministries – making it difficult to integrate successful innovations into programmes, as they need a longer-term approach. This was seen in some case study countries, such as Burkina Faso, El Salvador and Peru. By comparison, Rwanda has demonstrated that a consistent approach by government enables innovations to achieve impacts.

243. **IFAD staff noted that priority is given to managing loans and piloting innovations, with less time available for non-lending activities and work on scaling up**. The 2016 CLE on decentralization (IOE, 2016c) confirms this mismatch between expectations and resources. Project evaluation ratings for innovation and scaling up were significantly higher in countries with IFAD country offices. However, in countries without an IFAD country office, there may be insufficient face-to-face time for building relationships with stakeholders to support scaling up. There could also be a limitation to international scaling up, due to the decrease in contacts among IFAD staff at a global level, which tends to reduce cross-fertilization of ideas.[4]

244. In some countries, there is limited availability of financing from government or other financiers, or from the users themselves. In conflict countries or those facing significant instability, this lack of continuing funding is particularly severe. Those countries reaching middle-income status may not have access to external donor funds. The 2016 operational framework for scaling up considered these points. In theory, **IFAD is meant to have better opportunities to scale up in middle-income countries**, where its role is likely to involve facilitating innovation, knowledge-sharing and policy changes. The innovative nature of the IFAD-financed project would be dominant in a middle-income country, where IFAD would be testing approaches, technologies and markets, and gathering systematic knowledge to enable the government, private sector or other partners to take the idea to scale. **In the case of fragile contexts**, project designs need to be kept simple, ensuring consistent implementation arrangements with permanent capacity at the community level and sustainable results. **The space for policy innovation may be limited, and grants may be the preferred financing instrument**.[5]

4 The availability of IFAD staff can have a positive or negative effect on scaling up of innovations, both locally and globally. IFAD staff noted the limited time available for non-lending activities and work on scaling up, with most focus placed on loans and piloting innovations. As noted, the decentralization of IFAD staff is relatively recent.

5 In terms of project design, the main difference from traditional interventions is that project teams should explore scaling up pathways and drivers from the design stage onwards, and not when the project is well under implementation or about to close. For projects already implementing innovations but without a scaling-up framework at the design stage, the document recommended identifying areas and approaches for generating knowledge and guiding future decisions on scaling up.

245. In the Republic of Moldova (as in many other countries), it was noted that, in the absence of business clusters with similar growth history and prospects, the idea that an innovative business operator would then help neighbouring businesses develop as competitors is not realistic, as they have no common higher objectives such as competing together for a rewarding market. The IFAD/project team grasped the issue and tried to facilitate multi-stakeholder platforms to link smallholders and processing or storage units to larger market operators. For such clusters to coalesce into a competitive APVC, large operators may need funds but will not be eligible for IFAD credit or have needs well above IFAD ceilings. Therefore, strategic partnerships with large donors would be useful.

Conclusion on scaling up

246. **The performance of IFAD-supported innovations in scaling up has been moderately successful overall**. Innovations related to economic capital and production were more likely to be scaled up, especially if followed by governance innovations. **The likelihood of scaling up increased, when innovations were in bundles, with transformative features**. This is important for IFAD to consider, as well as a key determinant of scaling up.

Key points on sustainability and scaling up

- Many of the innovations identified were still considered to be at the piloting, or perhaps learning, stage. Therefore, it was difficult to comment on their likely sustainability. Socio-economic innovations had a greater likelihood of being sustainable, if successful – either because they were market-driven, or they became part of government policy and programmes. However, institutional inconsistency (e.g. political instability) can undermine sustainability. Financial sustainability is one of the most difficult aspects to achieve with smallholder agriculture. Often, innovations are dependent on external financing, which may wither away when the donor funding ends.
- Scaling up is dependent on successful implementation of innovations over time, with a good social fit in the agrifood system and adequate financing. Different types of scaling up were observed, including: replication by IFAD from project to project; uptake by the government into its own policies and programmes; and scaling up within the one country, by the government or other donors, or within the region. Institutional sustainability is likely to support scaling up.
- Some of the impediments were related to inadequate financing – at local level, by government or by other financiers. However, IFAD has also played a key role in piloting innovations that have then been picked up by other financiers with much larger budgets.

Chapter 7

THE PHILIPPINES

Johnny Tuguinay (pictured) is a blacksmith from Kiangan, in the province of Ifugao in the mountainous Cordillera Administrative Region of the Philippines. IFAD's Rural Microenterprise Promotion Programme (RuMEPP) sought to The programme's objective is to see increasing numbers of new and existing rural microenterprises expanding and operating profitably and sustainably. Investments will support microfinance and credit, microenterprise promotion and development, and programme and policy coordination. Programme operations will adhere to sound financial principles, and resources will be concentrated in a limited area to avoid diluting their impact. Poor rural people will have a say in programme planning and in adjustments that are required during implementation. Activities will pinpoint policy issues and opportunities.

7. Conclusions and recommendations

A. Conclusions

247. IFAD's Strategic Framework (2016-2025) outlines the critical role of innovations in achieving inclusive and sustainable transformation in rural areas. **Its three SOs involve the three components of an agrifood system: the agricultural production and value chain component (APVC), the socio-economic pillar (SEP), and the natural pillar (NP). Therefore, the CLE applied a system-based approach to assess IFAD's support to agricultural innovations**.[1] Taking into account IFAD's operating contexts, this CLE also considered an additional pillar as essential – the governance pillar (GP, including policy, regulation and procedures) – because its driving elements enable the effectiveness of agrifood systems.

248. A system-based approach to agricultural innovations must consider: (i) innovations and related processes; (ii) the actors contributing to these processes; (iii) the relationships and interactions among actors; (iv) the linkages between the objectives (i.e. results hierarchy); and (v) the supporting institutional framework. The CLE assessments covered these aspects, while focusing specifically on the performance of IFAD-supported innovation processes.

249. IFAD started to institutionally recognize that innovation is critical for its mandate in the early 2000s. **The Innovation Strategy approved in 2007 paved the way for an organizational approach to innovations. However, its relevance has been moderate, as it did not include strategic objectives**. In addition, no operational framework (e.g. guidelines) was developed, nor were specific budgets allocated, until the launching of the Innovation Challenge in 2019, to enhance the innovation culture in IFAD's operations. To date, IFAD's innovation processes have not been updated to include evolving development trends, especially in terms of applying a systematic approach to innovations. **Compared to other RBAs and IFIs, IFAD's business model for supporting innovations is among the best, as assessed by the CLE**. However, there is room for improvement, in particular with respect to the development of guidelines and the provision of incentives to innovate.

250. IFAD-supported innovation processes follow the project cycle and, therefore, start at the planning stage. **During the planning of COSOPs and the design of projects, innovation processes are moderately relevant**. In fact, COSOPs and PDRs are important documents that specify areas where innovations are needed in order to positively influence performance within the agrifood system. However, **the approaches applied to identify innovation needs are inconsistent and unsystematic**, due to the lack of an overarching framework to steer the process.[2] In addition, no guidelines are available to help perform systemic analyses before incorporating innovations into IFAD's operations. The promotion of successful innovations is not yet considered an objective, meaning a critical output that leads to higher-level results (outcomes and impacts).

1 Although this was not a novel approach, it was new compared to that adopted in the previous CLE that addressed the topic of innovation, and thus enabled various aspects of agrifood systems to be covered.

2 This was one of the conclusions of the CLE on IFAD's capacity to promote innovation and scaling up (IOE, 2010).

251. **IFAD's innovation processes during the project implementation stage are adaptive and effective, while they are incomplete at the completion stage**. Although the domains of a majority of innovations are identified at the project design stage, a significant number still emerge during implementation. At the latter stage, as well acknowledged by its partners in recipient countries, IFAD applies an effective adaptive approach that allows for the identification and implementation of innovations during project supervision and mid-term review missions. This process is important because it enables the emergence of innovations responding to evolving smallholder challenges. Nevertheless, **because the adaptive innovation process does not follow an agreed framework, it is unsystematic and insufficiently monitored and documented**. At completion stage, innovation processes are not specifically analysed to ascertain their effectiveness and to clarify the linkage between promoted innovations and the project results achieved, as well as underpinning factors.

252. **In terms of partnerships**, partners of IFAD-supported innovation processes include a diversity of actors: extension services, national and international research centres, multilateral partners, the private sector, NGOs and farmers' organizations. All play complementary roles in the effectiveness of the innovation system. In fact, **the capability of partners of loan-supported projects to scout for effective innovations and strengthen their linkages with national agricultural innovation systems has received little attention**. This would be necessary to enhance the effectiveness and sustainability of the innovations processes supported by IFAD.

253. In addition to partnerships, other **non-lending activities – KM and policy engagement** – play a pivotal role in creating an enabling environment for the success of innovation processes. **However, there are gaps that weaken their effectiveness in supporting innovation processes**. Indeed, despite IFAD's increasing attention to KM overall,[3] nowledge on innovations is not collected and shared in a systematic and consistent fashion, due to the existence of a plethora of channels and information overload.[4] Currently, innovation knowledge and information are dispersed in a multitude of websites. M&E systems are inadequate to capture data and information specifically related to innovations, and to assess their contribution to effectiveness, efficiency and impact in loan investment projects. Moreover, as currently collected, monitoring data are not well disaggregated by gender and youth. **Last, policy engagement activities have devoted insufficient focus to influencing national frameworks for greater governmental commitment to IFAD-supported innovation processes at all stages**.

254. During the period evaluated, IFAD financially supported innovations processes mainly through loans and grants funding. **Grant windows have been a prominent means of identifying genuinely novel solutions to the challenges of smallholder agriculture**. However, grants had a limited capacity to provide loan investment projects with tested and ready-to-use innovations, due to weak synergies and timing constraints.[5] Other funding mechanisms were also applied during the period evaluated. Although some of these were innovative in nature, none was exclusively dedicated to supporting the promotion of innovations, nor were any specific funds devoted except IMI financing (2005-2011) and, in 2019, the Innovation Challenge Fund. In terms of human resources, the CDI was created only recently, with a very limited number of staff. The staff of several other divisions, both at IFAD headquarters and in the field, also contributed to innovation processes, but were not exclusively focused on them.[6]

3 As mentioned above, the 2007 KM strategy was followed by an operational framework (in 2013) and an action plan (in 2015), as well as a revised strategy in 2019.
4 This was already an implicit conclusion in the CLE on IFAD's capacity to promote innovation and scaling up (IOE, 2010
5 As already highlighted in the CLE on IFAD's policy for grant financing (IOE, 2014a).
6 In this respect, the new decentralized model implemented in 2018 and 2019 is noteworthy.

255. Despite the relatively limited availability of innovation-specific funds during the period evaluated, **IFAD successfully supported a diversity of stand-alone innovations – not genuinely new ones – that were effective and likely to have contributed to the project impact achieved. However, those innovations lacked transformative features**. Effective innovations (in terms of addressing smallholders' challenges) were identified in the areas of production, and social and human capital. It was noted that their effectiveness was greater when they were combined with governance-related innovations, playing an enabling role.[7] Less-successful innovations were burdened by difficulties in accessing rural finance, poor targeting or excessive complexity for local organizations. The positive effects of innovations increased when they were combined and complemented one another in addressing multiple challenges simultaneously. **A key finding of the CLE is the need to bundle or package innovations of different specific domains in order to enhance their effectiveness and impact, thus giving them a transformative dimension. In fact, innovations do not need to be radical to be transformative**. However, the bundling of innovations was not an area of focus during the period reviewed.[8]

256. Unlike transformative aspects, **IFAD devoted attention to sustainability and scaling up of innovations. However, the results achieved were mixed**. With respect to sustainability, positive results were obtained on institutional aspects, due to innovations in the domains of human and social capital (farmers' organizations and rural institutions). As for sustainability, the results of economic innovations were less positive due to difficulties in sustaining smallholders' access to rural finance for smallholders. Results were mixed also in terms of scaling up, due to the (stand-alone and context-specific) nature of the majority of innovations.[9] **The CLE found that the likelihood of scaling up increased when innovations were bundled with transformative features**.

257. **Other areas in which IFAD also sought to support innovations were: (i) inclusiveness; (ii) NRM; and (iii) adaptation to CC**, which had not been covered in the previous CLE on innovations. Indeed, although few promoted innovations specifically addressed challenges pertaining to these aspects, other types of innovations were relevant, especially production- and governance-related innovations in general.

258. **An overall satisfactory performance was achieved with regard to innovations addressing NRM and adaptation to CC**. This was because numerous production-related innovations contributed to the better management of natural resources, as well as to improved adaptation of farmers to CC. The latter type of innovations has increased within IFAD's portfolio, in line with recent attention to the topic.

259. **Satisfactory performance was also attained for GEWE**. In these cases, socio-economic innovations were critical, and often complemented by governance-related ones. The GALS methodology, identified as one of the few transformative innovations, is a very good illustration in this respect. **Innovations related to youth promotion performed moderately**, due to difficulties in sustaining young people's access to financial inputs and services. **Finally, in terms of indigenous and marginalized groups, the innovations supported were satisfactory**, due to the innovative ideas introduced in some countries, with IFAD's support, for working with IPs and to target the very poor.

7 A result also found in the CLE on IFAD's support to value chain activities (IOE, 2019b), which stated that IFAD's long-term support and attention to governance issues were associated with stronger performance.

8 Similarly, the CLE on IFAD's capacity to promote innovation and scaling up (IOE, 2010) found that IFAD had pursued innovations in a variety of topics, rather than focusing on a few critical areas or domains.

9 This was also a conclusion of the Brookings study on IFAD's institutional approach to scaling up (Hartmann *et al.*, 2010).

B. Recommendations

260. The recommendations below seek to revamp IFAD's innovation agenda and to enhance its performance in order to bring about effective, sustainable and resilient transformation in rural areas. They are aligned with recent guidelines, the SPACE model (presented in table A9 in annex IV),[10] developed in the framework of the UNIN, to help United Nations organizations accelerate their innovation impact.

261. **Recommendation 1: IFAD should set clear corporate/strategic goals for its innovation agenda, and develop and implement operational frameworks, aligned with its 2016-2025 Strategic Framework and the 2030 Agenda**. The framework should provide an appropriate definition of innovation in line with IFAD's operational context, and include specific objectives and priority result areas, as well as guiding principles and actions over a limited period (similarly to the KM theme).[11]

262. **Recommendation 2: IFAD should improve the operating model that supports its innovation processes**. Relevant guidelines should be developed to provide orientation on methodologies (along the project cycle), aiming to: (i) incorporate innovations as key outputs that lead to higher-level results; and (ii) adopt a holistic systems approach to innovations.[12] The guidelines should be less prescriptive to suggest tools and/or frameworks for monitoring and evaluating innovation processes (linked with existing tools), as well as for assessing their contribution to projects' outcomes and impacts.

263. **Recommendation 3: IFAD should dedicate greater attention to bundles of innovations that are transformative**. The more transformative innovations are, the more sustainable and amenable to scaling up they will be. Orientations should be provided on key methodological steps that favour the identification, at the planning stage, of innovations that can work in synergy with one another, to be clustered or bundled at the implementation stage, leading to packages with transformative features. Guidelines or frameworks suggested in the previous recommendation should allow measuring of results achieved through transformative innovations.

264. **Recommendation 4: IFAD should enhance the innovation culture within its business model to steadily and effectively support its innovation agenda**.[13] This should be accomplished through an ongoing implementation of specific funding initiatives (such as the Innovation Challenge), to elicit an appetite for innovation, and to encourage risk-taking initiatives associated with genuinely novel solutions and approaches addressing important smallholder agriculture challenges. It is also essential to: (i) strengthen internal capabilities (relevant staff required and their skills) for that purpose; and (ii) support emerging innovation champions across the organization by promoting incentive mechanisms (e.g. financial or non-financial rewards).

10 Recommendation **1** relates to **S for Strategy,** Recommendation **5** to **P for Partnership**, Recommendations **2** and **3** to **A for Architecture**, Recommendation **4** to **C for Culture**, and Recommendation **6** to **E for Evaluation**.

11 The United Nations Innovation Network toolkit "Headlines of future" will be useful to clarify innovation goals. See table A9 in annex IV.

12 The SPACE framework highlights that: "By establishing repeatable processes and organizational structures to support each stage of the innovation life cycle, organizations reduce their reliance on luck, the talent specific individuals, or external factors for innovation success." See table A9 in annex IV.

13 As per the SPACE framework: "Because innovation inherently involves risk-taking, employees must understand the circumstances under which they are able to take risks and how to capture learning throughout the process – even when the results are considered failures."

265. **Recommendation 5: IFAD should increase funding and operational partnerships that contribute to the support of its innovation agenda**. Strategic co-funding opportunities should be boosted with partners (e.g. bilateral with governments, and multilateral with other IFIs) that share similar innovation goals. The aim should be to enhance operational synergies for piloting, uptake, dissemination and scaling up of innovations,[14] especially those addressing issues pertaining to inclusiveness, NRM and adaptation to CC. IFAD's grant programme should be better leveraged for the development of effective innovations addressing smallholder agriculture challenges. Therefore, priority and flexibility should be given to grant partners' proposals that plan on: (i) strengthening capabilities of national players of IFAD-supported innovation processes; (ii) scouting for novel solutions; and (iii) enhancing the effectiveness of partnerships and synergies at national and regional levels.

266. **Recommendation 6: IFAD should streamline KM tools for accessing and sharing innovation-related information by limiting their number**.[15] One main common platform should be used to promote IFAD-supported innovations and disseminate M&E findings on innovation results and lessons. Opportunities offered by KM events should be used as an occasion to launch and promote the platform on a periodical basis. Communication activities (including social media and internal website alerts) should be used to draw the attention of IFAD staff and other stakeholders to generate and maintain enthusiasm, as well as sustain engagement on IFAD-supported innovation activities.

14 According to the SPACE model: "Making innovation successful requires organizations to engage with other groups, and the most consistently innovative organizations have developed standardized approaches to effectively engage potential partners, identify synergies, and create joint value."

15 The Story Telling toolkit will be useful for that purpose. It says: "innovation fails, not because of the quality of an idea but, rather, how that idea is shared."

ETHIOPIA

Gamo people are famous for their weaving skills. They are proudly wearing the clothes themselves, but the clothes also generate income. Tourists that pass by in Chencha district are always delighted to buy them as a souvenir.

The project members were given some cash, which was used for several purposes, including education for their children, buying cattle, house construction and weaving. Although Abraham finished teaching college he has never been able to find a job as a teacher. His father taught him the skills of weaving and he is now a great weaver after his father managed to secure all necessary weaving equipment.

Annexes

I. Excerpts of the Corporate-level Evaluation (2010) and the Evaluation Synthesis (2019)

Corporate-level Evaluation (2010). IFAD's Capacity to Promote Innovation and Scaling Up. (IOE, 2010)

Conclusions
The performance of IFAD-funded projects has steadily improved in promoting innovations. … The steady improvement is commendable. However, it is to be noted that close to half of the projects evaluated reveal merely moderately satisfactory results in innovation and scaling up is particularly weak. But the problem is not just with scaling up: the evaluation concludes that IFAD's approach to the innovations journey, which includes the critical steps of searching (or scouting), exploring, committing, realising (piloting), and optimising (scaling up) is not yet systematic and effective as it should be. Far too much is left to the initiative and individual entrepreneurial skills of CPMs, who act without concrete incentives and accountability.

This evaluation found that the third and probably the most important IMI objective on changing organisational culture and practices to support innovations has largely not been met. The evaluation therefore points out that IFAD's organisational capabilities still remain generally weak and has only changed marginally since the beginning of the decade. This is in fact to say that the Fund's strong strategic commitment and pronouncements towards innovation have not been adequately converted into action and become part of IFAD's corporate culture.

IFAD's knowledge and information systems are not strong in enabling effective decisions about which innovations should be selected for scaling up. Also, IFAD is slow in taking new ideas through the system and, importantly, the Fund is insufficiently open to ideas from a wide diversity of sources, including the rural poor themselves. All these and other factors are constraining IFAD from developing into a more effective innovative organisation.

The evaluation found that IFAD has followed a broad-based innovation approach ("let a thousand flowers bloom"). … That is, the Fund has pursued innovations in a variety of topics, rather than focusing on few critical areas or domains, where there is a documented need for innovative solutions and where the Fund has a proven capability and track record to develop pro-poor innovations successfully.

There are two further reasons that can explain why IFAD's performance in upscaling has been inadequate in the past. Firstly, the attention devoted to non-lending activities (including knowledge management, partnership-building, and policy dialogue) has been generally poor. Secondly, the Fund's operating model in the past – which did not allow IFAD to conduct direct supervision and implementation support and the lack of country presence - restrained its ability in promoting innovations, including scaling up.

On another issue, the evaluation reveals that there is inadequate amount of resources that are specifically allocated to the innovation promotion process, as well as the usage of existing instruments that are required for the purpose. Notably, few resources and efforts have been devoted specifically towards building IFAD's internal innovation capabilities. The main instruments available to IFAD (loans and grants) have not been used in a complementary and strategic manner in support of innovations.

Recommendations
The evaluation therefore recommends that an IFAD-wide innovation agenda should be developed at corporate level that consists of few selected themes or domains. The themes or domains selected, Big Bets, should be in those areas of the agriculture and rural sector where there is a proven need for innovative solutions and where IFAD has (or can develop) a comparative advantage to promote successfully pro-poor innovations that can be scaled up.

IFAD should set corporate targets for scaling up and monitor and report upon it annually. In this regard, it is also important to underline the accountability framework for scaling up, which would ensure that this critical phase in IFAD's innovation journey is given due attention and resources.

The Fund needs to develop practical innovation management skills. The management of innovation is different from implementing proven approaches.

Evaluation Synthesis (2019). Technical Innovations for Rural Poverty Reduction. (IOE, 2019a)

Conclusions
Technical innovation, defined as the introduction of a process or product that is new to the context, is mainstreamed in IFAD and examples can be found in all aspects of the portfolio.

A smaller number of innovations are transformative. Transformative innovations are more risky and they carry a higher level of high-tech change. They can be more disruptive, with the potential for higher rewards but require higher investments in resources and knowledge.

Accompanying support and partnerships are essential for introducing innovations that require new knowledge and skills. IFAD is well positioned to provide this type of support as it is seen as a strength of IFAD's approach across the portfolio.

Many innovations related to agricultural practices are potentially significant for NRM and climate change mitigation but the associated risks need to be carefully managed.

IFAD is dealing with a very assorted portfolio with few repeat examples of many innovations. A small number of specific technical innovations have been replicated in many locations. Otherwise there is an extensive range of other innovations that respond to local context and needs. The challenge to scaling up comes from innovations being so many and various, that there are few simple messages about what works where and for whom.

Recommendations
Recommendation 1: Enhance focus on transformative practices within IFAD's approach to technical innovation while continuing to promote low risk improvements to productivity for the majority of poor smallholder farmers.

Recommendation 2: Systematically monitor, evaluate and learn from innovations.

Recommendation 3: Use the forthcoming CLE to explore IFAD's readiness to promote transformative innovations.

II. Senior independent adviser's report

Jan Brouwers, Wageningen Centre for Development Innovation, Wageningen University & Research

1. Summary

1. The evaluation report presents a detailed and well-elaborated overview of IFAD's practices to foster innovation within its corporate programme. A rich variety of cases and applications is presented, showing IFAD's efforts to promote agricultural innovations that contribute to effectively addressing rural development challenges through supported operations in recipient countries. In addition, the report provides detailed information on IFAD's contribution for the dissemination and scaling up of successful, sustainable and climate-resilient pro-poor innovations that reach diverse groups of smallholder farmers. IFADs main instruments to support innovation are loan projects, grants programmes and non-financial instruments. The corporate-level evaluation (CLE) reviewed an extensive set of data: 580 loan projects and a database of 678 grants, with a focus on 240 large grants, combined with 100 in-depth case studies in 20 countries. Twelve countries were visited to study how 158 innovations contributed to achieving impact. The five constraints and limitations mentioned on paragraphs 51-55 provide a realistic perspective of how the findings can be interpreted, including the challenges related to qualifying innovations.

2. The evaluation applied a systemic view while analysing IFADs contributions in the four main pillars. Based on mainly a qualitative assessment, there is a high likelihood that IFAD-supported innovations have made satisfactory contributions to impacts. Finally, the report provides six recommendations for improving IFAD's approach and performance in promoting successful agricultural innovations for rural poverty reduction in recipient countries. With this report, the institutional history of how IFAD has conceptualized and implemented its support for innovation is well documented and illustrated (for an overview, see table 1), combined with corporate learning on the topic over two decades. It is rare to see an organization invest in this type of long-term learning and, therefore, important that the report will be used by not only IFAD but also other international financial institution (IFIs) and innovation research agencies.

3. **Monitoring and evaluation (M&E) and innovation**: The evaluation mentions that M&E systems are mostly designed for reporting against the planned activities, whereas innovation requires adaptation to face new realities, foresight-thinking on what likely scenarios are, and strategizing to improve project performance. This requires a stronger link with learning and adaptive planning, meaning that M&E systems would be better designed as planning, monitoring, evaluation and learning systems.

4. **M&E and gender**: In many countries it was difficult to obtain adequate gender-disaggregated monitoring data, as the activities targeted households rather than individuals (paragraph 171). This is an observation often made in evaluations, yet seldom combined with recommendations to address this lack of gender information. Moreover, having gender-disaggregated data will not be sufficient; monitoring effectiveness of gender strategies will also be needed in order to achieve gender changes. Innovation projects often assume that they are gender-neutral, but in reality they are in most cases gender-blind.[1] Innovative gender results like those reported in paragraphs 167-181 deserve to be captured and documented by the M&E systems and shared among IFAD partners. They also show how IFAD collaborates with gender-scaling partners.

5. **Conclusion on youth performance (paragraph 192)**: Results where youth had been significantly supported were below expectations. A recommendation could be to advise innovation projects to analyse which systemic reasons impede youth from being involved in decision-making processes and having equal access to resources. These can provide leverage points for interventions to change the agrifood system towards more-inclusive systems.

6. **Innovation practices and scaling (paragraph 235)**: A logical conclusion is to advise that planning for scaling up should be done from the start of the project. One suggestion is to add the argument that this is also likely to enhance sustainability, as national partners are engaged in the scaling approach from the outset and co-invest together.

7. **Bundling of innovations by applying systems thinking**: Based on the findings of the evaluation, the evaluation team rightly pointed out the importance of bundling innovations, as observed in the CLE. The evaluation illustrates a range of diverse but often stand-alone innovations that were effective and likely to have contributed to project impact achieved. A key finding of the report is that most of those innovations did not have transformative features. The CLE argues that a future programme therefore needs to bundle or package innovations addressing diverse challenges of the agrifood system, to give them a transformative dimension.

8. The report could have underscored this more clearly by applying systems thinking that is not only conceptualized by the four selected components. For instance, in paragraph 5, the CLE indicates that innovations are meant to improve the performance of agrifood systems. The latter include three aspects (TEEB, 2018): the agricultural production and value chain (APVC) component; the socio-economic pillar or component (SEP); and the natural pillar or component (NP). IFAD's Strategic Objectives (2016-2025) relate to these three aspects. Taking into account IFAD's operating contexts, the CLE identified an additional component, the governance pillar (GP), which includes driving forces for the effective functioning of the entire agrifood system. The evaluation report presents the system-based approach to agricultural innovations also in the conclusion (paragraphs 247-248).

1 Van Eerdewijk, A. & Brouwers J. 2014. *Gender and Theories of Change. 4th E-discussion June 2014: End Note*. The Hague: Netherlands: Humanist Institute for Cooperation with Developing Countries.

9. As mentioned above, in parts of the CLE report, agrifood systems are presented as the combination of the four components (APVC, SEP, NP and GP). The report recognizes that innovation in one of the subcomponents can affect one or more other subcomponents (paragraph 20); nevertheless, subcomponents were applied to categorize innovations. Separating the APVC and the SEP, for instance, might not represent systemic thinking as economics is closely linked to production and value chains. There is also a risk that key elements of the system such as nutrition and education may not be included in the food-system innovation thinking to their full potential. Education, for instance, is a major driver of inclusion, increasing lifelong income and improving nutrition, health, civic engagement and gender equality. Working systemically shows how food system actors deal with their context and arrange for protected early innovations. This can be shown as a more dynamic transformation process of agrifood systems, as in the model depicted below.

10. Looking at smallholder farmers as not only being part of the SEP would allow them to understand the food system, and be empowered to make strategic choices within food systems and have a voice in holding governments accountable for delivery of inclusive food systems. In this way, IFAD can recognize in further innovation projects the contributions smallholder farmers already make to food systems with their time and labour, and promote policies that empower them to secure more equal benefits.

2. Other suggestions

11. Paragraph 22 of the Overview, on relevance, says: "... despite the lack of framework to steer the innovation processes, a diversity of IFAD-supported innovations have occurred. These innovations have been mostly relevant (to their context and to smallholder farmers), but remained scattered and stand-alone." This could also indicate that such a framework is not needed to support innovation, but rather that a set of guidelines may be. Innovation can be stimulated, but not planned.

FIGURE A1

Transformation process of agrifood systems

Source: Biovision Foundation for Ecological Development and Global Alliance for the Future of Food, 2019.

3. Recommendations

12. The six recommendations are logically deduced from the evaluation results, and they present a coherent and well-argued set of recommendations. New innovation initiatives: need a corporate strategy that is harmonized with other policies; should have programming guidelines driven by a coherent theory of change or theory of innovation; should put forward a range of implementation modalities that help programme managers engage with governments and other stakeholders to agree on appropriate innovation designs; and should bring resources to build staff capacity and provide technical backstopping. This includes the M&E staff, who should be allowed to link M&E more strongly with adaptive planning as well as new learning tools that enhance reflexivity and strategic thinking.

Suggestions related to the recommendations

13. Linked with recommendation 1: Add a specific suggestion on IFAD's ambition and proposed added value in sustainable agricultural innovation **linked to Sustainable Development Goal (SDG) 17 (partnerships)**, based on the findings of the evaluation. Reference is made by the CLE to SDGs 2 and 9, but the report also provides material to be clearer on how IFAD contributes to SDG 17.

14. Linked with recommendation 4: In addition to fostering an internal innovation culture, IFAD could also enhance its culture to partner with other innovation actors willing to invest in innovation. Not only IFIs and interested partner governments could provide innovation **partners (as mentioned in recommendation 5) but also other societal actors** such as research, civil society and the private sector, including agricultural producers.

15. The material is very rich and provides arguments for more than six recommendations. Another recommendation, for example, could pertain to the types of innovations IFAD and partners are promoting. Whereas past innovation programmes had a strong orientation on technical agri-innovations, the evaluation report shows a rich practice of emergent additional types of innovation: transformative innovation; system innovation; social innovation; disruptive innovation; and frugal innovation. Within the European Union, responsible innovation is now also promoted. A recommendation to be open for new types of innovations that are especially of interest to smallholder farmers would befit the depth and range of the current evaluation report.

4. Conclusion

16. The report will provide a valuable resource for IFAD to deepen and enhance its approach to inclusive innovations focused on smallholder farmers. The many findings and lessons draw together information from a range of sources and deserve to be widely shared. In view of their importance, adding a short summary would help accessibility by a wider audience.

III. Evaluation matrix

Criteria	Evaluation questions	Data sources
	Overarching questions A. To what extent (how and why) have corporate instruments, tools and approaches been successful in promoting agricultural innovations within IFAD's country programmes? B. To what extent (how and why) have IFAD's operations promoted agricultural innovations that: (i) have responded to smallholder farmers' needs/demands; and (ii) were targeted and inclusive? C. How have those innovations led to positive outcomes, and how have they been scaled up for sustainable and resilient development of smallholder agriculture?	
1. Relevance	**How relevant are IFAD's strategies, policies, procedures and guidelines for promoting innovations for inclusive and sustainable smallholder agriculture?** • How relevant is the IFAD Innovation Policy, guidance and approaches to the IFAD Strategic Framework and the Sustainable Development Goals (SDGs)? • Is there conceptual clarity on the concept of innovation within IFAD and has this been translated into programme design? • What is IFAD's added value with regard to innovation? • Are IFAD's business model and culture adequate to promote innovation (fit for purpose)? • How relevant are IFAD's operational procedures, manuals, guidelines and quality assurance processes for effectively implementing the IFAD Innovation Policy? • Are adequate resources available? Are IFAD staff sufficiently motivated and supported to take risks in developing innovations? • To what extent is IFAD's support to innovations in line with governments' policies and strategies?	• IFAD strategic frameworks and policies • Governments' policies in case of study countries • Country strategic opportunities programme (COSOP) documents for selected case study • Guidelines and guiding documents (for grants, loans, knowledge management, formulation of COSOPs, etc.) • Quality assessment documentation • Past evaluation and study reports • Interviews with IFAD Management, staff and partners • E-surveys • Case studies • Interviews with national stakeholders in case study countries • IFAD knowledge products
	To what extent have the smallholder context, needs and constraints (especially of disadvantaged groups) been considered and addressed in innovations promoted through IFAD-supported operations? • How are the different challenges between regions reflected in the types of innovations developed and rolled out? • Are IFAD's country strategies and approaches relevant to promote innovations that address the needs of smallholder farmers, especially poor and disadvantaged groups? • Are the innovations relevant to smallholders' needs (do they arise from clear needs or from the supply side)? • Are the portfolio and non-lending activities (including grants) relevant in addressing the needs of smallholder farmers, especially poor and disadvantaged groups?	• IFAD strategic frameworks and policies • Government policies in case study countries • COSOP documents for selected case studies • Guidelines and guiding documents (for grants, loans, knowledge management, COSOP formulation, etc.) • Quality assessment documentation • Past evaluation and study reports • Interviews with IFAD Management, staff and partners • E-surveys • Case studies • Interviews with national stakeholders in case study countries • IFAD knowledge products

Criteria	Evaluation questions	Data sources
2. Effectiveness	**To what extent (how and why) have instruments, tools and approaches been effective in enabling IFAD's operations to promote a systems approach for agricultural innovations (in terms of success and failure) as reflected in the theory of change (ToC)?**	
	• How effective is the systems approach to supporting agricultural innovation?	
	• Are there linkages and complementarities among loans and grants?	
	To what extent (how and why) have IFAD operations that promoted agricultural innovations been effective in terms of: (i) addressing smallholder farmers' needs and demands; (ii) inclusiveness; (iii) outreach; and (iv) achieving results?	• COSOP documents (for selected case studies) • National strategy documents (for selected case studies) • Project documentation: design, approval, supervision, mid-term review and completion reports (for selected case studies) • Quality-at-entry assessment reports • Past evaluation and study reports • Interviews with IFAD Management, staff and partners • E-surveys • Interviews with national stakeholders in case study countries • IFAD knowledge products • Direct observations and testimony • Monitoring data • Impact assessment databases (when available)
	• How effective have innovation systems been in responding to needs (demand-driven) and addressing challenges of smallholder farmers?	
	• How effective have innovations been in terms of inclusiveness, targeting and outreach (dissemination)?	
	• How effective have innovations been in terms of results achieved?	
	• Are the novelty level and type of innovation important determinants of success or failure?	
	To what extent (how and why) are non-lending activities effective in ensuring the effectiveness of the innovation system?	
	• How effective are IFAD's partnerships?	
	• How effective are IFAD's knowledge management systems?	
	• How effective is IFAD's policy engagement?	
	• To what extent have lessons learned from experiences related to innovation promotion informed the design of new projects and programmes?	
3. Efficiency	**To what extent have agricultural innovations promoted through IFAD-supported operations been cost-efficient in achieving their outputs (especially in the context of smallholder agriculture)?**	• Grant and Investment Projects System database • Project documentation: design, approval, supervision, mid-term review and completion reports (for selected case studies) • Financial reports • Quality-at-entry assessment reports • Past evaluation and study reports • Interviews with IFAD Management, staff and partners • E-surveys • Interviews with national stakeholders in case study countries • IFAD knowledge products • Databases on budget allocation and implementation • Project financial management data
	How efficient are IFAD's financial and non-financial instruments?	
	• How efficient have the organizational structure, availability of skilled human resources and budget allocation been over time?	
	• How efficient are IFAD's partnerships to develop innovations?	
	Are there possible links between the novelty level of promoted innovations and the level of efficiency?	
	Which innovations (types or categories) were the most efficient and why?	
	• Are there any potential linkages between level of efficiency and adoption of innovations?	
	• What are the linkages between efficiency and goals achieved as a result of the innovation promoted?	

Criteria	Evaluation questions	Data sources
4. Impact	**To what extent (how and why) have agricultural innovations promoted through IFAD-supported operations had positive impacts on smallholder farmers, taking into consideration IFAD's impact domains?**	• COSOP documents (for selected case studies) • National strategy docs (for selected case study) • Project documentation: design, approval, supervision, mid-term review and completion reports (for selected case studies) • Quality-at-entry assessment reports • Past evaluation and study reports • Interviews with IFAD Management, staff and partners • E-surveys • Interviews with national stakeholders in case study countries • IFAD knowledge products • Direct observations and testimony • Monitoring data • Impact-assessment databases (when available)
	What are household incomes and assets?	
	What are the levels of productivity and food security?	
	What are the capacities of participating farmers, their organizations and other stakeholders (human and social capital)?	
	What rural institutions and policies are in place? To what extent can successful impacts be attributed to favourable context or external factors, e.g. weather or markets?	
	To what extent (how and why) have the type and nature (novelty level) of innovations determined their outcomes and impacts?	
	Have there been any negative or unexpected impacts?	
	To what extent have gains towards productivity, social and environmental goals been achieved in a complementary manner, and which trade-offs (negative impacts) have occurred?	
5. Sustainability	**To what extent (how and why) were innovations promoted with IFAD's support sustained after closure of the project or programme?**	• Project documentation: design, approval, supervision, mid-term review and completion reports (for selected case studies) • Past evaluation and study reports • Interviews with IFAD Management, staff and partners • E-surveys • Interviews with national stakeholders in case study countries • Direct observations and testimonies (for selected case studies) • Monitoring data and impact-assessment databases (when available)
	Was the viability of innovations promoted (economically, technically, environmentally and social)?	
	Were farmer-driven innovations more sustainable?	
6. Scaling up	**To what extent were innovations promoted through IFAD-supported operations scaled up?**	• Project documentation: design, approval, supervision, mid-term review and completion reports (for selected case studies) • Past evaluation and study reports • Interviews with IFAD Management, staff members, project staff and partners • E-surveys • Interviews with national stakeholders in case study countries • Direct observations and testimony (for selected case studies) • Monitoring data and impact-assessment databases (when available)
	• Were innovations involved in scaling up results?	
	• What were the influencing factors?	
	• Were partners (governments, donors, etc.) involved?	
	• What were the links between the type of innovation and scaling up results?	
	• Were there other factors that explained the scaling up or successes and failures?	
	• To what extent can successful outcomes from scaling up be attributed to favourable context or external factors (e.g. weather or markets)?	
	Was there a specific strategy for scaling up the innovation, including funding, partners and targets?	
	• What types of evidence were collected to justify and support the scaling up of successful innovations, and how this was documented?	
	To what extent has IFAD been proactively engaged in partnership-building and policy dialogue to facilitate the development, uptake and scaling up of successful innovations?	

Criteria	Evaluation questions	Data sources
7. Gender equality and empowerment	**To what extent (how and why) were innovations promoted through IFAD's operations socially acceptable and contributing to equity among beneficiaries, with a focus on gender equality, women's empowerment and representation, and workload?** • What types of innovations have helped to improve gender equality and empowerment? • Were women, men, communities and women's organizations all consulted in planning and monitoring? • How many new and adapted technologies, and management strategies have been taken up by women as opposed to men, and how many by smallholders as opposed to larger farmers? • Have IFAD's innovation activities had any unintended negative impacts on women as decision makers or beneficiaries? • Did IFAD engage in policy dialogue with partners to improve gender equality and women's empowerment (to include more women in innovation systems)? **To what extent (how and why) were innovations promoted through IFAD's operations socially acceptable and have they contributed to improving conditions and opportunities for youth?** • Have IFAD's intervention approaches improved youth and other marginalized groups' capabilities?	• Project documentation: design, approval, supervision, mid-term review and completion reports (for selected case studies) • Past evaluation and study reports • Interviews with IFAD Management, staff and partners • E-surveys • Interviews with national stakeholders in case study countries • Direct observations and testimonies (for selected case studies) • Monitoring data and impact-assessment databases (when available)
8. Environment and natural resource management	**Have IFAD-supported innovations led to improved environmental outcomes and improvements in natural resource management?** • What was the incidence and in what types of situations did negative environmental outcomes occur and why? • What was the incidence and in what types of situations were there "win-win" outcomes encompassing both productivity increases and environmental goals?	• Project documentation: design, approval, supervision, mid-term review and completion reports (for selected case studies) • Past evaluation and study reports • Interviews with IFAD Management, staff and partners • E-surveys • Interviews with national stakeholders in case study countries • Direct observations and testimony (for selected case studies) • Monitoring data and impact-assessment databases (when available)
9. Climate change adaptation	**To what extent (how and why) have IFAD-promoted innovations improved smallholder farmers' ability to adapt to climate change or support disaster risk reduction?** • Have IFAD-supported innovation systems addressed challenges related to climate change? • Have innovations promoted by IFAD strengthened the adaptive capabilities of smallholder farmers?	

IV. Additional tables to chapters

TABLE A1

Review of corporate documents

Corporate documents	Excerpts / review in relation to innovations
IFAD, Strategic Frameworks	In IFAD's Strategic Framework 2007-2010, innovation, learning and scaling up became one of the six engagement principles. Because IFAD is not a large-scale financial institution, it is necessary to foster partnerships for developing innovative approaches to rural poverty reduction, and testing methodologies, institutional arrangements, partnerships or technologies that are new within the context in which they are being applied. The Strategic Framework referred to having all elements of IFAD's country programmes being innovative, and to ensuring the scaling up of innovations, through learning arrangements, as well as mechanisms for feeding lessons to the higher, national level. The knowledge management strategy was mentioned to transform the organization into a knowledge-sharing and innovative institution and centre of excellence for rural poverty reduction. Thus, innovative projects, embedding innovations, learning, knowledge management and scaling-up mechanisms, are expected to be implemented through country programmes. Grant programmes would continue to be an important mechanism for IFAD to promote innovation, knowledge-sharing, build capacity, and develop partnerships at regional and global levels, but it should ensure that they strengthen national programmes. In the IFAD Strategic Framework 2011-2015, innovation, learning and scaling up were kept as one of the eight principles of engagement. In view of rural development challenges (related to environmental degradation, climate change and agricultural and food market transformations), IFAD should be able to innovate and learn. Thus, it is necessary to work with a variety of partners – including the Consultative Group on International Agricultural Research (CGIAR), national research agencies, farmers' organizations, and commercial technology providers – in order to identify appropriate technologies for smallholder agriculture, to increase crop and livestock productivity and improve the resilience and sustainability of systems. Lines of actions mentioned in the strategic framework include work to: • continue to promote innovation at all levels in its operations, and to focus on developing demand-driven and innovative approaches to rural poverty reduction; • place greater emphasis on knowledge generation and sharing within IFAD and in its operations management, with a focus on building on operational experience; • scale up successful approaches and innovations, when appropriate, by treating scaling up as "mission critical", and building on recent efforts to better understand the preconditions for successful scaling up and to systematize IFAD's approach in this regard; • review existing policies and strategies on knowledge management and innovation to develop an integrated innovation, learning and scaling up strategy focused particularly on RB-COSOPs and projects. In IFAD's Strategic Framework 2016-2025, innovations, learning and scaling up are still kept as one of five principles for engagement. Innovation, knowledge-sharing, partnerships and policy engagement will contribute to strengthening the quality of IFAD's country programmes. Improving the quality of IFAD's programmes entails some critical dimensions such as: (i) strengthening its capacity to identify innovations that respond to constraints faced by rural people, and to incorporate and test them through IFAD-supported programmes; (ii) strengthening its ability to learn, to generate knowledge, to provide evidence of what works, and to leverage the knowledge of others; (iii) enhancing project quality-at-entry and implementation support; and (iv) strengthening partnerships and policy engagement, inter alia, through expanded country presence. The 2016-2025 Strategic Framework explicitly highlights that IFAD-supported programmes should: • offer opportunities to innovate in a range of ways that respond to the specific challenges faced by programme beneficiaries; • build new forms of partnerships with local communities, organizations of rural people, the private sector and other development partners that can bring to bear substantial financial resources, new approaches to rural development, and strong technical expertise; • have effective monitoring and evaluation (M&E) and knowledge management systems in place for testing innovative approaches, measuring results and impact, and analysing drivers of success, in order to generate lessons and evidence to shape policies, institutions and practices for expanded impact in terms of rural poverty and hunger reduction

Corporate documents	Excerpts / review in relation to innovations
COSOP guidelines	Revised RB-COSOP Framework (2006). The IFAD country strategy should have a clear innovation agenda and mechanisms for scaling up activities via strategic, partnerships. The previous guidance was revised to strengthen the emphasis on: (i) IFAD's core competencies and comparative advantage; (ii) target groups and targeting approach; (iii) assessment of past programme performance and lessons learned; (iv) harmonization and alignment with the government's own poverty reduction strategy and programmes, and those of other donors; (v) policy change aspirations over the COSOP period; (vi) knowledge management approach; (vii) innovative approaches; and (viii) risks and risk management. The 2016 guidelines included a subsection on "opportunities for innovations". This subsection identifies potential innovation ideas/areas for each of the selected strategic objectives. It also identifies the intended innovation approach (for example: scoping, testing, validation, communication of results, replication) to be adopted by IFAD. This section seeks to link research work funded by IFAD grants (both in the country and elsewhere) to future projects that could benefit from innovations. Revised guidelines (2011) introduced a dedicated section on opportunities for innovation and scaling up. In addition to what was mentioned above, this section seeks to link research work funded by IFAD grants (both in-country and elsewhere) to future projects that could benefit from innovations. Concerns about environment and climate issues should also be reflected – as deemed appropriate –- in the innovation, knowledge management and scaling-up agenda. For COSOPs to become strategic documents for scaling up, the review processes need to focus on strategic questions, including the following: (i) what does IFAD wish to achieve through its programme in the country and at what scale; (ii) does it have the right mix between innovation and scaling up; (iii) what kind of scaling up is anticipated, by whom, how; (iv) how will IFAD help support the achieving of this scaling up; (v) does the COSOP provide for the appropriate instruments to allow this to happen; (vi) how will new projects that will be approved through the COSOP contribute to the results objectives and indicators laid out in the results management matrix; and (vii) through what pathway and over what time frame could this be achieved? Revised RB-COSOP Guidelines (2016). This document contains dedicated subsections on: • Innovation, that shall present the strategy and approach for generating innovations, for example through linking to research or setting up innovation platforms with private and public sectors. It would also describe (if any) previous IFAD-grant-financed innovations that can be replicated or scaled up in the future portfolio. • Scaling up. Drawing on lessons learned and past results, the RB-COSOP is presented according to IFAD's Operational Framework on Scaling Up. IFAD's new approach demands that scaling up is not incremental through a sequence of IFAD-funded projects but includes other instruments, i.e. scouting for innovations, policy engagement, partnership and knowledge-sharing. Opportunities for building on loan- or grant-financed investments in the past would remain an option. The RB-COSOP will be the main vehicle to define and promote IFAD's scaling up agenda in the country. Revised RB-COSOP Guidelines (2019). A subsection "Innovations and scaling up for sustainable results" is introduced and should include. • IFAD's comparative advantage in encouraging innovation through projects and associated non-lending interventions (e.g. policy experimentation, sharing knowledge through pilot activities). Description of how innovation fits the country context (e.g. setting up innovation platforms with the private sector may be more relevant in upper-middle-income countries); of any ongoing or previous IFAD-grant-financed innovations, or good practices developed by others, that can be replicated or scaled up in the future portfolio. Integrating information and communications technologies (ICT) for development into projects and non-lending activities can be a valuable source of innovation and can enhance the scaling-up process. • Scaling up to draw on lessons learned and past results of IFAD interventions. Summarize IFAD's scaling up strategy in the country, both for proven innovations and to develop innovations for future scaling up. Additional financing for successful earlier pilot phases may be relevant. Describe how tapping into strategic partnerships (e.g. government inclusion in larger programmes, cofinancing, private-sector involvement) can help to scale up successful innovations. Policy engagement may be one of the principal mechanisms for scaling up through national strategies or programmes.
Knowledge management	Knowledge Management Strategy 2007. Due to evolving realities, IFAD needs to be more agile, to apply appropriate innovations and improve its systems and its institutional readiness for more continuous learning and sharing. By doing so, IFAD can become a knowledge-based organization. It will learn systematically and collectively from its own projects and programmes, and from the experience of its partners, particularly poor rural people, in order to deliver high-quality services and to enable its partners to find innovative ways to overcome poverty and to use the knowledge acquired to foster pro-poor policy reforms. Strengthen innovation and knowledge-sharing and learning within IFAD is necessary to have knowledge-intensive and innovation-based programmes for institutional and policy transformation. The direct supervision policy will enhance learning and provide the basis for stimulating, replicating and scaling up innovations. IFAD will share information and knowledge related to rural poverty in order to promote good practice, scale up innovations and influence policies, thus positioning the fight to reduce rural poverty as a global, regional and national priority. Knowledge Management Framework 2014-2018. The core purpose of IFAD's knowledge management shall be to "identify, develop and promote successful and innovative approaches and interventions that have demonstrated potential to be scaled up." IFAD integrates knowledge-sharing and learning functions into key business processes, to promote a culture of knowledge application, innovation and learning. The framework established a knowledge management coordination group to serve as a technical group with reference to knowledge management and, among other tasks: promote discussion on the linkages between knowledge management, innovation and scaling up; and identify new trends in knowledge management and innovation. The result area no.5 of the framework includes incentives to put in place business processes and performance frameworks that foster sharing, reporting, lesson-learning, documentation and innovative behaviour, including learning from failure. Knowledge Management Strategy 2019. The strategy acknowledged how IFAD implemented and is still implementing significant reforms, including the decentralization and a business model that focuses on results and innovation across all areas of work, in order to have an effective development impact. It introduces the need for innovative behaviour for a stronger learning culture. The action plan of the strategy includes an initiative to mainstream innovation in IFAD operations and organizational culture, and to develop and test solutions to address knowledge challenges. It also introduces an incentive framework for staff to support learning, sharing and innovative behaviours. The CDI unit will collaborate with the knowledge management unit in the implementation of innovation-related actions.

Corporate documents	Excerpts / review in relation to innovations
Implementation	Policy on Support and Implementation (2007). IFAD aims to achieve a stronger, more sustainable impact on rural poverty through: (i) strategic planning and guidance; (ii) a new operating model to strengthen country programmes; and (iii) knowledge management and innovation. Implementation support focuses on development impacts. Where needed, technical support, policy dialogue, innovations and programme and/or design adjustments will be applied to improve effectiveness. The policy encourages innovations during projects' implementation. The policy introduced knowledge management and innovation as an area of focus to achieve a more sustainable impact on rural poverty, together with strategic planning and guidance and the new operating model (direct supervision). One of the guiding principles in the policy was the "encouragement of innovation during project implementation", assuming that IFAD direct supervision would respond adequately to the country context and country programme with a deeper understanding of national capacities and opportunities for innovative approaches based on local experiences. Guidelines on Supervision and Implementation Support of Projects and Programmes Funded from IFAD Loans and Grants (2007). Among the main principles guiding the supervision and implementation support, there are: encouragement of innovation during project implementation; and ongoing learning and sharing of knowledge with all stakeholders. Supervision is required to provide information on how the project is implementing IFAD's innovation and knowledge management strategies. Innovations being developed through the project should be clearly identified in supervision reports. The supervision and implementation support process should focus on active learning. It should help improve learning possibilities; facilitate processes of creativity and innovation; and bring about change in attitudes and the way IFAD staff work. Guidelines for Project Design Reports - PDR (2011). The project description and implementation arrangements should incorporate elements related to innovative features, scaling up, learning and knowledge management. The section on planning, M&E, learning and knowledge management to include, among others, the presentation of how the knowledge generated by the project including innovations will be captured, analysed and shared. Recalibrating IFAD's Project Design Process (2018). In the President's report template, innovations and scaling up shall be described in the implementation section, as a point of M&E, learning, knowledge management, and strategic communication approaches. In the PDR template, the project implementation description to include aspects related to, distinctively from the subsection on M&E, learning, knowledge management, and strategic communication and reputation management approaches. Guidelines for Internal Project Review Quality Enhancement – QE (2007). Key success factors of IFAD projects include: (i) country relevance; (ii) poverty/social targeting; (iv) alignment of design with IFAD's Strategic Objectives; (iv) implementation arrangements; (v) risks and sustainability; and (vi) innovation features, learning and knowledge management. Quality assessment during the design of projects aims at providing feedback on the extent to which key success factors are well addressed in the design report. With regard to innovation, QE comments include: How innovative is the project? Has the issue of innovation been discussed with the Government?
Other corporate documents	Environment and Natural Resource Management Policy (2012): Innovation is mentioned in two of the 10 core principles of the NRM policy, in connection with: (i) risk management, building resilience to climate change, access to mitigation incentives and funding; and (ii) embracing innovative adaptation measures in carbon sequestration and other environmental services. It introduces the principle that country programmes need to respond more systematically to increased demands for innovations in climate change and sustainable NRM; and encourages the sharing of knowledge whereas innovation informs enhanced global and national advocacy. Policy for Grant Financing (2009 and 2015). IFAD's Grant Policy (2009) emphasized the strategic role of grants in innovation and, for the first time, provided an opportunity to involve the private sector in research and the piloting of innovations for replication and scaling up through investment projects. These principles were re-affirmed in the Revised Policy for Grant Financing (2015), which recognized the value of grants in supporting policy engagement, research and partnerships, and for generating, testing and implementing innovative ideas and approaches, not only with partner governments, but also with actors in civil society, academia and the private sector. Grants should promote innovative, pro-poor approaches and technologies with the potential to be scaled up for greater impact. IFAD's Social Environmental and Climate Assessment Procedures – SECAP (2017). The procedures indicate that IFAD will take a proactive and innovative approach to promote projects and initiatives that are specifically designed to deliver significant environmental, social and climate adaptation and mitigation benefits. The preparatory study must identify and assess win-win solutions and innovations to support scaling up. There is a reference to innovation in all sections dedicated to: biogas; livestock; roads; micro, small and medium-sized enterprises; and rural finance. IFAD11 - IFAD's Role in the 2030 Agenda (2018). There is a need: (i) to embrace the culture of results and innovation to transform resources into development results; and (ii) to use supplementary funds to finance innovation, and grants to innovate in areas such as ICT and capacity-building. IFAD headquarters has to play a strategic role to promote innovation. Flexibility is required in project design to stimulate innovation and adapt design during implementation. Partnerships are a condition to promote and showcase innovations.

Source: Compiled by the CLE team.

TABLE A2

Knowledge management activities affecting innovations

PROCASUR example: an innovative knowledge management approach to make innovation more effective
PROCASUR started work particularly in Argentina and Peru, but has been supporting work in El Salvador for many years (as well as in many other countries globally). IFAD noticed that knowledge-sharing tended to be top-down, and wanted to create knowledge exchanges to be able to share community knowledge. The PROCASUR Corporation was started to organize study trips for farmers, women's handicraft groups, etc. to visit others in the same business and learn from them – Learning Routes. This was a method to share knowledge at community level and to value it better, moving away from the idea of "expert" knowledge. It started as a low-level community activity, but is now working with policymakers. This has developed to policy engagement with governments, which has proved effective to induce government actions to reduce rural poverty. PROCASUR noted that participants would come up with good ideas during the Learning Routes, but these could not be implemented without participation of higher-level government staff. Consequently, rural dialogue groups in Peru have also developed to include policymakers. When PROCASUR looked at implementing Learning Routes in Latin America, it considered two of the important innovations to showcase were the "concursos" in Peru, and the gender approach and rural economic empowerment for women in El Salvador. Current participating countries in PROCASUR's cross-regional activities: priority host countries (9 countries): Ecuador, El Salvador, Bolivia (Plurinational State of), Colombia, Mauritania, Mozambique, Peru, Rwanda and Senegal; participating countries (18 countries): Benin, Botswana, Brazil, Cabo Verde, Central Africa, Chad, Ghana, Guatemala, Guinea, Liberia, Madagascar, Malawi, Mali, Nigeria, Sierra Leone, Uganda, United Republic of Tanzania, and Venezuela (Bolivarian Republic of).

Source: CLE team.

TABLE A3

Promotion of R&D and extension in Bangladesh

Description
Development of agricultural technologies and a more efficient extension approach were, and still are, the main concerns for three of the IFAD-supported nation-wide interventions, which have a consortium of ministries for agriculture, livestock and fisheries as partners in Bangladesh. In the National Agricultural Technology Programme (NATP I and NATP II), IFAD was a co-funder in a World Bank intervention and in the Smallholder Agricultural Competitiveness Project (SACP), IFAD is a main funding agency. The NATP supported national research organizations through strategic planning, competitive funding grants for research teams and competitive adoption grants for smallholders interested in pilot-testing innovations in the early stage of development. This was tied to an extension strategy. Main innovations in extension were related to: (i) the participatory extension planning and budgeting of services at union and district levels; (ii) its planned evolution towards multi-stakeholder platforms linking public and private stakeholders; (iii) the set-up of one-stop farmer's information and advice centres for public and private extensionists and service suppliers at district level (for livestock and fisheries). IFAD promoted the implementation of these public strategies. In all projects, there were activities for technology development, pilot-testing and dissemination resulting in productivity increase among adopters, in asset accumulation by the very poor, and in the emergence or consolidation of clusters on which a value chain approach could be built. The grant component in the projects gave flexibility in the design of research grants, and the complementarity in the projects over time ensured continuity in the innovation development process and the development of institutions for their dissemination.

Source: CLE team.

TABLE A4

Additional examples of impacts on institutions and policies

Description
The Republic of Moldova is a small country and the IFAD Consolidated Programme Implementation Unit (CPIU) is a long-lasting institution within the Ministry of Agriculture. Discussions at that level are permanent, and IFAD displays how national policies can be implemented efficiently. IFAD innovates and kick-starts processes, and other donors inject much larger funds. However, impacts of IFAD on the country finance policies are less evident.
The single project implementation unit (SPIU) was initiated in Rwanda in 2012. The 2019 country strategic opportunities programme (COSOP) highlighted the fact that the SPIU has proved to be "an effective vehicle in guiding the process of designing, implementing and monitoring projects together with IFAD." The SPIU was initiated in 2012. Earlier, each project had a single coordination unit, which operated as an independent structure. The Government set a regulation to have one single coordination unit for all IFAD-supported projects, directly under supervision of the Ministry of Agriculture. This allowed better synergy between projects, and having scale economies, and improved follow-up and capitalization of lessons. Several IFAD country programmes in sub-Saharan Africa have already visited Rwanda to learn from this model. Stakeholders interviewed during the case study mission mentioned the SPIU as one of the determining factors that contribute to the success of IFAD-supported projects, as well as of other donors, in Rwanda. Similar support to establishing units within the ministry of agriculture has been seen in various countries, such as El Salvador and Uruguay.
In Peru, the concept of Nucléo Ejecutor Central (NEC, Central Implementation Unit) was used in all the loan projects during the evaluation period, as a method to decrease bureaucracy and speed up operations (under the domain of operational practices and approaches). This had an impact on both rural institutions and policy. The NEC modality was developed as a means to move funds from the public to the private sector or individuals, and from national to local level. This approach empowers legally recognized entities in the form of the project NEC and its project staff (contracted by AGRO RURAL) to manage funds, sign contracts and carry out all the necessary administrative and judicial procedures. According to one respondent, this was "the most fundamental innovation – wouldn't have been possible to implement IFAD projects effectively and efficiently without that."

Source: CLE team.

TABLE A5

Innovations affecting marine and inland waters biodiversity protection

Type of innovation	Description
	Several successive loan projects in Bangladesh have supported sustainable "beel" management by the riparian fisher communities. Beels are depressions, which remain under water when the seasonal floods in the Haor region recede. They are under state ownership and rented out, often to local elites, despite the fact that poor fishers depend on the resource. Interventions consisted in organizing fishers in order to secure their access to beels, encouraging them to develop sustainable fisheries practices, such as planting and protecting mangroves as fish sanctuaries, as well as enacting local rules protecting fish in times of spawning. Environmental outcomes are very positive, with the reappearance of almost extinct fish species and the replenishing of fish stocks. Security of small fishers' rights remains an issue endangering the sustainability of communities' engagement.
Innovation affecting natural resources management (NRM) in a positive way	Developing value chains out of wild fish and shellfish may lift poor fishers out of poverty, but at the same time deplete the stocks. In some specific cases, protecting the natural biodiversity may imply the domestication of wild species in order to prevent the destruction of the wild stocks while promoting production and its value chain. Domestication is usually linked to the pilot-testing of innovation. In the case of the mud crab in Bangladesh, fishers were used to fattening crablets but did not know-how to hatch them. Several devices from other countries were pilot-tested, while a value chain for export was being promoted. The FishCORAL grant in the Philippines is supporting protected areas and fish sanctuaries. Fisher groups try to increase fish biomass and live coral cover by: placing artificial reefs in black-sand barren areas; replanting of mangroves; enhancing giant clam stocks; and requiring law enforcement in protected areas. Several areas are also under protection to foster spawning. Watchtowers have been erected, and fishers work in teams to guard the areas from incursions. Each of these activities may not be innovative, but their bundling into a baywide approach is. Bay management councils are carrying out coastal resources management, and this has the potential to be an innovation.
Innovation affecting natural resources management (NRM) in a less positive way	Fish farming of any kind (such as in crab and lobster cages) has the potential to cause water pollution. However, in the Philippines project, a more serious concern is that the polluted environment is damaging the fisheries and is putting the innovative approach at risk. When a new resource is harvested for the market, there is always a risk that it could be depleted. In Indonesia, a seaweed value chain has been recently actively promoted by local coastal communities in Papua. Management plans also have been developed with harvesting rules in order to reduce the risks of negative outcomes.

Source: CLE team.

TABLE A6

Example of innovations affecting terrestrial ecosystem protection

Type of innovation	Description
Innovation affecting natural resources management (NRM) in a positive way	Pasture conservation in the arid steppes is considered when sound community management of these common-pool resources can be put into place, as in Kyrgyzstan. Additional infrastructures (water, access roads) also contribute to a better use of pastures in remote places, while deciding upon rules for sustainable use of the nearer, overexploited ones. Watershed and catchment management also requires collective agreement. In Malawi, a Global Environment Facility (GEF) programme set up committees at different levels to introduce more sustainable uses of the upper catchment, and reduce deforestation and soil erosion. This is a way of mitigating the siltation and water-shortage risks of the irrigation investments.
Innovation affecting NRM in a less positive way	Taking the equatorial forest in the Amazon and other frontier areas into cultivation is also a global issue. In Ecuador, for example, the expansion of the agricultural frontier towards areas of high biodiversity, expanded banana cultivation, growth in the oil sector and new mining operations have had a significant impact on the environment. The oil boom has promoted migration to some areas of the Amazon, pollution of land and water, deforestation, and increasing social conflict between the new settlers, indigenous communities, and large mining companies. Excessive use of agrochemicals, the existence of large areas of monoculture, erosion, burning and indiscriminate deforestation have led to significant degradation. There has also been degradation of large areas of natural vegetation, such as moors, forests and dry forests, due to a disorderly occupation of land. The portfolio of projects did not address the issues beyond the promotion of usual reforestation and agroforestry practices. Peatland degradation is very concerning in the Asia-Pacific region. Peatland ecosystems are threatened by timber harvesting and oil palm plantations, which are accompanied by drainage. Drying out of peatlands makes them very susceptible to fire. Peatland destruction by fire causes serious air pollution and haze. The destruction of peatland causes the loss of environmental benefits, such as flood mitigation, prevention of saline intrusion, groundwater regulation and detoxification, and carbon storage. Peatland covers 20.65 million hectares in Indonesia, where one national and a succession of regional grants aim to cope with this matter.

Source: CLE team.

TABLE A7

Example of innovations affecting natural resources management in farming systems – breeding, soil conservation, integrated pest management, agroforestry

Type of innovation	Description
Innovation affecting natural resources management (NRM) in a positive way	Breeding is performed for rice in risk-prone environments. AfricaRice grants have had multiple benefits. In Sierra Leone, many farmers have been able to move from upland to lowland rice cultivation, and the support of IFAD in providing water management infrastructure and knowledge has played into the opportunity to help farmers deal with increasingly erratic climate patterns, increasing production and productivity of rice and vegetables through cropping intensification and diversification in the inland valleys. The move away from upland rice cultivation has also led to a decrease in slash-and-burn practices. The use of short-duration Nerica rice, as promoted in the projects, has made farmers less dependent on the duration of seasons, and enabled double– or triple– cropping. With the Consortium for Unfavourable Rice Environments regional grant in the Asia-Pacific region, the International Rice Research Institute is breeding rice varieties together with farmers to combat the challenges of difficult environments. In addition, community-based seed systems will support farmer resilience to disasters and climate change. These systems build on community practices, where farmers (in groups or in a community) produce, save, and exchange or sell good-quality seeds, especially in times of disaster or seed shortages. In several countries, sustainable rice intensification (SRI) packages allow rice intensification under irrigation. SRI does not require a high level of the water table in the rice plot, and reduces water needs considerably. SRI is disseminated throughout Africa, for example, in Senegal, with some success. Several projects have been promoting soil conservation practices. In large-scale open-field farms in the Republic of Moldova, cultivation practices with recurrent interventions on the plot each season were damaging the soil, and pioneer farmers experimented with no-tillage farming practices. IFAD projects supported them in their pilot-testing and peer-training efforts, and this contributed to a significant expansion of conservation farming among large farms. In orchards, tree plantation in association with grassland cover for soil preservation has also been promoted and combined with water-saving irrigation. All these practices reduce the climate-related risk of crop failure as well, and after a few years, reduce the costs and improve the yields. In the Republic of Moldova, these technological innovations are linked to social innovations, as pioneer farmers have been put in charge of farmer field schools. In arid regions, more basic research is performed by the International Center for Agricultural Research in the Dry Areas.
Innovation affecting NRM in a less positive way	Many countries have projects disseminating integrated pest management (IPM). IPM must also often have a pilot-testing component to adjust the innovation to the types of pests and crops. As a stand-alone innovation in Burkina Faso, it has been assessed as insufficient to address the challenges of natural resources depletion. Some projects have developed more comprehensive packages of soil- and water-conservation techniques. The issue of IPM re-emerges when the sector of intensive vegetable farming grows, implying extensive use of pesticides and high risk of pollution. Very few countries have been able to couple the promotion of improved farming practices with the development of higher value chains (e.g. for organic products). Agroforestry belongs to the set of standard practices that can be innovative when reintroduced in tropical cropping systems, especially as shade trees in coffee or cocoa, support for pepper, etc. (e.g. in Indonesia). Multiple benefits over a longer planning horizon usually make for the immediate loss of productivity.
Innovation affecting NRM in a negative way	When new breeds are introduced from elsewhere for their higher productivity or only a few varieties are improved for standardization of marketable products, there is always a risk that erosion of local biodiversity occurs if no additional measures are taken to safeguard it.

Source: CLE team.

TABLE A8

Example of innovations affecting natural resources management in farming systems – irrigation, and soil and water conservation

Type of innovation	Description of examples
Innovation affecting natural resources management (NRM) in a positive way	Successful innovations to collect and store water can be found. In Peru, through competitive NRM, groups have competed for funds to construct infiltration ditches, geomembrane water reservoirs, and other forms of water catchment or storage. This has improved water recharge and provided water for irrigation of vegetables and for the recovery of pastures for livestock. In Bangladesh, inflatable dams are used to store water at flood recess.
Innovation affecting NRM in a less positive way	Irrigation is a major source of concern. In Sierra Leone, the quality and efficiency of water management structures such as dams, head-bonds and peripheral-bonds had demonstrated serious inadequacies in the design and materials used, and many were no longer operational. The beneficiaries often do not have the knowledge and/or materials for repair, and have to continue their activities as they did before the project. In repairing the infrastructures, room was created for innovation in lowland rice, contributing to its expansion. In Rwanda, the introduction of more-sophisticated irrigation systems reduced soil erosion and prevented community conflicts through improved water control.
Innovation affecting NRM in a negative way	Irrigation can be damaging for the soil when poorly applied, and competition for scarce water is also an issue. Not all countries have performed well on these topics. Small-scale irrigation schemes in the south of Tunisia, although providing some security to the farmers, have come up against the problem of salinization of irrigation water as well as an underutilization of the developed areas, which require important technical solutions. Overexploitation of aquifers for irrigation is also expected as no irrigation management mechanism or local monitoring of water tables has been introduced (or tested). More-recent projects have learned from these initial shortcomings.

Source: CLE team.

TABLE A9

The United Nations SPACE framework and toolkits

The five key areas	Relevant toolkits
Strategy Innovation strategies help organizations and teams make key decisions about how to go from where they are to where they want to be and how to allocate resources effectively. Without an effective innovation strategy, organizations often find themselves: (i) launching innovation initiatives that are not complementary to one another or to broader mission priorities; (ii) missing new opportunities and threats associated with new trends and technologies; and (iii) taking on responsibilities that are better suited to another player in the broader mission ecosystem. The strategy module tools help users define their innovation goals and organize to achieve them	• Headlines of the future • Scenario blueprint • Ecosystem analysis • Portfolio strategy • Innovation planner
Partnerships Global development involves complex ecosystems of actors with overlapping and – in some cases even competing – interests. Making innovation successful requires organizations to engage with these other groups, and the most consistently innovative organizations have developed standardized approaches to effectively engage potential partners, identify synergies, and create joint value. Often, this process includes working with non-traditional partners – extending efforts beyond traditional global development organizations to include private-sector entities, academic institutions, and government agencies. Organizations that have the ability to manage innovation efforts across these ecosystems will often find success that they could never achieve working in isolation.	• Define a value proposition • Find different partners • Prepare to partner • Prioritize and select partners
Architecture The most innovative organizations do not treat innovation as merely a series of consecutive projects. Rather, they take deliberate steps to build their capabilities to sustain innovation over time. By establishing repeatable processes and organizational structures to support each stage of the innovation life cycle, these organizations reduce their reliance on luck, talent-specific individuals, or external factors for innovation success. Instead, innovation becomes repeatable and embedded in the agency's way of working. Innovation architecture tools focus on helping United Nations entities become more effective innovators by establishing new operating models, developing catalysing capabilities, and going through each phase of the innovation life cycle in a systematic manner.	• Scan the horizon • User-centred design • From pilot to scale • Operating model
Culture Organizations that hope to truly embed innovation into their "DNA" must create a culture that provides employees with the skills, opportunities and incentives to innovate. Because innovation inherently involves risk-taking, employees must understand the circumstances under which they are able to take risks and how to capture learning throughout the process – even when the results are considered "failures." They must also be able to effectively engage governing bodies and communicate their innovation activities in a manner that resonates with potentially risk-averse groups both within and outside their organization.	• Embrace failures • Create incentives and opportunities • Define strategic risks • Engage government bodies
Evaluation Innovation is a dynamic and iterative process, and thus evaluating innovation effectiveness can prove challenging. However, adopting an effective evaluation programme for innovation can yield tangible benefits for an organization or team, helping them to identify opportunities to improve innovation processes, allocate resources more effectively, and demonstrate value to decision makers.	• Innovation storytelling • Stage-gate assessment • Life-cycle analysis • Enabling environment scan

Source: https://un-innovation.tools.

V. Electronic survey results

In the framework of the CLE, an electronic survey was implemented with the aim of gathering opinions on IFAD-supported innovations. The survey, posted on SurveyMonkey, was open from September to November 2019 to IFAD staff (headquarters and field), IFAD-supported project staff (also called government project staff) and partners recipient of IFAD grants. The tables below present major results by: A) questions to all categories of respondent; B) questions to two categories; and C) questions specifically directed to a category.

TABLE A10

Survey respondents by category

	No. respondents	No. full completion	% full completion
IFAD staff (headquarters and field)	120	73	61%
Grant-recipient partners*	68	43	63%
Government and project staff**	247	167	68%
Grand total	**435**	**283**	**65%**

* Include representatives of academic institutions, NGOs, civil society, private-sector organization, multilateral organizations, research institutions.

** Include: ministry, central and decentralized directorates, regional directorates and IFAD-supported project staff.

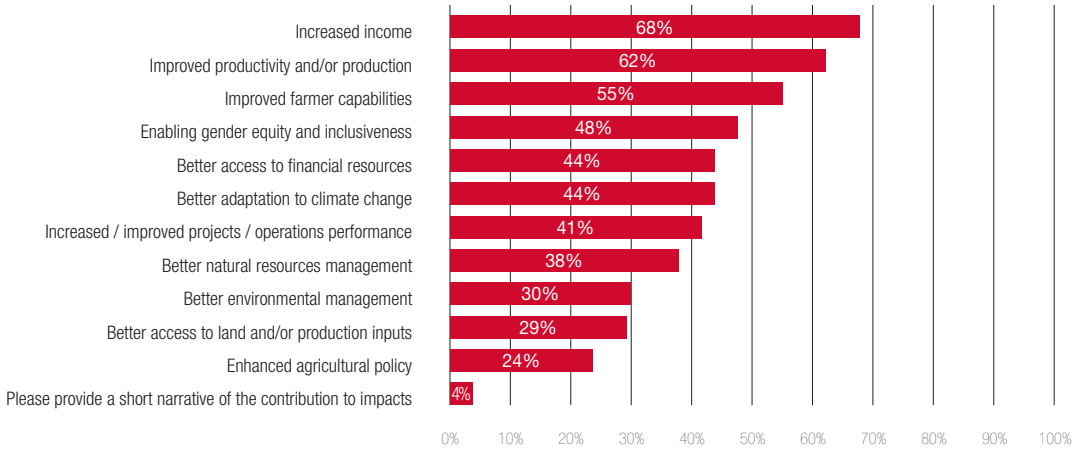
Source: CLE.

Group A - results

FIGURE A2

Do you know examples of innovations promoted through IFAD-supported projects over the past 10 years? If yes, let us know the specific domain(s) in which these innovations took place

Total respondents: 283

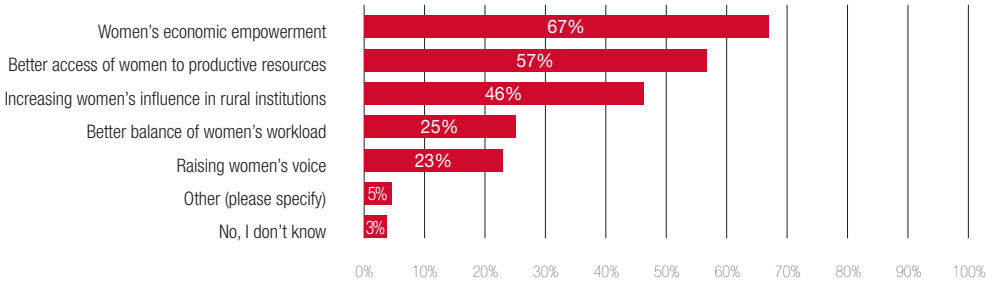


Source: CLE.

FIGURE A3

Provide examples of IFAD-supported innovations especially directed to women

Total respondents: 283

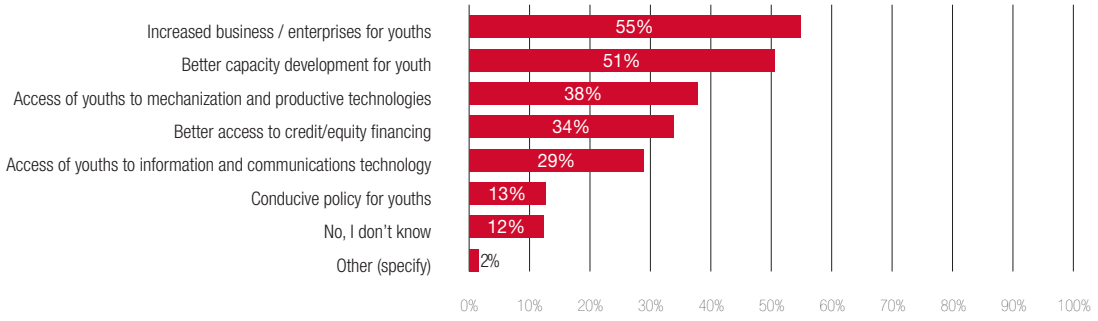


Source: CLE.

FIGURE A4

Provide examples of IFAD-supported innovations especially directed to youth

Total respondents: 283

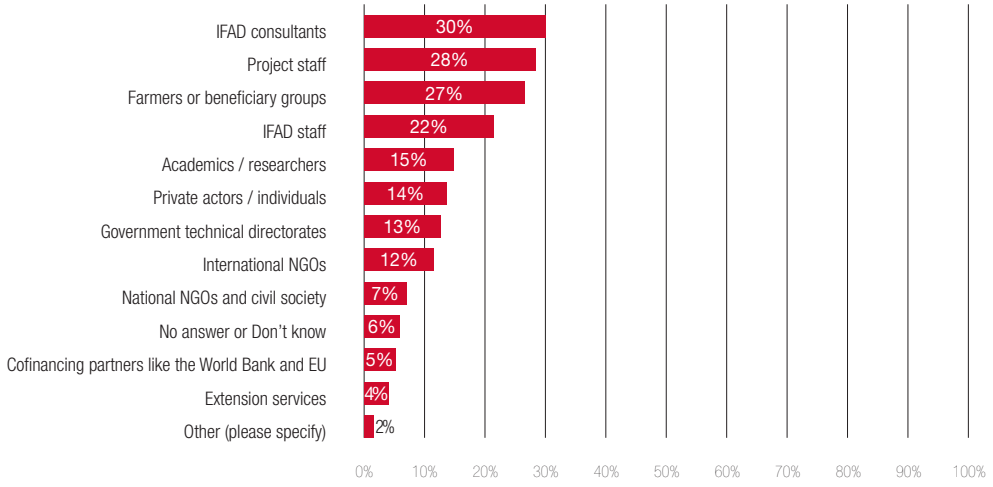


Source: CLE.

FIGURE A5

Where do innovation ideas come from most frequently in loan investment projects? (Select the most frequent three options)

Total respondents: 283

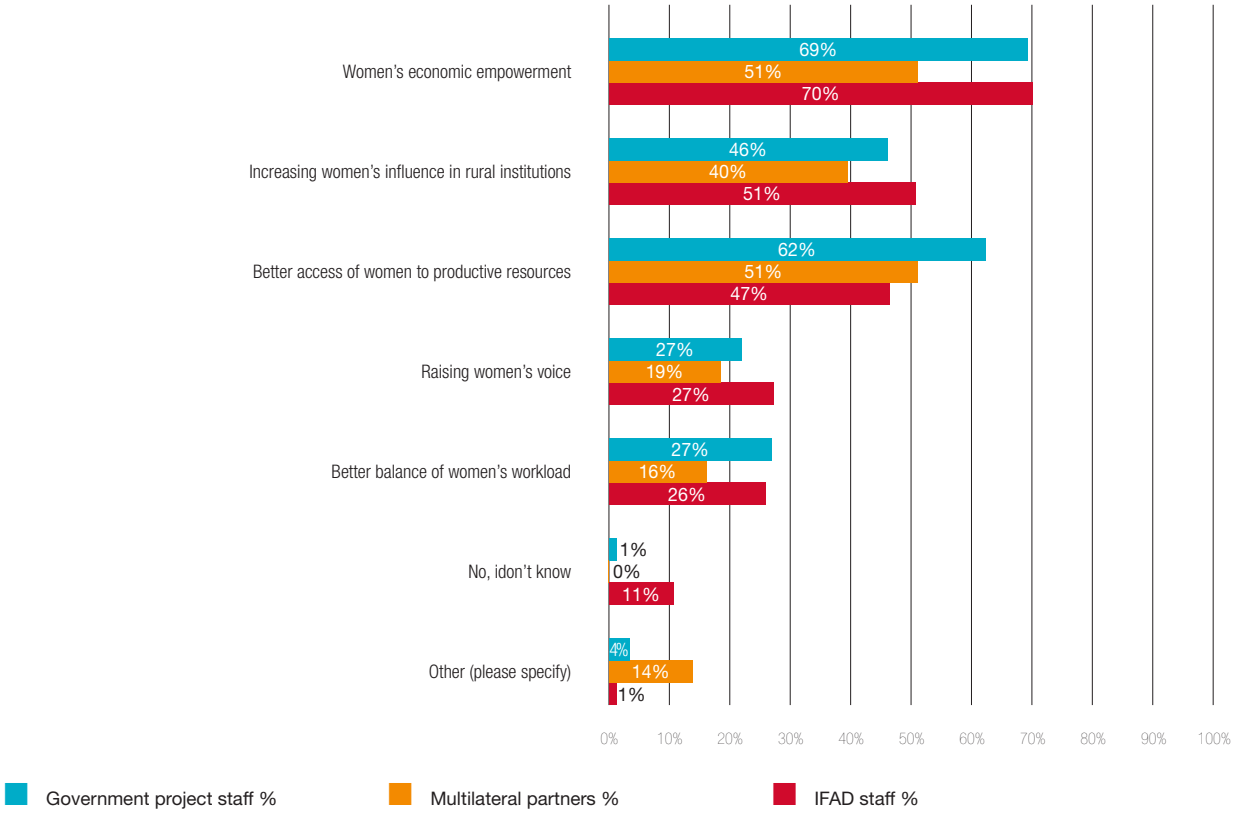


Source: CLE.

FIGURE A6

Provide examples of IFAD-supported innovations especially directed to women

Total respondents: 283

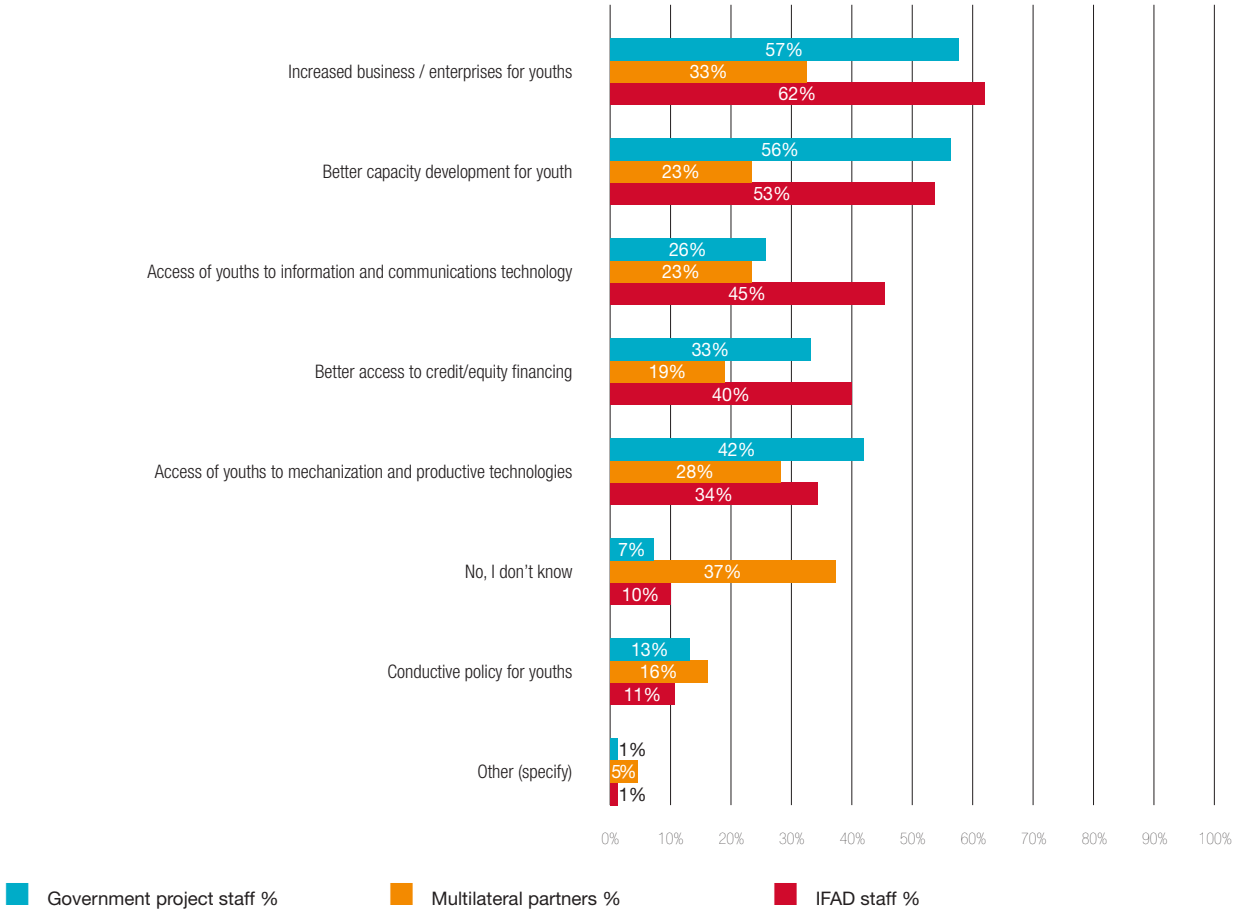


Source: CLE (electronic-survey staff [IFAD + projects] and partners responses).

FIGURE A7

Provide examples of IFAD-supported innovations especially directed to youth

Total respondents: 283

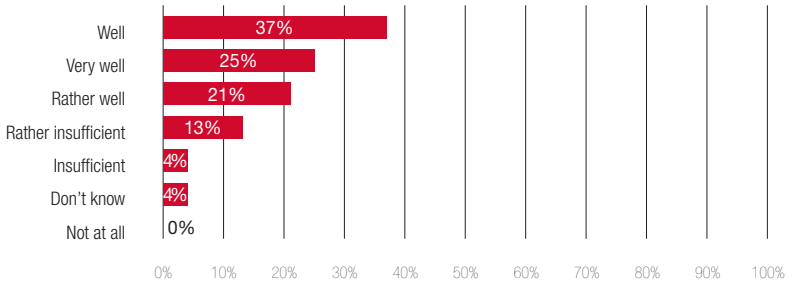


Source: CLE (electronic-survey staff [IFAD + projects] and partners responses).

FIGURE A8

How do you appreciate the capabilities (technical, human and financial) of IFAD to promote innovations for smallholder agriculture?

Total respondents: 283



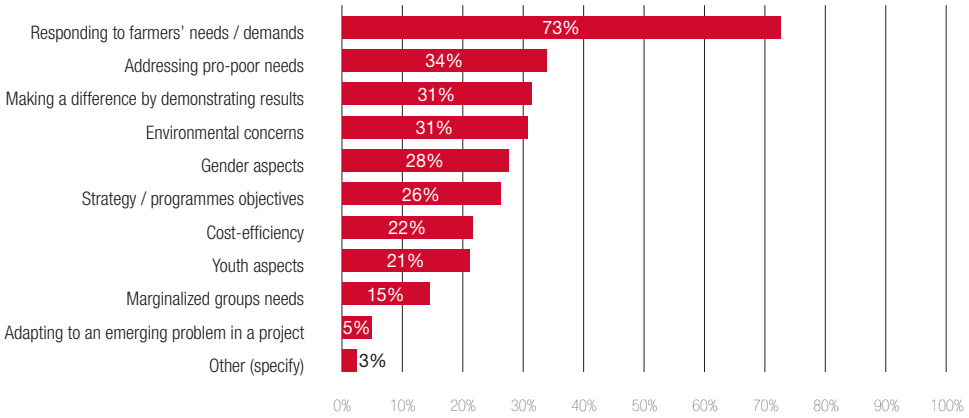
Source: CLE.

Group B results

FIGURE A9

What do you consider as the most important factors to take into consideration when identifying/choosing innovations to promote, in the context of smallholder agriculture? Select the three most important. (IFAD staff, government project staff)

Total respondents: 240

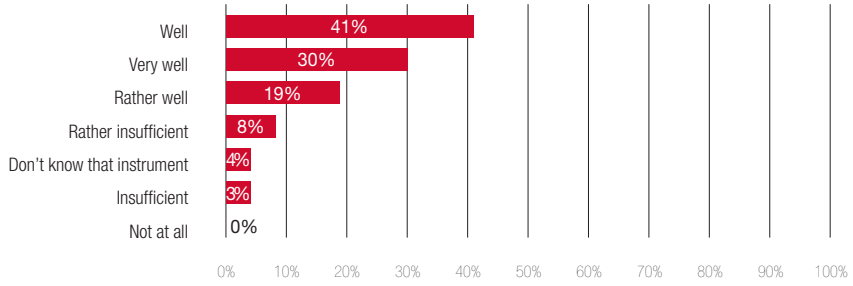


Source: CLE.

FIGURE A10

Please rate the sufficiency of IFAD's capabilities (expertise, human and financial resources) to support recipient governments in promoting innovations for smallholder agriculture? (partners, government project staff)

Total respondents: 210

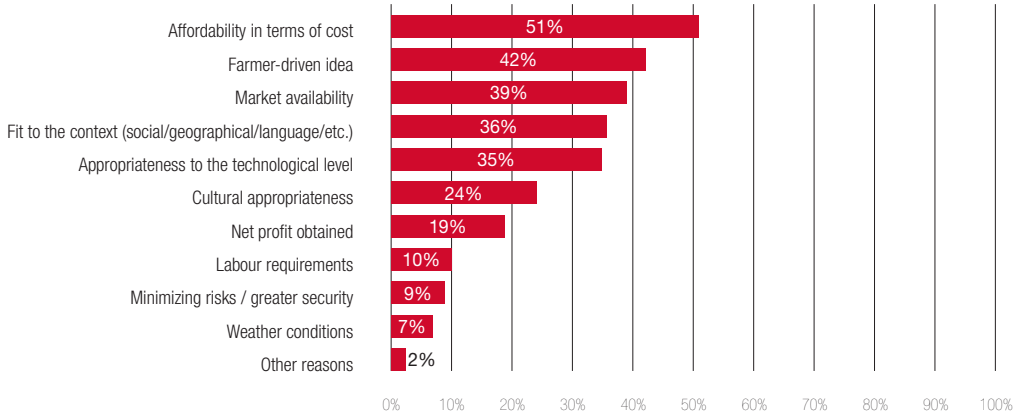


Source: CLE.

FIGURE A11

What do you consider as the most important reasons why some innovations are better implemented and replicated? Select the three most important reasons. (partners, government project staff)

Total respondents: 179

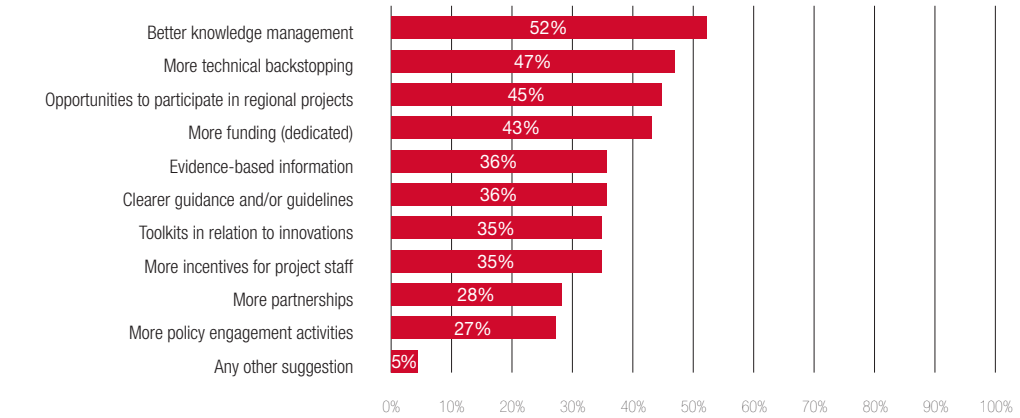


Source: CLE.

FIGURE A12

What do you think is needed to increase IFAD performance in promoting innovations within IFAD? (partners, government project staff)

Total respondents: 210



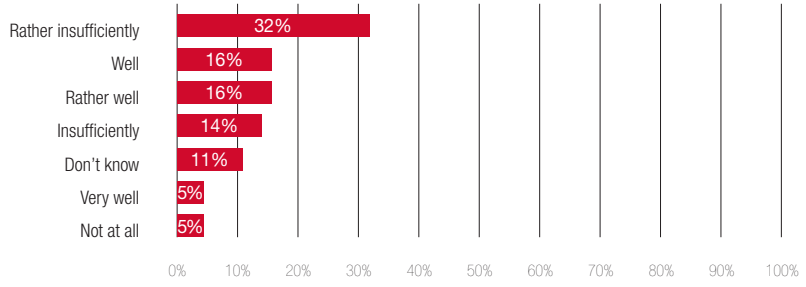
Source: CLE.

Group C results

FIGURE A13

Are there guidelines and/or guiding documents sufficiently available for IFAD staff to address innovation challenges? (IFAD staff)

Total respondents: 73

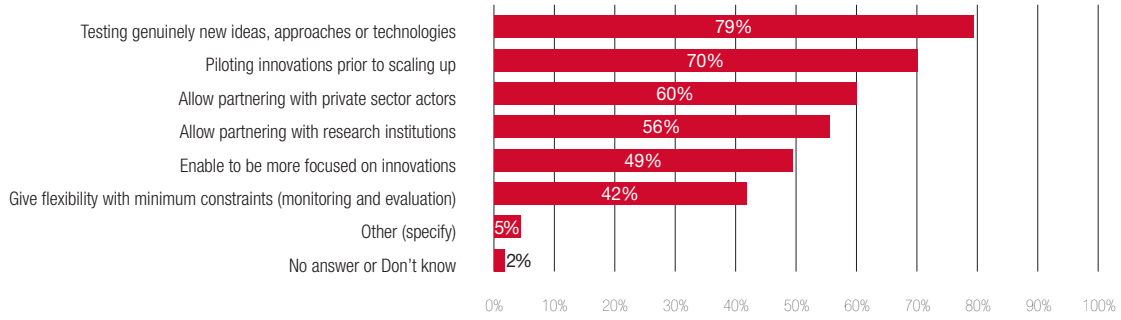


Source: CLE.

FIGURE A14

What are possible advantages of promoting innovations using grant-supported projects?

Total respondents: 43



Source: CLE.

FIGURE A15

What are possible disadvantages of promoting innovations using grant-supported projects?

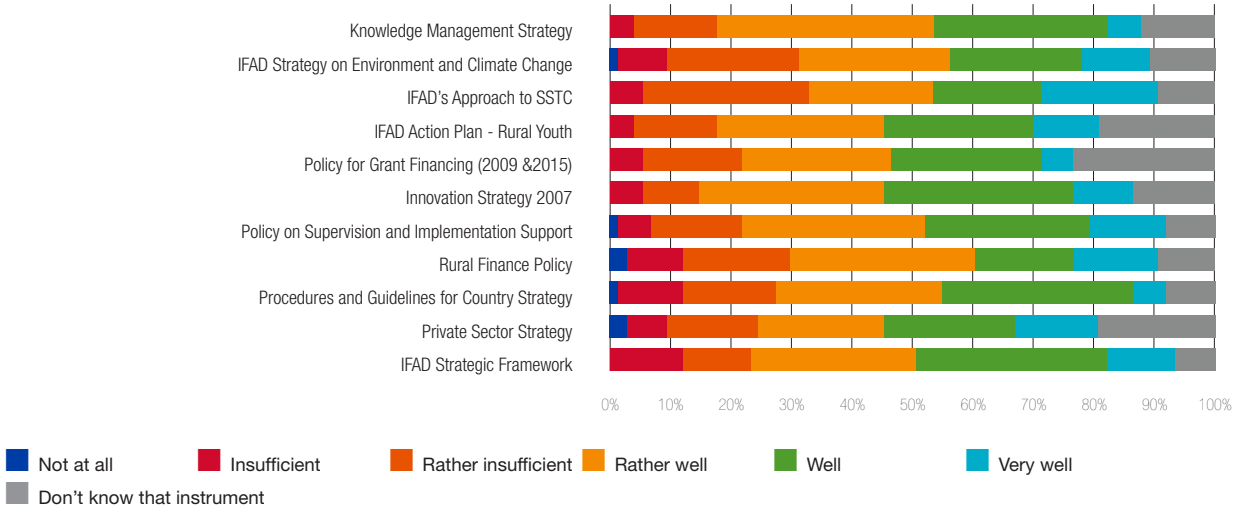
Total respondents: 43

Source: CLE.

FIGURE A16

Do you think that IFAD's business model is appropriate to support the promotion of innovations for smallholder agriculture? (IFAD staff)

Total respondents: 73

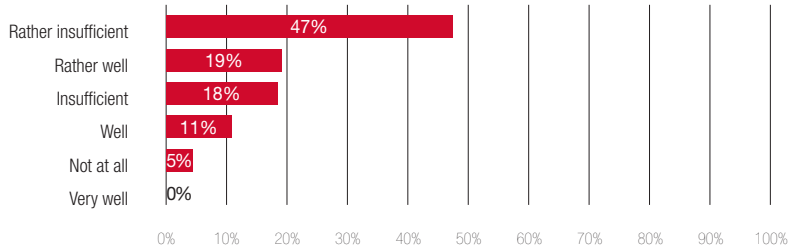


Source: CLE.

FIGURE A17

Please rate the sufficiency of incentives or motivations for IFAD's staff to take risks associated with innovations or put in the added time (IFAD staff)

Total respondents: 73

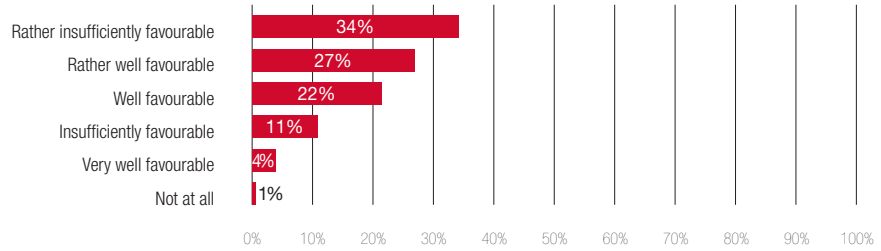


Source: CLE.

FIGURE A18

Please rate the culture within IFAD in promoting innovations (IFAD staff)

Total respondents: 73

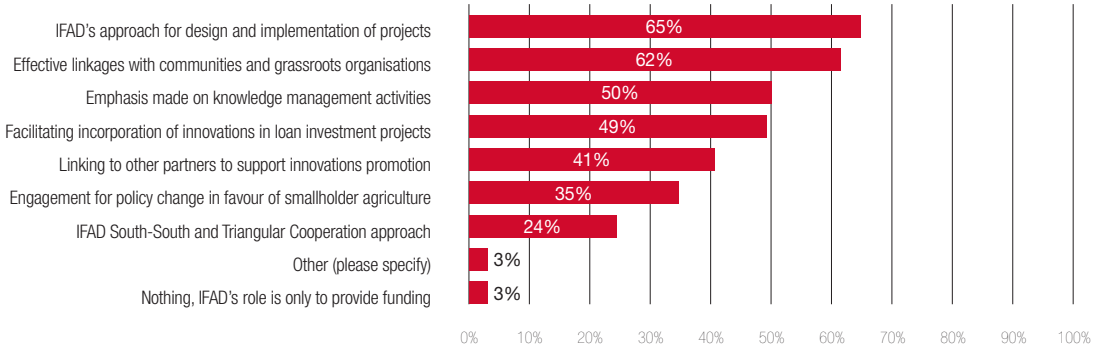


Source: CLE.

FIGURE A19

What is IFAD's added value and/or what distinguishes IFAD's expertise (compared to other funding partners) in addressing innovations? (government project staff)

Total respondents: 167

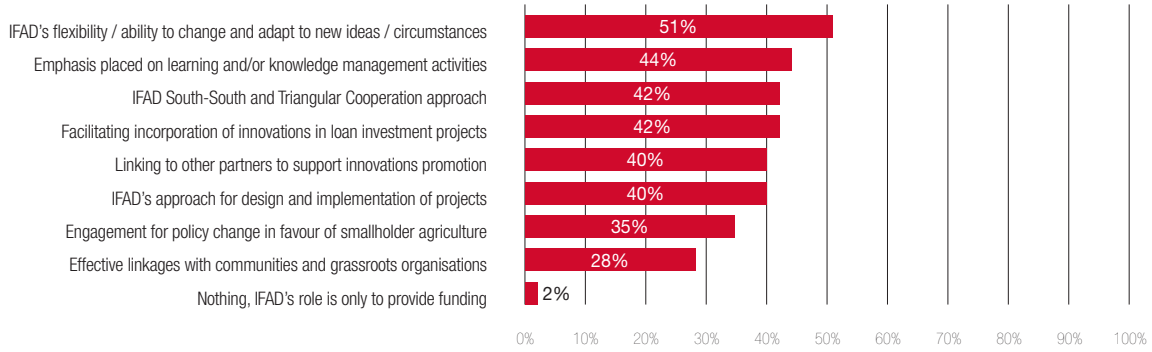


Source: CLE.

FIGURE A20

What do you consider as IFAD comparative advantaged and/or what distinguishes IFAD's expertise in addressing innovations? (partners)

Total respondents: 43

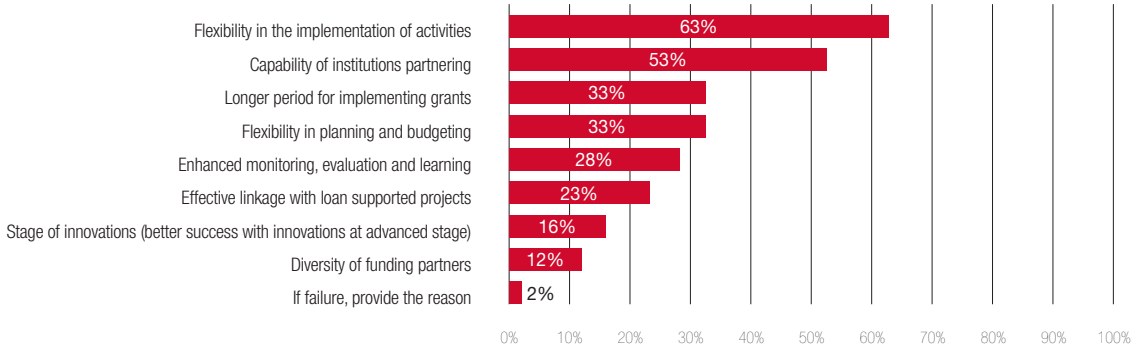


Source: CLE.

FIGURE A21

Provide the most important reasons that underline the success of partnerships you had with IFAD in the promotion of innovations. Select the three most important (partners)

Total respondents: 43

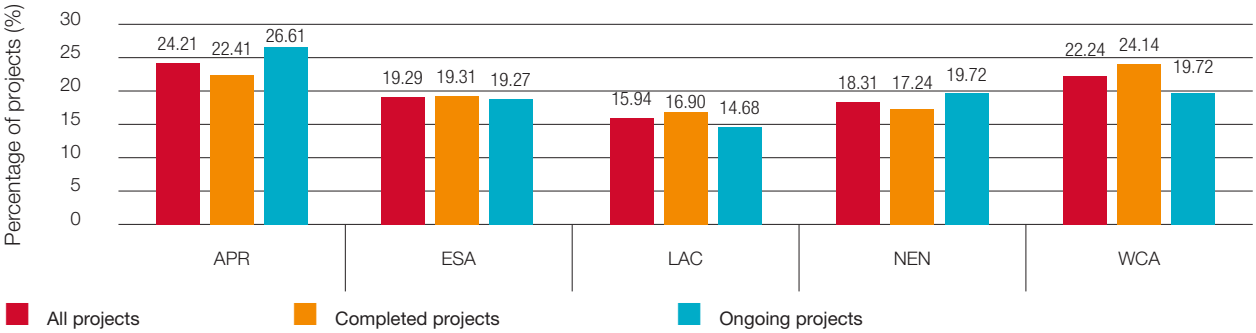


Source: CLE.

VI. Detailed results of IFAD portfolio analysis

FIGURE A22

Distribution of projects across IFAD divisions

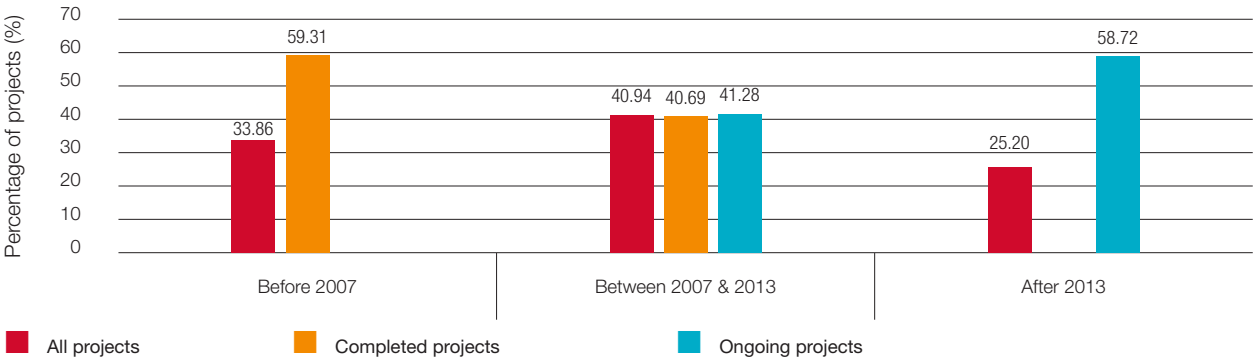


Note: APR: Asia and the Pacific; ESA: East and Southern Africa; LAC: Latin America and the Caribbean; NEN: Near East, North Africa and Europe; WCA: West and Central Africa.

Source: CLE.

FIGURE A23

Distribution of projects by year of Executive Board approval

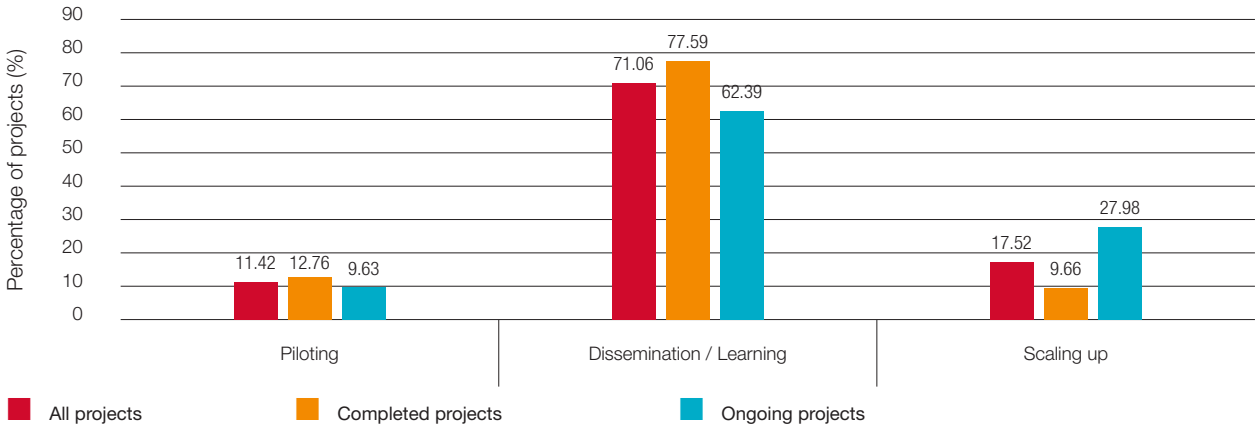


Note: Time periods are based on changes in IFAD's definition of innovation (see table 1 of the approach paper).

Source: CLE

FIGURE A24

Different stages of innovation



Source: CLE

TABLE A11

Descriptive statistics of innovation stages

	No. of observations	Mean	Standard deviation	Min.	Max.
All projects					
Dissemination / learning	508	0.7106	0.4539	0	1
Piloting	508	0.1142	0.3183	0	1
Scaling up	508	0.1752	0.3805	0	1
Completed projects					
Dissemination / learning	290	0.7759	0.4177	0	1
Piloting	290	0.1276	0.3342	0	1
Scaling up	290	0.0966	0.2959	0	1
Ongoing projects					
Dissemination / learning	218	0.6239	0.4855	0	1
Piloting	218	0.0963	0.2957	0	1
Scaling up	218	0.2798	0.4499	0	1

Source: CLE.

TABLE A12

Descriptive statistics of innovation stages across IFAD divisions

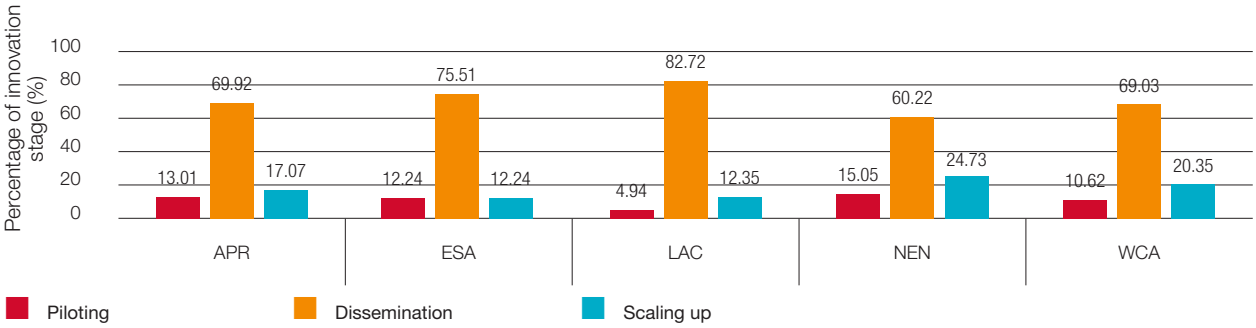
	No. of observations	Mean	Standard deviation	Min.	Max.
APR					
Dissemination / learning	123	0.6992	0.4605	0	1
Piloting	123	0.1301	0.3378	0	1
Scaling up	123	0.1707	0.3778	0	1
ESA					
Dissemination / learning	98	0.7551	0.4322	0	1
Piloting	98	0.1224	0.3295	0	1
Scaling up	98	0.1224	0.3295	0	1
LAC					
Dissemination / learning	81	0.8272	0.3805	0	1
Piloting	81	0.0494	0.2180	0	1
Scaling up	81	0.1235	0.3310	0	1
NEN					
Dissemination / learning	93	0.6022	0.4921	0	1
Piloting	93	0.1505	0.3595	0	1
Scaling up	93	0.2473	0.4338	0	1
WCA					
Dissemination / learning	113	0.6903	0.4644	0	1
Piloting	113	0.1062	0.3095	0	1
Scaling up	113	0.2035	0.4044	0	1

Note. APR: Asia and the Pacific; ESA: East and Southern Africa; LAC: Latin America and the Caribbean; NEN: Near East, North Africa and Europe; WCA: West and Central Africa.

Source: CLE.

FIGURE A25

Stages of innovation across IFAD divisions

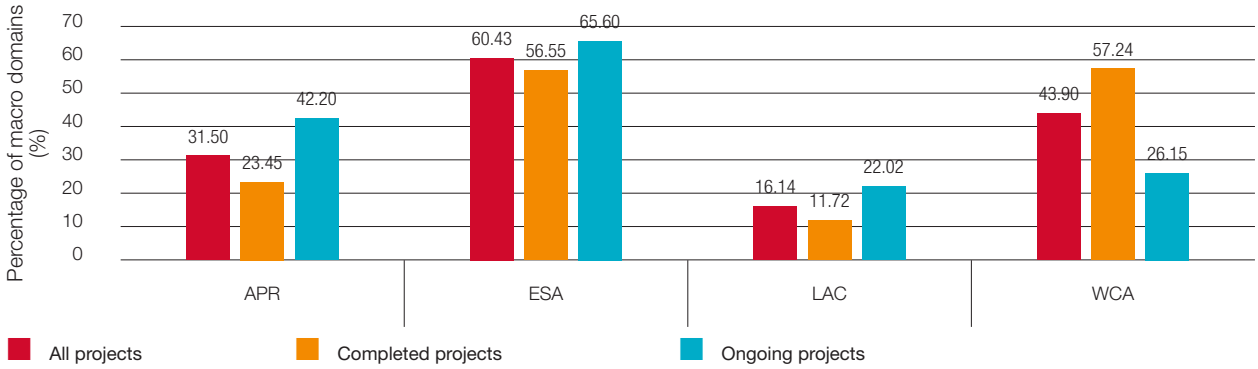


Note: APR: Asia and the Pacific; ESA: East and Southern Africa; LAC: Latin America and the Caribbean; NEN: Near East, North Africa and Europe; WCA: West and Central Africa.

Source: CLE.

FIGURE A26

Distribution of macro domains



Source: CLE.

TABLE A13

Descriptive statistics of innovation macro domains

	No. of observations	Mean	Standard deviation	Min	Max
All projects					
Agricultural production and value chain (APVC)	508	0.3150	0.4650	0	1
Socio-economic pillar (SEP)	508	0.6043	0.4895	0	1
Natural pillar (NP)	508	0.1614	0.3683	0	1
Governance pillar (GP)	508	0.4390	0.4968	0	1
Completed projects					
APVC	290	0.2345	0.4244	0	1
SEP	290	0.5655	0.4965	0	1
NP	290	0.1172	0.3223	0	1
GP	290	0.5724	0.4956	0	1
Ongoing projects					
APVC	218	0.4220	0.4950	0	1
SEP	218	0.6560	0.4761	0	1
NP	218	0.2202	0.4153	0	1
GP	218	0.2615	0.4404	0	1

Source: CLE.

TABLE A14

Mean and standard deviation of macro domains across IFAD divisions

Macro domain	APR	ESA	LAC	NEN	WCA
Agricultural production and value chain (APVC)	0.3089	0.3163	0.3457	0.3118	0.3009
	(0.4639)	(0.4674)	(0.4786)	(0.4658)	(0.4607)
Socio-economic pillar (SEP)	0.6992	0.5000	0.5185	0.6452	0.6195
	(0.4605)	(0.5026)	(0.5028)	(0.4811)	(0.4877)
Natural pillar (NP)	0.1951	0.1429	0.1605	0.2043	0.1062
	(0.3979)	(0.3517)	(0.3694)	(0.4054)	(0.3095)
Governance pillar (GP)	0.4634	0.3878	0.6420	0.3656	0.3717
	(0.5007)	(0.4897)	(0.4824)	(0.4842)	(0.4854)

Note: APR: Asia and the Pacific; ESA: East and Southern Africa; LAC: Latin America and the Caribbean; NEN: Near East, North Africa and Europe; WCA: West and Central Africa. All values are means and the standard deviation is in parenthesis.

Source: CLE.

TABLE A15

Mean and standard deviation of macro domains for project characteristics

	Value chain functions	Socio-economic pillar	Natural pillar	Governance pillar
Project period (year of Executive Board approval)[1]				
Before 2007	0.1860	0.5581	0.1047	0.6453
	(0.3903)	(0.4981)	(0.3070)	(0.4798)
Between 2007 and 2013	0.3317	0.5817	0.1827	0.4038
	(0.4720)	(0.4945)	(0.3873)	(0.4919)
After 2013	0.4609	0.7031	0.2031	0.2188
	(0.5004)	(0.4587)	(0.4039)	(0.4150)
Project duration[2]	6.85	7.01	7.14	7.11
	(1.53)	(1.87)	(1.74)	(2.02)
Project size[3]				
Small	0.2813	0.5417	0.1250	0.5208
	(0.4520)	(0.5009)	(0.3325)	(0.5022)
Medium	0.3029	0.6058	0.1286	0.4523
	(0.4605)	(0.4897)	(0.3355)	(0.4988)
Large	0.3509	0.6374	0.2281	0.3743
	(0.4786)	(0.4822)	(0.4208)	(0.4854)
Cost for the beneficiary at the design stage				
Total budget	**438.92**	**417.86**	**421.91**	**332.76**
	(743.50)	(687.83)	(501.60)	(369.04)
IFAD budget	194.07	201.24	212.15	172.67
	(227.71)	(269.17)	(275.64)	(198.68)
Projects with partners[4]	0.6750	0.6580	0.6463	0.5785
	(0.4698)	(0.4752)	(0.4810)	(0.4949)

1 Time periods were delineated based on key milestones of IFAD's innovation agenda: 2007 was the approval year of the IFAD Innovation Strategy and 2013 was the mid-period of Strategic Framework 2011-2015, the second (after that of 2007-2010) that highlighted innovation, learning and scaling up among the key IFAD engagement principles.

2 Duration of the project is the difference between the year of completion and year of entry to force.

3 Small project: approved amount less than US$18.8 million; medium-sized project: approved amount between US$18.8 million and US$49.2 million; large project: approved amount greater than US$49.12 million.

4 The variable includes the projects with a private national partner and/or international partnership.

Note: All values are means and the standard deviation is in parenthesis.

Source: CLE.

TABLE A16

Mean and standard deviation of macro domains and characteristics of the beneficiary country

	Value chain functions	Socio-economic pillar	Natural pillar	Governance pillar
Country income level[1]				
Low	0.2596	0.5745	0.1404	0.4468
	(0.4393)	(0.4955)	(0.3482)	(0.4982)
Lower-middle	0.3452	0.6091	0.1726	0.4467
	(0.4766)	(0.4892)	(0.3789)	(0.4984)
Upper-middle	0.4133	0.6800	0.2000	0.3867
	(0.4957)	(0.4696)	(0.4027)	(0.4903)
Agricultural value added (% GDP)	17.54	19.27	18.33	19.07
	(11.85)	(11.46)	(11.72)	(11.21)
Employment in agriculture (% of total employment)	44.95	45.91	43.78	45.92
	(21.62)	(20.51)	(20.06)	(20.58)
Research and development expenditure (% of GDP)	0.48	0.47	0.58	0.44
	(0.45)	(0.40)	(0.46)	(0.41)

1 Income classification is based on country classification of the World Bank (high-income economies are not included because this category includes only one project). Each project is classified according to the country classification at the board approved year.

Note: All values are means and the standard deviation is in parenthesis.

Source: CLE.

TABLE A17

Descriptive statistics of types of innovation

	No. of observations	Mean	Standard deviation	Min.	Max.
All projects					
Production	508	0.1772	0.3822	0	1
Processing	508	0.0433	0.2037	0	1
Marketing	508	0.1476	0.3551	0	1
Consumption	508	0.0315	0.1748	0	1
Human capital	508	0.1693	0.3754	0	1
Social capital	508	0.2717	0.4453	0	1
Economic capital	508	0.3406	0.4744	0	1
Natural resources	508	0.0787	0.2696	0	1
Environment and climate change (CC)	508	0.0866	0.2815	0	1
Policies	508	0.1378	0.3450	0	1
Project implementation procedures and approaches (PIPA)	508	0.3031	0.4601	0	1
Regulations	508	0.0217	0.1457	0	1
Completed projects					
Production	290	0.1207	0.3263	0	1
Processing	290	0.0241	0.1537	0	1
Marketing	290	0.1276	0.3342	0	1
Consumption	290	0.0138	0.1168	0	1
Human capital	290	0.1552	0.3627	0	1
Social capital	290	0.2828	0.4511	0	1
Economic capital	290	0.3034	0.4605	0	1
Natural resources	290	0.0621	0.2417	0	1
Environment and CC	290	0.0586	0.2353	0	1
Policies	290	0.1966	0.3981	0	1
PIPA	290	0.3862	0.4877	0	1
Regulations	290	0.0310	0.1737	0	1
Ongoing projects					
Production	218	0.2523	0.4353	0	1
Processing	218	0.0688	0.2537	0	1
Marketing	218	0.1743	0.3803	0	1
Consumption	218	0.0550	0.2286	0	1
Human capital	218	0.1881	0.3917	0	1
Social capital	218	0.2569	0.4379	0	1
Economic capital	218	0.3899	0.4889	0	1
Natural resources	218	0.1009	0.3019	0	1
Environment and CC	218	0.1239	0.3302	0	1
Policies	218	0.0596	0.2374	0	1
PIPA	218	0.1927	0.3953	0	1
Regulations	218	0.0092	0.0956	0	1

Source: CLE.

TABLE A18

Pairwise comparison of group means: innovation macro domains for other project characteristics

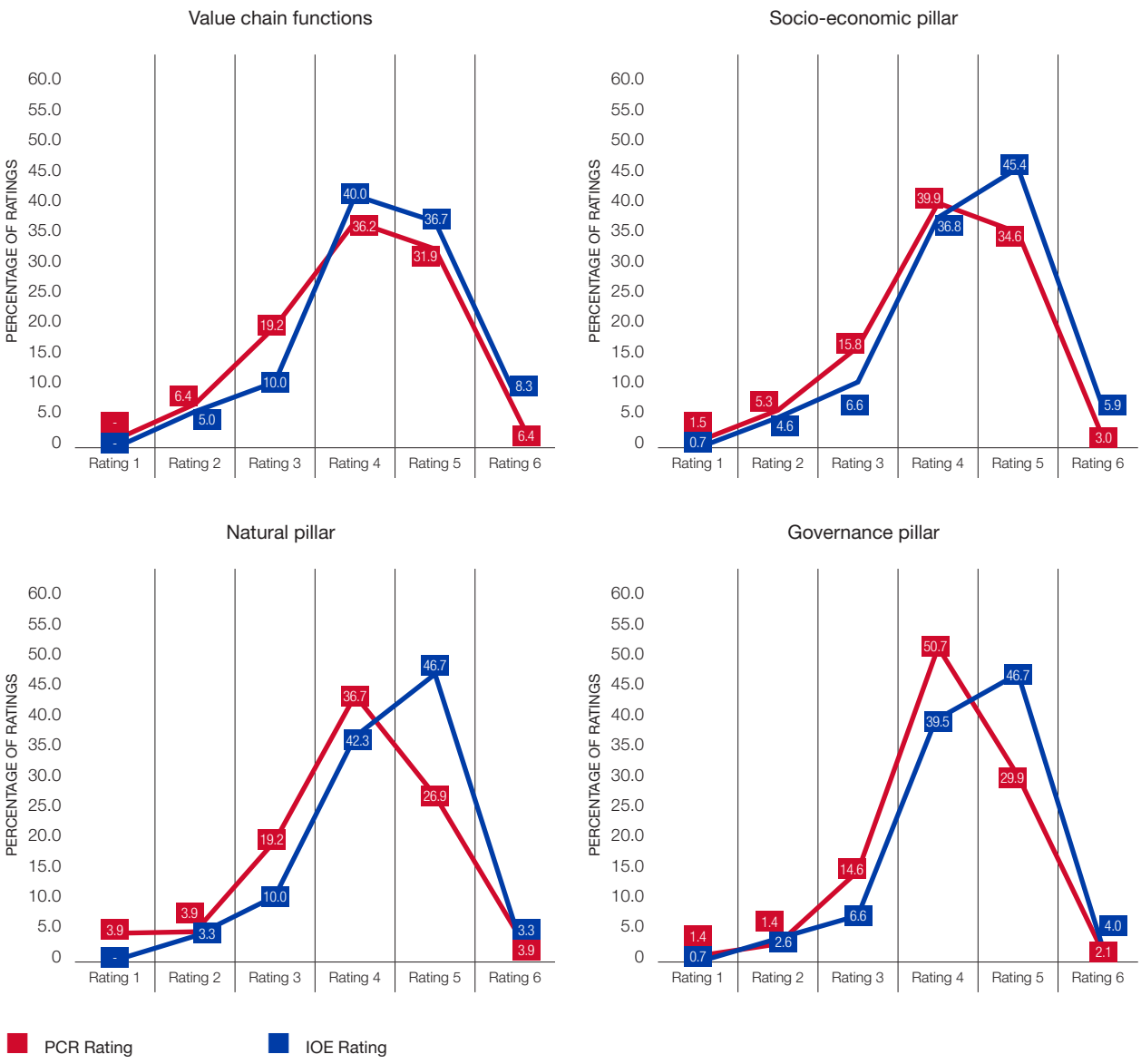
Macro domain	Cost per beneficiary (total budget)	Cost per beneficiary (IFAD budget)	Duration of project	Project partnership
Agricultural production and value chain (APVC)	67.42	-3.29	-0.227	0.057
	(0.243)	(0.895)	(0.222)	(0.214)
Socio-economic pillar (SEP)	67.42	-3.29	-0.003	0.056
	(0.243)	(0.895)	(0.984)	(0.200)
Natural pillar (NP)	67.42	-3.29	0.156	0.013
	(0.243)	(0.895)	(0.508)	(0.829)
Governance pillar (GP)	67.42	-3.29	0.181	-0.102*
	(0.243)	(0.895)	(0.296)	(0.017)

Note: Small project: approved amount less than US$18.8 million; medium-sized project: approved amount between US$18.8 million and US$49.2 million; large project: approved amount greater than US$49.12 million. Values are the difference between the average number of projects that implemented the type of innovation, minus the average number of projects that did not implement the type of innovation (yes-no). Unadjusted p value in parentheses; * < 0.050; ** < 0.010; *** < 0.001.

Source: CLE.

FIGURE A27

Comparison between PCR and IOE ratings by pillar



Note: No of observations PCR + IOE ratings: value chain (refers to APVC)=107; socio-economic pillars=285; natural pillars=56; governing pillars=296. Some projects address more than one pillar in terms of innovations.

Source: CLE.

TABLE A19

Correlation between innovation rating and all other ratings (IOE ratings)

	(1)	(2)	(3)	(4)	(5)	(6)
(1) Innovation	1.000					
(2) Relevance	0.305**	1.000				
	(0.005)					
(3) Effectiveness	0.569***	0.465***	1.000			
	(0.000)	(0.000)				
(4) Efficiency	0.481***	0.310**	0.668***	1.000		
	(0.000)	(0.005)	(0.000)			
(5) Sustainability	0.508***	0.362**	0.589***	0.463***	1.000	
	(0.000)	(0.001)	(0.000)	(0.000)		
(6) Rural poverty	0.573***	0.429***	0.726***	0.496***	0.574***	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

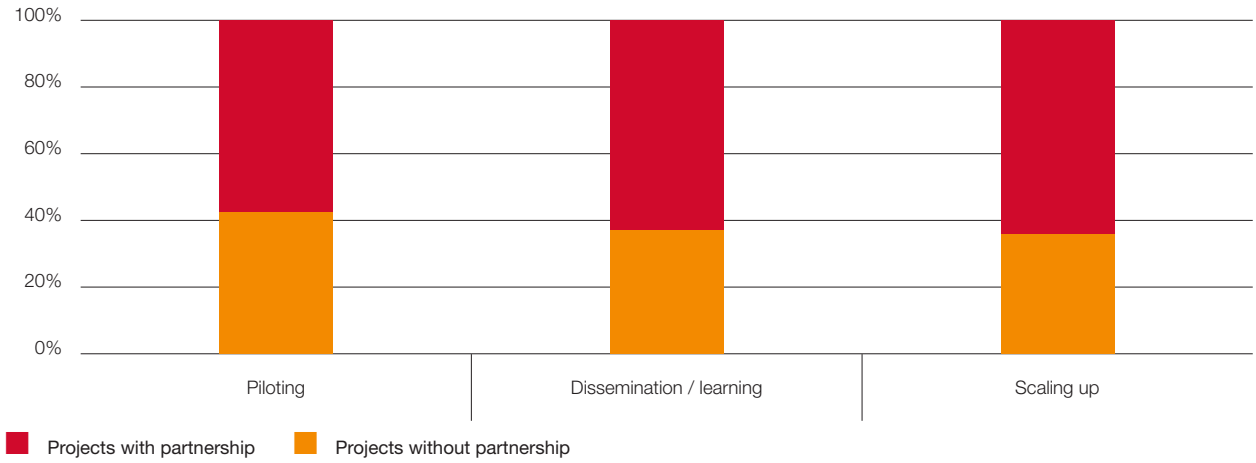
	(7)	(8)	(9)	(10)	(11)
(7) Gender equality	1.000				
(8) Environment and natural resources	0.376**	1.000			
	(0.001)				
(9) Climate change	0.306**	0.489***	1.000		
	(0.005)	(0.000)			
(10) IFAD performance	0.425***	0.334**	0.286**	1.000	
	(0.000)	(0.002)	(0.009)		
(11) Government performance	0.308**	0.407***	0.288**	0.665***	1.000
	(0.005)	(0.000)	(0.009)	(0.000)	

Note: Values are Spearman's rank correlation coefficient and p value is in parentheses; * < 0.050; ** < 0.010; *** < 0.001.

Source: CLE.

FIGURE A28

Distribution of innovation stages for the type of partnership project



Source: CLE.

TABLE A20

Grants database reviewed by the CLE, period 2009-2018

	No.	% no.	Total amount (US$)	% total amount	Average amount (US$)
Small grant	438	65%	112,795,487	23%	257,524
Large grant	240	35%	382,085,006	77%	1,592,021
Total	**678**	**100%**	**494,880,493**	**100%**	**1,849,545**

Source: CLE.

TABLE A21

Distribution of grants reviewed by category of recipients, period 2009-2018

Areas	No.	%
Farmers/producers organization	28	4%
Government	20	3%
Governments	45	7%
NGOs / non-profit organizations	222	33%
Other	42	6%
Private sector	16	2%
Research	186	27%
United Nations / multilateral organizations	119	18%
Total	**678**	**100%**

Source: CLE.

TABLE A22

Distribution of approved of grants amount by category of recipient

Recipient category	No. of recipients	Total approved amount (US$)	Total of approved %
Government	20	33,565,000	8.9%
Farmers organization	4	6,150,000	1.6%
NGOs / non-profit organizations	78	121,692,320	31.8%
Other	2	4,440,000	1.2%
Private sector	7	14,800,000	3.9%
Research	100	158,467,816	41.5%
Multilateral	29	42,969,870	11.2%
Total	**240**	**382,085,006**	**100%**

Source: CLE.

TABLE A23

Distribution of large grants by macro and specific domains

N=149 large grants

Macro domain	Specific domain	Mean	Std. dev.	Min.	Max.
Agricultural production and value chain (47%)	Production	87%	0.34	0	1
	Processing	3%	0.17	0	1
	Marketing	33%	0.47	0	1
	Consumption	1%	0.12	0	1
Socio-economic pillar (73%)	Social capital	54%	0.50	0	1
	Economic capital	33%	0.47	0	1
	Human capital	49%	0.50	0	1
Natural pillar (28%)	Natural resources	54%	0.50	0	1
	Environment and CC	56%	0.50	0	1
Governance pillar (61%)	Strategies	34%	0.48	0	1
	PIPA	73%	0.45	0	1
	Regulations	4%	0.21	0	1

Note: Total is not equal to 100 per cent because, as for loans, supported innovations can address several domains.

Source: CLE.

TABLE A24

Large grants that supported innovations by specific domain

Specific domain	No. macro domain	Mean	No. specific domain	Std. dev.	Min.	Max.
Project implementation procedures and approaches (PIPA)	91	0.73	66	0.45	0	1
Production	70	0.87	61	0.34	0	1
Social capital	85	0.54	46	0.50	0	1
Human capital	85	0.49	41	0.50	0	1
Policy	91	0.34	31	0.48	0	1
Economic capital	85	0.33	28	0.47	0	1
Environment	41	0.56	23	0.50	0	1
Marketing	70	0.33	23	0.47	0	1
Natural resources management (NRM)	41	0.54	22	0.50	0	1
Regulation	91	0.04	4	0.21	0	1
Processing	70	0.03	2	0.17	0	1
Consumption	70	0.01	1	0.12	0	1

Note: Total is not equal to 100 per cent because, as for loans, supported innovations can address several domains.

Source: CLE.

VII. Listing of case study innovations

Country	Project	Name of innovation	Specific domains (1&2, …)
Bangladesh	National Agricultural Technology Project	Competitive grants for demonstration and early adoption of new technologies	Project implementation procedures and approaches (PIPA), production
	Finance for Enterprise Development and Employment Creation Project	New products in several new value chains	Processing, social capital
		Demand-driven public extension for community interest groups (CIGs)	Social capital
		Private or group-based extension and other service provision	Marketing, economic capital
	Microfinance for Marginal and Small Farmers Project	Systematic provision of non-financial with financial services by MFIs/NGOs under the Palli Karma-Sahayak Foundation (PKSF)	Economic capital, PIPA
		Integrated promotion of technological packages for a large diversity of clusters and issues	Production
	Microfinance and Technical Support Project	Financial products tailored for farm and rural activities by MFIs/NGOS under apex PKSF	Economic capital, PIPA
	Haor Infrastructure and Livelihood Improvement Project- Climate Adaptation and Livelihood Protection	Locally accessible flash-flood information system	Environment and climate change (CC), economic capital
		Training women and youth with innovative curricula for developing off-farm activities in an expanding rural economy	Human capital
		Learning Route	Social capital, PIPA
	Market Infrastructure Development Project in Charland Regions	Climate-resilient and connected market facilities + Women's corner in markets	Marketing, social capital
	Promoting Agricultural Commercialization and Enterprises Project	Improved technologies for sustainable beel management	Natural resources management (NRM), social capital
		Sustainable use of beel waters by poor fisher groups	NRM, social capital
		Coupling cluster & value chain development growth of crabs or fish with their domestication	Production, marketing
		Mainstreaming women participation in labour-contracting societies for high- intensity construction	Social capital, economic capital
		Climate-resilient infrastructures	Environment and CC, economic capital
		Promotion of the mola fish in fish ponds	Consumption, production
		Transformation of community interest groups in cooperatives operating in their value chain	Marketing, social capital
		Securing land rights for women and men settling on accreted land in coastal areas	Policies, social capital

Country	Project	Name of innovation	Specific domains (1&2, …)
Burkina Faso	Community Investment Programme for Agricultural Fertility	Research-development activities	PIPA, production
		Self-targeting mechanism	PIPA, social capital
		Participatory mechanism for microprojects validation / selection (management committees)	PIPA, social capital
	Small-Scale Irrigation and Water Management	Water- and soil-conservation techniques	Production
	Sustainable Rural Development Programme	Farmer field school	PIPA, social capital
		Community facilitators for capacity mobilization	PIPA, social capital
		Participatory planning and M&E	PIPA, social capital
	Agricultural Commodity Chain Support	Technological innovations for transformation	Processing
		Local advisers and rural entrepreneurship resource centres (CREERs)	PIPA, human capital
		Fund remobilization strategy at GIE and farmers organization level	PIPA, economic capital
Cameroon	Commodity Value-Chain Development Support	Warrantage	Economic capital, social capital
		Onion-seed certification and improved cropping techniques	Production
		Introduction of improved rice varieties and production techniques	Production
	Rural Microfinance Development Support	Medium-term agricultural credit	Economic capital, PIPA
	Youth Agropastoral Entrepreneurship Programme	Youth incubation and promotion approach	Human capital, economic capital
	Aquaculture Entrepreneurship Promotion Project	Introduction of improved aquaculture techniques	Production
Ecuador	Ibarra-San Lorenzo Corridor Territorial Development	Post-harvest and transformation	Production
		Link with territorial actors and government programmes	PIPA, social capital
	Development of the Central Corridor	Good food	Processing, consumption
		Good tourism	Social capital
		Good manufacturing and service	Economic capital, social capital
	Programa del Buen Vivir en Territorios Rurales	Climate-friendly production technologies	Production, NRM
		Capacity development approach	Social capital, NRM

Country	Project	Name of innovation	Specific domains (1&2, …)
El Salvador	Alianza para el desarrollo	Use of independent brokers to establish 4Ps relationships	Marketing
	Expansion of economic opportunities for rural women	Time-saving technologies	Human capital
	Corporation for Regional Rural Development Training	Learning funds for youth businesses	Social capital, economic capital
		Learning Routes	Social capital, PIPA
		PROCASUR support	Social capital, PIPA
		Water catchment and storage	Production, NRM
	Programa de Dialogo Rural Centroamericana y Republica Dominica	Rural dialogue groups	Social capital
	Rural Development and Modernization for the Eastern Region	Involving beneficiaries in the recruitment and contracting of their TA	PIPA, human capital
		Organization of youth / incorporation of youth in rural organizations	PIPA, social capital
		Territorial approach for youth	PIPA, social capital
		Bringing different project staff together on topics (internal networking)	PIPA
	Rural Territorial Competitiveness Programme	Rural financial services	Economic capital, human capital
		Link producers to large markets	Marketing
		Involving indigenous groups	Social capital
		Business plans for producers/ processors	Economic capital, human capital
	Un Viaje en Comun	Strengthening capacities to use agroclimate information	Human capital
Ethiopia	Agricultural Marketing Improvement Project	Wholesale lending to MFIs and RUSACCOs	Economic capital
		Agricultural marketing information system	Marketing
	Community-Based Integrated NRM in Lake Tana Watershed	Watershed improvement and management committees	PIPA, NRM
	Participatory Small-scale Irrigation Development Program I	Small-scale irrigation in dryland areas	Production
		Biogas	NRM
		Water users associations	PIPA, social capital
		Value chain development	Marketing
		Home gardens demonstration	Consumption, production
	Pastoral Community Development Project I	Community-driven development for pastoralists	PIPA, social capital
	Pastoral Community Development Project III	Mobile or “rangeland support teams”	PIPA, marketing
		Warehouse receipt system	Marketing, economic capital
		Individual household approach of mentoring	Human capital, PIPA
	Rural Financial Intermediary Program I	Project implementation through decentralized government agencies	PIPA, social capital
	Rural Financial Intermediary Program II	Establishing rural savings and credit cooperatives (RUSACCOs) within pastoralist groups	Economic capital, PIPA

Country	Project	Name of innovation	Specific domains (1&2, …)
Indonesia	Coastal Community Development Project	Combining sustainable marine and coastal natural resource management with economic and livelihood development	PIPA, NRM
		New irrigated agriculture and maintenance models in rehabilitated schemes	PIPA, NRM
	Enabling the poor rice farmers to improve livelihoods and overcome poverty in South and Southeast Asia through the Consortium for Unfavourable Rice Environments	Farmer participatory rice variety selection and cropping rice practices for 5 types of unfavourable environments (FPVS) in CURE2	PIPA, production
	Food Resilience Through Root and Tuber Crops in Upland and Coastal Communities of the Asia Pacific	FoodSTART+ farmer business school for dissemination of root and tuber innovations in the APR region	Human capital
	Integrated Participatory Development and Management of Irrigation Sector Project	Knowledge management centre within the Directorate of Water Resources and Irrigation of the Ministry of Planning	PIPA, policy
		Policy laboratory in the Ministry of Planning	Policies
	Measurable Action for Haze-Free Sustainable Land Management in Southeast Asia	Sustainable management of peatland ecosystems in Indonesia	PIPA, environment and CC
	Rural Empowerment and Agricultural Development Programme in Central Sulawesi	4Ps with Mars: the Mars Academy and cocoa village clinic approach	PIPA, production, marketing, human capital, economic capital,
		“Coaching clinics” to bring expertise and develop products, business, certification for the SHGs requiring them	PIPA, marketing
	Village Development Programme	Village economic opportunities introduced in local development planning facilitated by NGO facilitators	Marketing, policies
		Performance-based allocation for village/district planned activities	PIPA, policies
	Smart Tree-Invest	Climate-smart tree-based adaptation strategies developed and tested in learning groups	Human capital, environment and CC
		Rewarding the upland poor for ecosystem services in a watershed	PIPA, environment and CC
	FINPOWER	Innovative Value chain financing models for cocoa	Marketing, economic capital
	Smallholder Livelihood Development Project in Eastern Indonesia	NGO facilitators to support common interest groups for diversified economic activities	PIPA, social capital
		Support of development of nutrition-sensitive value chains in middle-income countries	PIPA, APVC
Kyrgyzstan	Agricultural Investments and Services Project	Pasture users union and pasture committees	Regulations, social capital
	Livestock and Market Development Programme I	Private veterinary system	Regulations, production
	Access to Market Project	Value chain approach (market-oriented sector)	Marketing
	Accelerating Progress towards the Economic Empowerment of Rural Women	Gender Action Learning System (GALS) & Business Action Learning for Innovation (BALI)	Human capital, economic capital, social capital, PIPA
Madagascar	Rural Income Promotion Programme	Partnership poles for local communities	Marketing, economic capital
		Market information system	Marketing
		Chain of solidarity plant	Production
		Demand-driven approach in farmer field school	PIPA, social capital
	Project to Support Development in the Menabe and Melaky Regions	Litchi microirrigation system (through a partnership with a private actor)	Production, marketing
		Rural finance products	Economic capital
		Land regulatory framework	Regulations, social capital

Country	Project	Name of innovation	Specific domains (1&2, …)
Malawi	Enhancing the Resilience of Agroecological Systems Project	Catchment management committees	PIPA, NRM
	Financial Access for Rural Markets, Smallholders and Enterprise Program	Formation of village savings and loan associations	Social capital, economic capital
		Support to financial service providers for servicing project beneficiaries	PIPA, economic capital
		Financial services targeted to the ultrapoor	Economic capital
	Irrigation, Rural Livelihoods and Agricultural Development Project	Grant funds for communities and farmer organizations	PIPA, economic capital
		Inputs for assets (IAP)	Consumption, PIPA
		Farmer business schools to develop farm and non-farm business skills	Human capital
	Program for Rural Irrigation Development	Land right management by water users associations (WUAs)	Social capital, PIPA
		Small-scale irrigation	Production
		Drought-tolerant crops	Production, NRM
		Competitive challenge funds and matching grants to attract private-sector involvement (4Ps model led by private sector)	Marketing, PIPA
	Rural Livelihoods and Economic Enhancement Program	Commodity and value chain focus	Marketing
	Rural Livelihoods Support Program	Project implementation through decentralized government agencies	PIPA, social capital
		Improved crop production technologies	Production
	Sustainable Agricultural Production Programme	Livestock pass-on-system	Production
		Conservation agriculture (CA)	Production
		Rocket stoves	NRM
		Individual household approach (IHA)	PIPA, human capital
		Model villages	PIPA
Nepal	Western Uplands Poverty Alleviation Project	Wealth-ranking	PIPA, social capital
		Community investment plans (CIPs) and community investment fund (CIF)	PIPA, social capital
		Farmer field school and integrated pest management (IPM)	PIPA, NRM
		Social mobilizers	PIPA, human capital
		Service excellence challenge fund	PIPA, economic capital
	Leasehold Forestry and Livestock Programme	Leasehold forestry and group formation	Production, social capital
	High-Value Agriculture Project in Hill and Mountain Areas	Inclusive value chain	PIPA, marketing
		Multi-stakeholder platform	Marketing
		Business literacy training	Marketing, human capital

Country	Project	Name of innovation	Specific domains (1&2, …)
Peru	African Cultural Assets	ACUA development – work with Afro-descendants	Social capital
	AGROSAVIA	Technology in agriculture	Production, processing
	Advancing Knowledge for Agricultural Impact	Development of self-assessment tools on agriculture for reporting SDGs	PIPA, policy
	Development of the Puno-Cusco Corridor	CLAR (local resource allocation committees)	PIPA, social capital
		Concursos (contest methodology)	Social capital
	Proyecto de Fomento de la Transferencia de Tecnología a las Comunidades Campesinas de la Sierra	Rural talents	Human capital, PIPA
	Project of Management of Natural Resources in the Southern Highlands	Mapas parlantes / talking or cultural maps	Social capital, PIPA
	Regional Programme for Rural Development Training	PROCASUR support	Social capital, PIPA
		Learning funds for youth businesses	Social capital, PIPA
	Strengthening Local Development in the Highlands and High Rainforest Areas Project	Territorial development approach	PIPA, social capital
		Learning Routes	Social capital, PIPA
		Payment/reward for environmental services (P/RES)	NRM, policies
	Strengthening of Markets, Diversification of Incomes and Improvement of Living Conditions in the Southern Highlands I	Designation of origin for local products	Marketing, regulations
		Financial inclusion & micro insurance	Economic capital
	Cordillera Highland Agricultural Resource Management Project	NEC – Núcleo Ejecutor Central /Central Implementing Unit	PIPA, policy
	UniAndes	Conditional cash transfers research	Economic capital, PIPA
		Hackathon	Marketing, social capital
Philippines	Cordillera Highland Agricultural Resource Management Project I	Covenant approach	Social capital, NRM
	Convergence on Value Chain Enhancement for Rural Growth and Empowerment Project	Convergence approach	PIPA, policies
		Market-led value chain approach	Marketing, social capital
		Farmer business schools	Marketing, social capital
	Programme on Enabling Poor Rice Farmers to Improve Livelihoods and Overcome Poverty in South and South-East Asia through the Consortium for Unfavourable Rice Environments	IFAD Philippines Gender Network	PIPA, social capital
		Community-based seed banks	PIPA, production
		Geographic indication / trademarking of heirloom rice varieties	Marketing, regulations
	Fisheries, Coastal Resources and Livelihood Project	Aquatic business schools	Marketing, social capital
		Baywide management approach	PIPA, social capital
		Submerged lobster cages	Production
		Mud-crab fattening in separate composite cages	Production
		Seaweed farming lines and solar dryers for seaweed	Processing, production
	Irrigated Rice Production Enhancement Project	Young farmers irrigators organizers (FIO)	PIPA, social capital
		Geotagging to the community irrigation rehabilitation process and results	PIPA, production
		Buffer stocking of certified seeds	PIPA, production
	Northern Mindanao Community Initiatives and Resource Management Project	Revitalizing indigenous leadership	Human capital, social capital
		Certificate of land ownership award – CLOA	Economic capital, regulations
	Rewarding Upland Poor for Environmental Services	Payment for environmental services (PES)	Environment and CC, policies

Country	Project	Name of innovation	Specific domains (1&2, …)
Republic of Moldova	Agricultural Revitalization Project	Credit for smallholder from saving and credit groups and their federations	PIPA, economic capital
	Inclusive Rural Economic and Climate Resilience Programme	Farmer development of conservation agriculture and peer-to-peer training	Human capital, NRM
		Promotion of competitive horticulture value chains with technologies and value chain linkages	Economic capital, marketing
		Promotion of more pro-poor value chains and off-farm activities	Marketing, economic capital
	Rural Business Development Programme	Matching grants and technical consultancies to support a large range of technologies at community level	PIPA, NRM
	Rural Financial Services and Agribusiness Development Project	Use matching grants to increase the attractiveness of investment loans from both lenders and banks	PIPA, economic capital
		Loans combined with non-financial support supplied by private or NGO providers	PIPA, economic capital
		Matching grants and technical consultancies to support a large range of technologies improving climate resilience among producers	PIPA, NRM
		Reliance on national banks to channel IFAD and own credit funds to rural entrepreneurs	PIPA, economic capital
		Design of a credit guarantee fund for the SCAs	Economic capital, PIPA
	Rural Finance and Small Enterprise Project	Study tours for pioneer entrepreneurs	PIPA, human capital
Rwanda	Kirehe Community-based Watershed Management Project	Participatory approach for management of watersheds	PIPA, NRM
		Sustainable rice intensification (SRI)	Production
		Flexi-biogas systems	NRM
		Community cowsheds	Production, PIPA
		Hillside irrigation scheme, and organizations	Production, NRM, social capital, environment and CC, policy
	Support Project for the Strategic Plan for the Transformation of Agriculture	Single project implementation unit	PIPA, regulation
		Innovations community centres and community competition	Social capital
		Cow health insurance scheme	Economic capital, production
	Post-Harvest and Agribusiness Support Project	Public-private-producer partnerships (4Ps)	Marketing, production
		Drying facilities for the reduction of post-harvest loss	Processing
	Project for Rural Incomes through Exports	Cocoon-processing unit (silk production)	Processing
Senegal	Support to Agricultural Development and Rural Entrepreneurship Programme	National interprofessional commodities platforms	PIPA, social capital
	Agricultural Value Chains Support Project	Endogenous farm business adviser	Human capital, production
		Improved poultry husbandry (AVA)	Production, economic capital
		Wet millet sowing	Production
		Platform for weather and agricultural markets information diffusion via SMS	Marketing, environment and CC
	Agricultural Development Project in Matam	Rice intensive cropping system (SRI)	Production
		Participatory approach for managing pastoral units (UP)	PIPA, social capital
		Society for the intensification of agricultural production (SIPA)	Production, processing, human capital, social capital, economic capital, PIPA
		Drip irrigation system	Production

Country	Project	Name of innovation	Specific domains (1&2, …)
Sierra Leone	Rehabilitation and Community-based Poverty Reduction Project	Youth contractor strategy in inland valley swamps (IVS)	PIPA, social capital
		Property cadastral system for improving districts council revenues	PIPA, policy
		Weather stations	Environment and CC, production
	Rural Finance and Community Improvement Programme	Delivery of financial services in rural areas in a post-conflict situation through FSAs and CBs	PIPA
		Establishment of an apex bank for FSAs and CBs	Environment and CC, PIPA
Sudan	Butana Integrated Rural Development Project	Natural Resource Governance Framework (NRGF)	PIPA, NRM
		Community networks	Social capital
		Young professionals programme	Human capital
		Community forest reserves	NRM, production
	Livestock Marketing and Resilience Programme	Response systems and innovative solutions for climate risk mitigation	Environment and CC, PIPA
	Seed Development Project	New business model	Marketing, economic capital
		Innovative participatory research approach	PIPA, social capital
	South Kordofan Rural Development Programme	Readapted Islamic finance mechanism	Economic capital
	Supporting Small-scale Traditional Rainfed Producers	Chisel ploughing	Production, human capital
		Seasonal loan	Economic capital
	Western Sudan Resources Management Programme	Mobile extension teams	PIPA, human capital
		Council of Implementing Partners	PIPA, social capital
Tunisia	Agropastoral Development and Local Initiatives Promotion Programme in the South-East	Participatory planning approach	PIPA, social capital
		Public-private partnerships	Marketing
	Integrated Agricultural Development Project in the Governorate of Siliana-Phase II	Creation and strengthening of grass-roots organizations	PIPA, social capital
		Land consolidation	NRM, economic capital
		Small-scale irrigation schemes	NRM, production
Uruguay	Uruguay Rural	Strategic investment fund	Economic capital
		Rural development tables (RDT)	PIPA, social capital
		Local credit committees	PIPA, economic capital
		Directorate General for Rural Development	PIPA, policy

VIII. Benchmark information of IFAD comparators

Criteria	World Bank	Asian Development Bank	African Development Bank	Inter-American Development Bank	FAO	WFP
Explicit definition	Innovation is the process by which individuals or organizations master and implement the design and production of goods and services that are new to them, irrespective of whether they are new to their competitors, their country, or the world. An innovation system is a network of organizations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organization into economic use, together with the institutions and policies that affect their behaviour and performance. Agricultural Innovation Systems. An investment sourcebook (World Bank, 2012)	Innovation has as many definitions as knowledge, networks, and partnerships. It is considered to be any one of the following: • a totally new process or technology, unique and scalable to solve a problem; • the application of existing knowledge in new ways to solve problems; and • an incremental refinement. Guidelines for Knowledge Partnership (ADB, 2011)	No explicit definition found, but the following Innovative technologies aimed at supporting 'climate-smart' agricultural approaches that build resilience to climatic and socio-economic shocks. Feed Africa - Strategy for agricultural transformation in Africa 2016–2025 (AfDB, 2016)	Innovation comes from a fresh way of thinking that can introduce new products, services, and processes to improve the ability of governments, the private sector, and NGOs to better address the needs of society. Technology can also play a major role in providing the mechanisms to allow people to communicate the challenges they face which, in turn, will contribute to their solutions. These challenges will turn into inspiration, and creative thinkers will soon see them as opportunities to design and develop high-impact innovations. Social Innovation - The Experience of the IDB's Innovation Lab (IDB, 2013).	Innovation is usually perceived as related to technology. In fact, innovation is broader than that. Agricultural innovation is the process whereby individuals or organizations bring new or existing products, processes or ways of organization into use for the first time in a specific context, to increase effectiveness, competitiveness and resilience with the goal of solving a problem. FAO plays a key role in promoting the importance of innovation in agriculture to increase food security, sustainable development and promote rural development. http://www.fao.org/innovation/en/.	What "innovation" truly means is the establishment of a new idea or an improvement on an old one. The last part of this definition is important because nowadays talks of "innovation" focus only on the establishment of new ideas and not on improvements on old ones. In contrast, WFP has become one of the world's leading humanitarian organizations because of its amenability to "innovation" both as the creation of new ideas and an improvement on old approaches – with a clear vision on the most cutting-edge approach to serving poor and hungry people around the world. Innovations at the World Food Programme (World Food Programme Alumni Network, 2018).
Integration in strategic documents	The Country Engagement Guidelines in 2018 defined the Country Partnership Framework (CPF) as the central tool of Management and the Board for reviewing and guiding the country programmes of the World Bank Group (WBG) and gauging their effectiveness. New WBG engagement in such CPFs will include areas such as innovative solutions to poverty and interventions that catalyse private-sector solutions, foster innovations, promote inclusion, strengthen domestic capital markets and support resource mobilization.	2018 Strategy 2030: Innovative technology is part of the vision, value addition and guiding principles through: • strong links to agricultural production, food security and value chains. • promoting rural development and food security. ADB will support efforts to improve market connectivity and agricultural value chain linkages. It will help developing member countries (DMCs) increase agricultural productivity and food security by boosting farm and non-farm incomes, promoting the adoption of advanced technologies and climate-smart agricultural practices, and supporting the improvement of natural resource management standards. It will also help DMCs enhance food safety.	AfDB Strategy 2013-2022. The AfDB will create a Governance Framework to support education, emphasizing innovation and entrepreneurship. New approaches will focus on better education and better matching the supply and demand for skilled workers to address youth unemployment. The AfDB needs to market itself more prominently in RMCs as a development-financing institution that promotes innovative and sustainable solutions to support Africa's transformation in general and the agriculture sector in particular. (Feed Africa - Strategy for Agricultural Transformation in Africa 2016-2025).	The IDB strategy document (2003) on Poverty Reduction and Promotion of Social Equity highlighted (p. 9) "the need to promote innovative approaches to the sustainable management of ecosystems that are the site of economic activity and home to poor populations such as indigenous communities and other marginalized ethnic groups (for example through sustainable crop practices, eco tourism, and the use of medicinal plants)". In the Update of the IDB Institutional Strategy (2010-2020), innovation was identified as one of challenges to address, in addition to social exclusion and inequality, and limited economic integration.	The FAO's 2017 review of the Strategic Framework: Under Strategic Objective 2 (Make agriculture, forestry and fisheries more productive and sustainable), the transition to sustainable agriculture, forestry and fisheries, in order to sustainably increase production and productivity and address climate change and environmental degradation issues, requires an effective enabling environment and one area of focus refers to sustainable production systems, practices and related innovations. FAO will be supporting producers, as key partners, with emphasis on gender equality to become agents of change and innovators, enabling them to achieve higher production and productivity in a sustainable way.	The Strategic Framework in the WFP Strategic Plan for 2017-2021 identified innovation as one of the main vehicle to implement effective operations that would contribute to not only end hunger and develop sustainably, but also to do so in ways that leave no one behind, strengthening capacities and building resilience along the way. The main five core functions of the WFP Innovation Accelerator: (i) innovation challenge: identifying ideas, internal and external in origin; (ii) innovation boot camps: developing human-centred design/lean start-up projects; (iii) sprint programme: supporting teams from prototype or early proof-of-concept to scale over 3-6 months; (iv) thought leadership: exploring longer-term technologies and business model innovations; and (v) innovation fund: identifying funds and networks to support project Scaling up.

Criteria	World Bank	Asian Development Bank	African Development Bank	Inter-American Development Bank	FAO	WFP
Guidelines available	Innovation policy: a guide for developing countries (World Bank, 2010). A Practitioner's Guide to Innovation Policy Instruments to Build Firm capabilities and Accelerate technological Catch-Up in Developing Countries (Cirera *et al.*, 2020).	ADB and Climate Investment Funds: Innovation and Action on Climate Change in Asia and the Pacific (ADB, 2014). ADB Guidelines for Knowledge Partnership (ADB, 2011).	None found.	Several guidance documents are available on the dedicated website (http://www.bidinnovacion.org/en/)	Several guidance documents can be found on the website (http://www.fao.org/innovation/en/), e.g.: Innovation Niche Partnerships – A guide to the coaching process Unlocking the potential of agriculture innovation for family farmers: A thematic catalogue of successful innovations Innovations in financing mechanisms for demand-driven agricultural advisory services - Framework for analysis and synthesis of experience	Only accessible to subscribers of the website
Dedicated website	The Innovation Policy Platform, developed by the World Bank Group and the Organisation for Economic Co-operation and Development, is a web-based interactive space that provides easy access to knowledge, learning resources, indicators and communities of practice on the design, implementation, and evaluation of innovation policies. www.innovationpolicyplatform.org	Energy Sector Technology Innovation Challenge https://www.adb.org/news/events/technology-innovation-challenge-energy	Corporate website https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships	Innovation Lab The Innovation Lab (I-Lab) promotes the generation of social innovations when the problem is not defined and the demand is not structured, involving multiple actors in the process: citizens, public institutions, academia and the private sector. http://www.bidinnovacion.org/en/	http://www.fao.org/innovation/en/	https://innovation.wfp.org/ The WFP Innovation Accelerator sources, supports and scales high-potential solutions to hunger worldwide. It provides WFP staff, entrepreneurs, start-ups, companies and NGOs with access to funding, mentorship, hands-on support and WFP operations.

Criteria	World Bank	Asian Development Bank	African Development Bank	Inter-American Development Bank	FAO	WFP
Dedicated funds Amount of dedicated funds and period	Consultative Group to Assist the Poor (CGAP) develops innovative solutions through practical research and active engagement with financial service providers, policymakers and funders to enable approaches at scale to advance financial inclusion. The infoDev Multi-Donor Trust Fund (MDTF) was founded as an ICT-for-development research leader in 1995. The programme contributes to the mission and goals of the Finance, Competitiveness and Innovation (FCI) Global Practice under the Equitable Growth, Finance and Institutions Vice Presidency at the World Bank Group	Technology Innovation Challenge (Energy) Funds Launched in 2019, the objective of the Technology Innovation Challenge (Energy) is to award three grants, maximum of US$500,000, to proposals demonstrating innovative technology solutions to address energy-related development challenges that ADB has published.) ADB digital Innovation Challenge funds (https://digital.adb.org/about) Launched in 2019 (Three challenges, prizes worth up to US$10,000, more than 700 young people and start-ups participated)? https://www.adb.org/news/adb-launches-new-partnerships-support-innovative-solutions	Youth Entrepreneurship and Innovation (YEY) Multi-donor Trust Fund in the African Development Bank Launched in 2017, from an initial funding at inception of US$4.4 million with contributions from Denmark and Norway, the YEI MDTF has since grown to US$40million in commitments with additional contributions from the founding donors and also from Italy, Netherlands and Sweden. https://www.afdb.org/en/documents/youth-entrepreneurship-and-innovation-multidonor-trust-fund-yei-mdtf-appraisal-reports The YEI Trust Fund is intended to help implement the goals of the Jobs for Youth in Africa initiative, which are to create 25 million jobs and equip 50 million young men and women of working age with the skills they need to help them join the formal sector, by 2025. https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/jobs-for-youth-in-africa/the-youth-entrepreneurship-and-innovation-multi-donor-trust-fund	Some funding windows. https://www.iadb.org/en/financial-innovation-lab/financial-innovation-lab Since 1993, more than US$2 billion invested. https://bidlab.org/en/about Compete Caribbean The Compete Caribbean programme provides technical assistance grants and investment funding to support productive development and innovation policies, business climate reforms, clustering initiatives and SME development activities in the Caribbean. Close to US$25 million by 2017 for Phase I (2012-2016). https://competecaribbean.org/wp-content/uploads/2019/10/Update-on-results-end-of-program-Compete-Caribbean-and-full-list-of-projects-with-links.pdf	FAO has mobilized its partners to finance initiatives, e.g.: Innovation Fund for Digitization of Agricultural Value Chains (up to eight grants of GBP 220,000 each are being made available to support projects of 24 months duration). Launched in 2019, during the 2020 Q1 assignation of grants. Aims to scale digital solutions for the agricultural last mile and improve smallholders' financial inclusion, livelihood and climate resilience. Financed by DFID-UK and GMSA Multiple partners funding mechanism	Innovation Accelerator Funds, financed by Germany Launched in 2016, US$63 million in cofinancing raised (2017, 2018) https://sway.office.com/ozuWibTKDPtKTnlo
Dedicated unit No. of staff	Thematic group: Finance, Competitiveness & Innovation Global Practice (FCI GP) FCI comprises close to 800 staff working across more than 120 countries https://www.worldbank.org/en/about/unit/fci	No thematic group directly related to innovation	No thematic group directly related to innovation	Competitiveness Technology and Innovation Division (no information found) But for I-Lab, 8 people involved (CEO, principal adviser, finance and administration, institutional engagement, strategy and impact, investment, knowledge, discovery) https://bidlab.org/en/about	Research and Extension Unit 8 persons http://www.fao.org/fileadmin/user_upload/common/Part_III_Organizational_Directory_01.pdf	WFP Innovation and Change Management Division at headquarters: 3 staff in 2018, according to the update on the WFP Management Plan (2019–2021) WFP, Innovation Accelerator team based in Munich, Germany (about 11 staff)

IX. List of persons met

IFAD

Name	Function / organization
Asia and the Pacific Division	
Nigel Brett	Regional Director
Fabrizio Bresciani	Lead Regional Economist
Omer Zafar	Country Director - Bangladesh
Sherina Tabassum	Country Programme Officer - Bangladesh
Nabil Rahaman	Country Programme Assistant - Bangladesh
Nicolas Syed	Programme Officer - Indonesia
Anissa Lucky Pratiwi	Country Programme Analyst - Indonesia
Alessandro Marini	Country Director - Philippines
Jerry Pacturan	Country Programme Officer - Philippines
Sakiusa Tubuna	Regional Coordinator
Vivian Azore	Country Programme Assistant - Philippines
Bernard Adrien	Fisheries and rural development consultant
Yolando C. Arban	consultant special adviser - Philippines
Change Delivery and Innovation Unit	
Edward Gallagher	Lead Officer
East and Southern Africa Division	
Sara Mbago-Bhunu	Regional Director
Custodio Mucavele	Country Officer – Mozambique
Ulac Demirag	Hub Director - Ethiopia
Helen Teshome	Rural finance specialist
Yawo Jonky Tenou	Task Manager, Integrated Approach Programme
Francesco Rispoli	Country Director – Rwanda and Tanzania
Aimable Ntukanyagwe	Country Programme Officer - Rwanda
Environment, Climate, Gender and Social Inclusion Division	
Maria Elena Mangiafico	Knowledge Management Specialist
Beatrice Gerli	Gender and social inclusion consultant
External Relations and Governance Department	
Rebecca Slocum	Senior Technical Advisor
Latin America and the Caribbean Division	
Paolo Silveri	Lead Regional Economist
Juan Diego Ruíz Cumplido	Hub Head, MesoAmerica and the Caribbean
Oscar Roberto Grajeda Solorzano	Country Programme Officer
Maija Peltola	Country Director (by Skype)
Grayson Ferrari dos Santos	Former Country Programme Officer for El Salvador (by Skype)
Rosa Amelia Campos De Martinez	IFAD Liaison, El Salvador
Jesús Quintana	former Hub Head - Peru
Graciela Hijar	Country Operations Analyst - Peru
Michele Pennella	Programme Officer - Peru
Gladys Triveño	consultant

Name	Function / organization
Near East, North Africa and Europe Division	
Abdelkarim Sma	Lead Regional Economist and Country Director
Philippe Remy	Country Director
Mikael Kauttu	Country Director
Kubanychbek Ismailov	national consultant / IFAD focal point - Kyrgyzstan
Tatiana Mindru	consultant M&E specialist
Programme Management Department	
Edward Heinemann	Lead Technical and Policy Advisor to the Associate Vice President, Programmes
Research and Impact Assessment Division	
Sara Savastano	Director
Alessandra Garbero	Senior Econometrician
Federica Alfani	consultant analyst
Strategy and Knowledge Department	
Helen Gillman	Senior Knowledge Management Specialist
Sustainable Production, Markets and Institutions Division	
Robert Delve	Lead Global Technical Advisor, Agronomy
Marco Marzano De Marinis	Lead Global Technical Specialist
Antonio Rota	Lead Global Technical Specialist, Livestock
West and Central Africa Division	
Sylvie Marzin	Lead Portfolio Adviser
Roberto Longo	Senior Procurement Officer
Bernard Hien	Hub Head and Country Director - Cameroon
Francine Lemdja Djomo	Administrative Assistant - Cameroon
Mame Awa Mbaye	Country Finance Analyst - Senegal
Helene Aminatou Ba	Country Operations Analyst - Senegal
Arnaud Rouillard	Consultant
Maria Camila Caicedo	Consultant
Dounamba Konare	Country Programme Assistant - Senegal

Bangladesh

Name	Function / organization
Government and project staff	
Gopal Chandra Sarker	Project Director, HILIP HILIP/LGED
Iqbal Ahmed	Executive Engineer, LGED
Mohammad Anowar Hossain	Senior Assistant Engineer, LGED
Mohammad Ariful Islam	Assistant Engineer, LGED
Mohammad Mizanur Rahman Khan	District Project Coordinator, LGED
Dhruba Kanta Kundu	Community Resource Management Coordinator, LGED
Arif Robbany	District livelihood coordinator, LGED
Ahamed Sharif Mishu	Sub assistant engineer, LGED
Mohammad Humayun Kabir	Sub assistant engineer, LGED
Nayan Kumer Sarker	Upazila project coordinator Sadar Unit, LGED
Mohammad Sirajul Islam	Social organizer, HILIP
Mohammad Aktarul Islam	LCS organizer, HILIP
Mohammad Mizanur Rahman	Work assistant, HILIP
Mohammad Sajal	Sub assistant engineer, HILIP
Mohammad Iftker Ahmed	Upazila engineer
Mohammad Abu Kauser	Upazila Project Coordinator, HILIP
Mohammad Hasirul Islam	Sub assistant engineer, HILIP
Mohammad Kamrul Hasan	Social organizer, HILIP
Mohammad Habibullah	Social organizer, HILIP
Mohammad Abdus Satter	Upazila engineer
Mohammad Rukon Uddin	LCS organizer, HILIP
Biplob Chandrapaul	LCS organizer, HILIP
Mohammad Ziaur Rahman	Trainer, HILIP

Name	Function / organization
Reshmi	Trainer, HILIP
Sukumar Das	President, Mehgna Baroghar Village Slope Protection, LCS
Srihari Chakrabarty	Secretary, Meghna Natunpara Village Slope Protection Work, LCS
Shika Rani	President, Beheli Village Internal Services, LCS
Saddak Ali	President, Village User Group of Gujauni Beel, LCS
Ruhel Kabir	Director, IFSP, FIVDB
Mohammad Sanaul Hossain Sony	Project manager, FIVDB
Farhana Akthar	Livestock manager, FIVDB
Bozlur Rahman	RM-IFSP, FIVDB
Md. Nazrul Islam	BM-IFSP, FIVDB
Sadikur Rahman	Assistant value chain facilitator, FIVDB
Miah Hossain	Assistant value chain facilitator, FIVDB
Reazaul Karim	Land settlement adviser, CDSP4
Fazlul Kader	Deputy managing director, PKSF
Mohammad Habibur Rahaman	Assistant general manager, PKSF
S.M. Faruku-Ul-Alama	Value chain specialist, PACE
Luthfur Rahman	CCRIP project PD and superintend engineer, CCRIP/LGED
Abdur Razzaque	Adviser, NATP2
Shatana Haldar	M&E specialist, NATP2
Country partners	
A.K.M. Firoz Khan	Project leader, WorldFish
Md. Mizanur Rahman	Research assistant, WorldFish
Md. Shamim Hossain	Program officer, WorldFish
Zahir Uddin Ahmed	Team leader, Water Resources Management Bangladesh Resident Mission, ADB
Samina Yasmin	Agriculture specialist, World Bank
Christian Berger	Agriculture task team leader, World Bank

Cameroon

Name	Function / organization
Government and project staff	
Gilberte Ngou Tamdem	Head of investment promotion unit, MINADER
Ibrahim Adamou	IFAD Focal Point, MINEPIA
Joseph Andela Ndongo	Head of Multilateral Cooperation, MINADER
Seini Boukar	Regional Delegate, MINEPIA
Nozana Nduga	Coordinator, inclusive finance programme
Nenwala Djidimbele	CSRPAIH / Littoral
Beyeme F.Ngouande	Vulgarisateur, PPEA / Littoral
Saidou	Vulgarisateur, PPEA / Littoral
Olivier Tekeng Simplice	Vulgarisateur, PPEA / Littoral
Fokam Tenguh	Head of Regional Product Development Department
Crescencine Ayissi	Monitoring advisor - PEA Youth support
Hélène Marigoh Bouquet	PADFA Coordinator
Gilbert Momo	R/SE PEA, Youth
Finla Theophida Bongaba	R/SE PADMIR II
Serges Elie Ngouanfo	PADFA engineer
Chindap Chourupono	RSE/PPEA
Alain Menounga	PEA Youth Intern
Country partners	
Alphonse Kananura	FAO Operations specialist, FAO Cameroun
Armand Asseng Ze	Support for the implementation of forestry projects, FAO
Gabel Essome Bang	ISH / Université de Douala
Michel Patrick Boh	CP-F IAO
André Marie Zoyuim	CP-F IAO
Flavien Mevoungou Eloundou	CP-F IAO
Symplice Modeste Minkame Akono Junior	Principal Advisor-Focal Point Responsible for the IAO Incubation Unit

Name	Function / organization
Daniel Patrick Bikele Mvouda	CSA PEA Youth / IAO
Michael Mboh	RDCA-SAPEP
Elodie Beuhim	RDCA - SAPEP
Country beneficiaries	
Martin Woukam	President, AQUACOTE-COOPCA
Arlette Matiegam Tewane	Vice-President, AQUACOTE-COOPCA
Roger Tchippe	Secretary, AQUACOTE-COOPCA
Dorcas Majoumouo Tchouoateun	Jardin des Planteurs Assis (JDPAT)
Stéphane Cabrel Fotsing	FSC, Pepper Production
Célestin Tchounkeu	Treasurer, RITOCOOP/CA
Roger Yenga	Membre CA
Joseph Nya	Sub Council
Raphäel Biamou	PCA President, RITOCOOP/CA
Gladice Mekam Zangue	Entrepreneur / Fruzam
Ayodjeu Djaleu Angèle Nicole	URAC Company Advisor - Centre
Carim Nyoung Charlie	General Director M5 NOVATO
Donkou Goula Gansa	Accounting secretary, M5 NOVATO
Olivier Mapoure	Promoter Ets Mapoure Agribusiness
Christelle Makamte Talla	General Manager, Royal Restaurant

El Salvador

Name	Function / organization
Government and project staff	
Amílcar Landaverde	Director General of Rural Development, Ministry of Agriculture and Livestock, DGDR-MAG
Beatriz Alegría	Head of the Agribusiness Division of the Ministry of Agriculture and Livestock, AGRONEGOCIOS-MAG
Jerson Posada	Director of Investments and Public Credit, Ministry of Finance
Moises Salvador Cabrera Alvarenga	Head of Strategic Debt Management, Ministry of Finance
Cecilia Martinez	Ex-team leader, Amanecer Rural
Daniel A Rivas	Ex-agribusiness adviser Amanecer Rural (now consultant Agrifresh)
Calvin Saravía	Manager of projects and international cooperation, National Youth Institute, INJUVE
Hector Borja	Team leader, PRODEMOR Central Ampliación
Country partners	
José Emilio Suadi	Executive director, National Centre of Agricultural, Livestock and Forestry Technology (CENTA)
Walter Torres	Adviser, CENTA
Francisco Alfredo Torres	Manager, Technology Transfer, CENTA
Francisco Antonio Parker	Director general, National School of Agriculture (ENA)
Wilber Campos Nolasco	Technical manager, ENA
Luis Felipe Torres	Planning, ENA
Haydee de Trigueros	Executive director, Fundación Empresarial para la Acción Social (Business Association for Social Action), FUNDEMAS
Carlos Alfredo Monterrosa Vasquez	President, FEDECOOPADES (Federation of Agricultural Cooperatives) Representative to PDRR - Programa Diálogo Rural Regional – Centroamérica y República Dominicana
Claudia María Najarro	Contact point, SNV-El Salvador
Ana Iris Martinez	Manager of lobbying, campaigns and communication, OXFAM, and coordinator within PDRR
Roberto Rodríguez	Executive director, FUNDESYRAM
Juan Antonio Ruíz	Technician, FUNDESYRAM
Ileana Gómez	Member of the leadership team of PRISMA, and coordinator PDRR/CNAF
Betty Pérez	Coordinator, Nacional Indigenous Salvadoran Coordinating Council, CCNIS
Jesús Amadeo Martinez	General coordinator, Indigenous Forum Abya Yala, FIAY – and CICA

Name	Function / organization
Country beneficiaries	
Wiliam Armando Landaverde	President, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Nery Andrea Flores Cardoza	Member, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Juan Francisco Beltrán	Treasurer, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Jose Martin Hernandez	Worker, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Marta Lidia Villeda	Vice president, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L
Jesús Elias Mena Chacón	Legal representative, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Efrain Mena Hernandez	Member. Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Elmer Yovani Chacón	Member, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Mirna Tamith Mejía Salguro	Member, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Katerine Mejía Salguro	Member, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Armando Chacón Vasquez	Member, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Mirna Yumiluth Lemio	Aspiring member, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Alex Chacón Vasquez	Member, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Armando Rivera	Member, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Fernando Chacón	Member, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Juan Pablo Salguero	Member, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Marcos Gosales	Member, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Wilma Armando Chacón	Member, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Isabel Yamileth Lopez	Member, Asociación Cooperativa de Producción Agropecuaria Aguacate Hass de la Zona Alta de R.L.
Country others	
Enmer García	Purchasing manager, Agricultural Division, Mexico and Central America, Walmart
Hugo Marín Brenes	Deputy manager, Provider Development, Central America, Walmart
Alberto Pereira	Supplies manager, Central America, Walmart

Ethiopia

Name	Function / organization
Government and project staff	
Nuredin Asaro	National programme coordinator for PASIDP II, Ministry of Agriculture, PASIDP II team
Eshetu Wohku	Environmental safeguard specialist, Ministry of Agriculture, PASIDP II team
Kefyalew Tsegaw	M&E specialist, Ministry of Agriculture, PASIDP II team
Nigist Kebede	Senior agricultural specialist, Ministry of Agriculture, PASIDP II team
Bimrew Mossie	Irrigation agronomist, Ministry of Agriculture, PASIDP II team
Yaregal Zelalem	Gender and nutrition specialist, Ministry of Agriculture, PASIDP II team
Melkie Fenta	Senior climate change and watershed specialist, Ministry of Agriculture, PASIDP II team
Seid Omar	National programme coordinator for PCDP III, Ministry of Peace, PCDP III team
Kasseye	M&E officer, Ministry of Peace, PCDP III team
Country partners	
Behailu Kassaye	National programme coordinator for RUFIP II, Development Bank of Ethiopia, RUFIP II team
Samson Alemayehu	Finance team manager, Development Bank of Ethiopia, RUFIP II team
Tefera Befekadu	M&E team manager, Development Bank of Ethiopia, RUFIP II team
Dawit Mekonnen	Research fellow, IFPRI, Addis
Amare Haileslassie	Head of office, IWMI East Africa
Esayas Gebremeskel	Senior livestock and pastoral specialist, World Bank
Heather Oh	Deputy country director and programme development director, Technoserve

Indonesia

Name	Function / organization
Government and project staff	
Rahmawan Bayu	Rural Empowerment and Agricultural Development Scaling-Up Initiative, Agency for Agricultural Extension and Human Resource Development, Ministry of Agriculture Djakarta
Wiweko Setiawan	Staff of Bureau for Agricultural Training, Agency for Agricultural Extension and Human Resource Development, Ministry of Agriculture Djakarta
Yayuk	Staff of Bureau for Agricultural Training, Agency for Agricultural Extension and Human Resource Development, Ministry of Agriculture Djakarta
Samy Uguy Leroy	Director of the Utilization of Natural Resources and Appropriate Technology, Ministry of Village, Development of Disadvantaged Regions and Immigration Djakarta
Khalid	Village development programme consultant, Ministry of Village, Development of Disadvantaged Regions and Immigration Djakarta
Arli	MDE specialist, Ministry of Village, Development of Disadvantaged Regions and Immigration
Amrullah Rayid	Sekretaris Dinas Pertanian kab, Luwu Timur, South Sulawesi
M. Rizak Bachrie	Extension worker, Tomoni
H. Darsono	Extension worker Kalaena
Hasan	Extension worker, Wotu
Hadijah	Extension worker, Burau
Jasmaniar	Fungsional Kabupaten, Luwu Timur
Akmaluddin	Pejabat Pembuat Komitmen READSI Bab, Luwu Timur
Damawan	Extension worker, Lera (subdistrict Wotu), Luwu Timur
Anang Noegroho	Director for Food and Agriculture Development, Ministry of National Development Planning, National Development Planning Agency
Diding	Former READ director, Ministry of Agriculture

Name	Function / organization
Country partners	
Eric Quincey	Senior water resources specialist, Asian Development Bank, Djakarta
Fasar Paulus Niong	Manager, Mars cocoa academy, Tarrenge, Wotu, South Sulawesi
Erwin Yuniarso	Agronomy trainer coordination, Mars cocoa academy
Agus Y Salim	Business trainer coordination, Mars cocoa academy
Adi Purwirawan	Supplier development supervisor, Mars cocoa academy
Country beneficiaries	
Said Hasan	Leader of the farmers group Bersatu in Lera, Wotu, Luwu Timur, Sulawesi
Wiwid Darsono	Secretary of the farmers group Bersatu in Lera, Wotu, Luwu Timur, Sulawesi
Wifita	Treasurer of the farmers group Bersatu in Lera, Wotu, Luwu Timur, Sulawesi
Suwardi	Cocoa doctor in Bali Kembara, Tomoni, Luwu

Kyrgyzstan

Name	Function / organization
Government and project staff	
Aitkaziev Mirlan Aitkazievich	Coordinator of ATMP, Agricultural Project Implementation Unit, Ministry of Agriculture and Melioration, Kyrgyzstan
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Name	Function / organization
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Malawi

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Peru

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The Philippines

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Bernice Anne C. Darvin	Programme specialist, Research and Development Department, SEARCA
Glen A. de Castro	Project coordinator, SAAS, SEARCA
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Ispelda L. Batongontary	Programme specialist, SEARCA
Mags Catindig	Programme manager Asia DHRRA
Gudrun Cartuyvels	Regional director, Trias Southeast Asia
Jessica Umanos Soto	Country director, We Effect Philippines
Country beneficiaries	
Lilibeth S. Arce	Chair, TARBECO
Alicia Paglinawan	Owner, Sunrise Corn Coffee
Alfreda Elejorder	Rural Improvement Club
Jose Panganeron	Vice chair, PSFA
Emma D. Estrella	Estrella Aqua Farm / BCCAFI
Julia O. Jose	General manager – Community Financial Institution
Santiago M. Bartolome	Chair, Community Financial Institution
Niña Busa Burdeds	National Council of Indigenous Persons
Randy D. Rosas	TMSD chief, NCIP, Region XIII
Nilo Ghinalubahan and other members (68)	Bangayan Lakeview Association & Zapanta Valley Association
Leonora Mila and other members (22)	San Isidro Upland Farmers Multipurpose Cooperative (SIUFMULCO), Agusan del Norte
Edilberto N. Bayot	Mushroom producer and trainer
Maria Clara T. Sacro	Kathreese Arts and Crafts, Butuan City
Epimaco M. Galero Jr.	Deputy executive director, Foundation for Rural Enterprise and Ecology Development of Mindanao, Inc.
Rudy Balaba and other members (20)	Tolosa Fisherfolks Association
Gilbert S Badillo	Chair, La Union Mangrove Fisherfolk Association, Caraga
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Name	Function / organization
Country others	
Simon Bakker	President and CEO, Kennemer Foods Inc.
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Republic of Moldova

Name	Function / organization
Government and project staff	
Iurie Usurelu	General secretary, Ministry of Agriculture, Regional Development and Environment
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Country partners	
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Igor Bujor	Consultant in grant programme “sustainable land management WB MAC-project”
George Panfil	Farmer and expert in conservation agriculture, Agropanfil LLC and Donduseni
Lesnic Tudor and son	Orchards and Dolce Frutto LLCs, Briceni, super-intensive orchard and grassland restoration
Zosim Serghei	Servest Agro LLC (cucumber production, harvest and processing), Corjeuti
Corian Novac and Viorel	Hazelnut plantation, Telenesti
Mircea Elade	Voicu Mihail PF Ecotourism
Mihail Leşan	Pergola grapes orchards, Vadul lui Icas, Cahul
Viorel Bezman	Pergola grapes orchards, Vadul lui Icas, Cahul
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Rwanda

Name	Function / organization
Government and project staff	
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Maurice Habiyambere	NAEB / PRICE
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Jean Marie Vianney Munyaneza	Emerging commodities division manager, NAEB
Charles Bucagu	Deputy director general, Agriculture and Animal Resources Development Board
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Michel Nagaramber	SPIU
Emmanuel Gasagara	Access to finance specialist, SPIU
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Jean Claude Mundahunga	Head of planning and M&E, SPIU
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Name	Function / organization
Country partners	
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Thomas M. Semahoro	Monitoring, learning and evaluation manager, Heifer
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Country beneficiaries	
Jean Baptiste Hategekimana	Chair, Rwanda Youth in Agriculture Forum
Déogratias Dushimiyimana	Chair, Water users association of Sagatare
Julienne Mukashyata	Treasurer, Water users association of Sagatara
Imu Bitegeko	Water users association of Sagatara
Blandine Mukanbanyama	Water users association of Sagatara
Saïdi Karyongo	Water users association of Sagatara
Gilbert Murenzi	Water users association of Sagatara
Pélagie Mukampanzi	Vice president, Kabuye cowshed association
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Faustin Lurinda	Member, Kabuye cowshed association
Marguerite Namutaga	Member, Kabuye cowshed association
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Emmanuel Muniyasulango	Cooperative of milk collection centre, Gatsibo
William Nduguteyi	Cooperative of milk collection centre, Gatsibo
Emmanuel Musimsinda	Cooperative of milk collection centre, Gatsibo
Moses Murunyi	Cooperative of milk collection centre, Gatsibo
John Gaio Kabera	Cooperative of milk collection centre, Gatsibo
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Teniyasi Siborurema	Vice president, KOPUAM cooperative
Eric Kanyarwanda	KOPUAM Cooperative
Auguste Ndungutse	KOPUAM Cooperative
Country others	
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Byung-Chae Chang	CTO, HEworks Rwanda – Silk Ltd.

Senegal

Name	Function / organization
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Country partners	
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Name	Function / organization
Country beneficiaries	
Diop Huguette	President, improved village poultry management committee (CG-AVA), Thiawando
Ndao Marie	Vice-president, CG-AVA
Apithy Aïda	Secretary General, CG-AVA
Dione Fatou	Secretary General, Management Committee
Dine Manème Faye	President, agricultural purchasing centre, Keur Soce
Samba KA	Member, agricultural purchasing centre, Keur Soce
Pape Pen	Relais communautaire
Mariam An	President, Taïba Nianguène market gardening group
Fall Mor Serigne	Executive Secretary, Interprofessional Framework, Niébé sectors
Ibrahima Ndiagne	Président, Interprofessional framework of the Millet and Sorghum sectors
Abdoulaye Sarr	Deputy Secretary, Interprofessional Executive of the Niébé sectors
Boubacar Sidibé	Interprofessional sector manager, Niébé
Binta Hanne	President, Société d'Intensification de la production agricole, Thiambe
Banna Ba	President, Dairy cow unit, Ourossogui
Haby Sow	Dairy cow unit, Ourossogui
Abou Edy Ba	President, Federation Union of Pastoral Units, Matam Region
Hamidou Damba Sall	President, Federation of Producer Organizations Association, Kaworal Nguenare Bossea
Bisane Hanneth Diouf	Vice-president, AKNIB
Mamadou Cissé Fall	Supervisor, AKNIB
Yaya Ndongo	Supervisor, AKNIB
Falif Thioub	Secretary General, AKNIB
Samba Sall	Consultant farmer, AKNIB
Daouda Thian	Consultant farmer, AKNIB
Abdoulaye Seidou Diaw	Consultant farmer, AKNIB
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