
Strategic discussion paper – Innovating to maximize development impact: How innovation enhances IFAD’s delivery effectiveness

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Strategic discussion paper – Innovating to maximize development impact: How innovation enhances IFAD’s delivery effectiveness

I. Introduction

1. The challenges and opportunities of today are dynamic and complex – increasing inequality, greater climate variability, more economic instability, emergence of frontier technologies, conflict and forced displacement, to name a few. Each has an impact on food systems and affects financing flows towards food systems. Any action to mitigate them needs new thinking, ideas and approaches, and requires innovations that are impactful and deliver change efficiently and speedily, while ensuring inclusivity and participation of rural poor people and vulnerable groups.
2. The purpose of this paper is to engage Member States on the importance of investing in innovations and to inform IFAD’s work in contributing to building enabling environments that improve rural livelihoods and enhance the competitiveness, connectedness and resilience of rural areas. The paper also poses questions for discussion, to elicit Member States’ views to guide IFAD’s future directions on innovation.

II. Background

3. IFAD as an institution was founded as one of the major outcomes of the World Food Conference in 1974 and is arguably an innovation in itself. IFAD was to be a key part of the international response to global food shortages while dealing with price shocks. The pathway envisioned was that financing agricultural development projects and supporting, creating and building markets in developing countries would promote integrated rural development, improve food production systems, increase market access, promote resilience and support enabling policies and institutions.¹
4. Since IFAD adopted the 2002–2006 Strategic Framework, innovation has been explicitly linked with its programme of work. IFAD approved its last Innovation Strategy in 2007, a key step in institutionalizing its approach to innovations. The current IFAD Strategic Framework 2016–2025 acknowledges the importance of innovation as a key driver for IFAD to be more effective in supporting the process to empower rural communities. Innovation was also the theme of the recently concluded forty-seventh session of the Governing Council – Innovation for a Food-Secure Future.
5. In March 2022, IFAD updated the definition of innovation to “a new process, product or approach that adds value and delivers a sustainable, equitable, inclusive and/or new contextual solution to rural development challenges”. Along with the new definition, IFAD also adopted a new approach to innovation that focuses on generating, testing and scaling innovative solutions. This approach seeks to deliver equitable, better, quicker and greater impact for rural poor people by leveraging learning, partnerships, digitalization and the production and use of suitable tools and guidelines. For IFAD, the most important innovations are those that directly impact people living in rural areas.
6. Several recent interlinked frameworks and action plans have amplified IFAD’s intentions on innovation within the institution. The most notable among these have been the [IFAD Partnership Framework \(2021\)](#); the Action Plan for Sustainability of Benefits (2022); the [Regular Grants Policy \(2021\)](#); [the IFAD Knowledge](#)

¹ https://www.ifad.org/documents/38711624/39421015/agree_e.pdf/b06d3b8f-6fb5-4db1-8054-b1ef21d746a5.

[Management Action Plan](#); thematic policies/strategies such as [the Inclusive Rural Finance Policy \(2021\)](#); and most recently IFAD's Operational Framework for Scaling Results (2023), which is a natural progression of the innovation agenda. The Independent Office of Evaluation of IFAD (IOE) also conducted a [corporate-level evaluation on innovation \(2020\)](#), which has informed some of the actions that Management is taking (as indicated in [Management's response to the evaluation](#)).

III. Relevance of innovations for a food-secure future

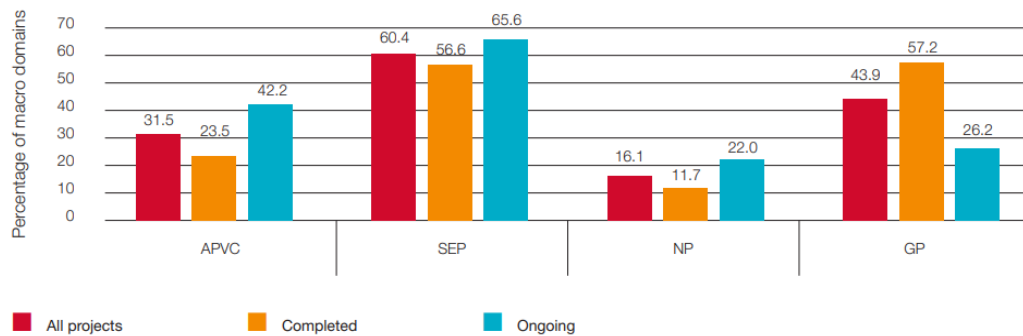
7. In response to multiple crises that expose the vulnerabilities of food systems, innovative investments can support rural poor people and the most vulnerable groups. For example, soil health is critical to the world's food security, and innovative technology allows for fast and accurate measurement, enabling farmers to ascertain the best crops to harvest and when to harvest them, and to assess the quantity of fertilizer, water and other inputs necessary to produce optimal yields. Portable and inexpensive early warning systems help smallholder farmers predict their exposure to climatic shocks. With easy access to digital finance solutions and remittances, they are able to absorb the adversities of the shocks they face. These are all technologies that IFAD is using in rural areas.² Through advancements in geographic information systems technology, IFAD projects are able to monitor the progress of their investments, target particularly vulnerable areas and ascertain how investments may have reduced the likelihood of conflict.³
8. These investments all contribute to achieving IFAD's goal of food systems transformation. However, they also require new capital formation and the reallocation of existing capital at an unprecedented scale and speed. Here, innovative finance mechanisms, tools and structures such as sustainability-linked bonds, debt-for-nature swaps, guarantees, resilience credits and newly set up blended finance structures play a critical role in mobilizing finance for food system goals.⁴ Overall, IFAD has adopted a holistic, institutional approach towards innovation, which aims to leverage technology, traditional knowledge, contexts, grass-roots experience and a systems-level perspective to enable food systems transformation.
9. Against this background, the IOE evaluation found that IFAD has invested in innovations in four macro domains since 2008 (see figure 1). These include the agricultural production and value chains pillar, socioeconomics pillar, nature and biodiversity pillar and governance pillar. Lessons from these investments suggest that IFAD promotes highly relevant innovations that are context-specific and appropriate for the target group in IFAD-supported projects. A high percentage of innovations in the socioeconomic and governance pillars underscore that many of IFAD's investments recognize the importance of investing in an enabling environment for innovation and implementation. The four pillars also demonstrate that innovations do not always need to be radical, but need to be fit for context and relevant.

² E.g. [Mobile remittances to lead digital revolution in marginal rural areas in five African countries thanks to IFAD grant funded by the EU](#).

³ [Do IFAD-supported projects reduce the risk of conflict? What the evidence says](#).

⁴ https://www.ifad.org/en/web/latest/-/ifad-launches-innovative-financing-mechanism-to-support-small-scale-food-producers-to-adapt-to-climate-change-in-eastern-africa?p1_back_url=%2Fen%2Fsearch%3Fq%3Darcifim.

Figure 1
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).

Source: Corporate-level evaluation on IFAD's support to innovations for inclusive and sustainable smallholder agriculture.

10. Building on these lessons, IFAD's focus on innovations as noted in the Report of the Consultation on the Thirteenth Replenishment of IFAD's Resources (IFAD13) will be in: (i) leveraging and accessing finance; (ii) agriculture research for development; (iii) digitalization and technology; (iv) social empowerment; and (v) climate and biodiversity. These broad areas have been identified given their relevance to IFAD's mandate, relevance to IFAD's target groups and the development challenges faced by smallholders in rural areas and building on IFAD's comparative advantage in this domain. For the IFAD13 cycle, IFAD has made an explicit commitment to ensure that at least 20 projects integrate innovative approaches in these broad areas (see the annex).
- (i) **Finance – leveraging innovative sources of finance and enhancing access to finance for smallholders.** IFAD's AA+ credit rating means that it can implement innovative funding models, bring in the private sector and crowd in otherwise untapped finance. In this context, IFAD is looking into partial credit guarantees and instruments to support local currency risk while leveraging its credibility with supporting investments linked to the Sustainable Development Goals. More-downstream financial innovations at IFAD – such as the CompensACTION project operational in Brazil, Ethiopia and Lesotho and with prospects for expansion to other countries – illustrate innovative approaches to integrating financial tools with ecosystem services that are also geared to ensuring that benefits are shared with smallholders.
 - (ii) **Agriculture research for development (AR4D) to enhance productivity and improve environment and natural resources management.** Among other pioneering solutions, IFAD's AR4D initiative has supported the development of new stress-tolerant and drought-tolerant crop varieties in South Asia; generated clean energy from bamboo biomass and waste processing in Ethiopia, Madagascar and United Republic of Tanzania; and introduced intercropping and micro-dosing of inorganic fertilizers and manure in West Africa, etc.
 - (iii) **Increased digitalization and technology, including for better targeting and monitoring in fragile contexts.** Digital solutions and technology have the potential to accelerate food systems transformation. Through increased access to markets and information, reduced transaction and intermediary costs, and increased transparency in finance flows, IFAD's innovation with e-wallets, drones and satellite technology, blockchain and investments in digital public infrastructure is contributing to rural transformation efforts. With

these, IFAD is also able to improve targeting. IFAD's innovations in blockchain solutions are offering greater transparency in the flow of funds from donor to farmer and facilitating the tracking of Global Biodiversity Framework targets across selected IFAD-supported projects. Digitalization is also helping IFAD measure its impact better through its impact assessments.

- (iv) **Enhancing the empowerment, capacities and agency of rural people.** Support for IFAD's mainstreaming themes – environment and climate, gender, nutrition, youth and Indigenous Peoples – has provided a tremendous opportunity to incorporate innovative solutions. Process innovations for the provision of responsive agile advice to countries that require policy support are being supported through IFAD's country advisory services, policy engagement work and South-South and Triangular Cooperation (SSTC) funds.
- (v) **Supporting climate resilience and combating biodiversity loss through innovative approaches.** The global food system is the primary driver of biodiversity loss, with agriculture alone threatening 24,000 (86 per cent) of the 28,000 species at risk of extinction. Debt-for-nature swaps and green bonds provide an avenue to channel investment into ecosystems. Investments in traditional knowledge and nature-based innovations and solutions can reinvigorate ecosystems and build the adaptive capacities of beneficiaries and communities within those ecosystems. For example, in Bangladesh, *binna* (vetiver) grass on slopes resisted flood and wave action and served as animal feed for livestock.

IV. IFAD's instruments to drive innovation

11. IFAD promotes innovation in its programme of work and at the institutional level to increase effectiveness, efficiency, transparency and inclusivity. It has four main instruments to drive innovations within the programme of work: (i) regular grants; (ii) the programme of loans and grants (PoLG); (iii) supplementary resources; and (iv) the Private Sector Financing Programme. At the institutional level, IFAD creates an environment to support innovations through initiatives such as open innovation challenges and pursuing strategic partnerships.

Box 1

Steps in IFAD's innovation process

Putting innovations into practice

- **Co-create** – IFAD co-creates its innovations with the rural communities and governments it serves. IFAD contributes through staff time, financial and technical resources and ensures that safeguards including participation and inclusivity are respected during this process.
- **Test, learn and adapt** – Not all innovations are disruptive in their impact, speed of delivery or cost-effectiveness. Testing, learning and adapting based on data and evidence at every stage for relevance, efficacy, extent of impact, cost-effectiveness and usability are integral for every innovation. They help determine sustainability and subsequent scalability in resource-constrained environments. Testing, learning and adapting also help to fine-tune innovations, build context specificity and learning to ensure that projects and products are human-centred, results-oriented and impact-driven.
- **Measure** – The success of innovations needs to be measured, reported and shared to promote adoption. This requires strong monitoring and evaluation systems and tools, and effective knowledge management for sharing and disseminating successes tailored to specific audiences, including beneficiaries at the project level and staff at the institutional level and in governments.
- **Scale** – To achieve global impacts and make a large impact on poverty and hunger, innovations at scale are critical. This requires both financing and an enabling policy environment that encourages and supports the emergence and replication or scaling of successful innovations.
- **Sustain** – Innovations are sustainable if they are easy to adopt, cost-effective, financially feasible and lead to large-scale impact (among other features). Sustainable innovations also need to be documented and shared including through IFAD's knowledge network and through SSTC with effective knowledge management. IFAD invests in these.

Source: Internal categorization.

Innovations within IFAD's programme of work

12. IFAD's regular grants programme has been instrumental in co-creating and testing innovations. The grants policy has a specific pathway: "improving the availability and uptake of relevant knowledge and innovation for enhanced impact and sustainability". Therefore, priority within IFAD's grants programme is given to innovations that require grant resources for testing and piloting. Such initiatives are then scaled up through the loan programme, through other IFAD instruments, or by other partners.
13. **Leveraging grant funding to invest in emerging technologies for enhanced impact and decreased inequalities.** At the forty-seventh session of the Governing Council, IFAD and the innovation lab of the Inter-American Development Bank (IDB Lab) announced their partnership to cofinance the first-ever digital public infrastructure for digital wallets for the inclusion and resilience of smallholders in the Web3 era co-designed and cofinanced by two international financial institutions (IFIs). This digital public good, partly funded through IFAD's grants programme, aims to contribute to enhancing impact by providing access to markets, reducing transactional and intermediary costs, decreasing inequality, protecting digital identities and data privacy, and improving the lives of rural people and vulnerable groups.
14. IFAD has created and scaled innovations through its PoLG. Specific aspects of the projects within the PoLG are innovative. These could be process innovations, or product or financial innovations. In other cases, the entire project is innovative. For example, the Youth Agropastoral Entrepreneurship Promotion Programme (PEA-Jeunes) focuses on the integration of young people into value chains and offers opportunities to deepen and scale up these approaches successfully in Cameroon and elsewhere. The success of the programme has prompted the Government of Cameroon to adopt a similar approach for other commodities such as cocoa and coffee.
15. Through policy engagement and technical assistance, IFAD supports creating a conducive environment for innovations. Under its information and communications technologies for development (ICT4D) approach, IFAD has been supporting the Ministry of Agriculture of the United Republic of Tanzania in developing its Digital Agriculture Strategy. The strategy foresees the creation of a unified data architecture framework for the promotion of public and private sector investments in innovative digital solutions for agriculture. The data architecture framework is an innovative approach focused on establishing an environment that is conducive for innovation, including by ensuring the Government's readiness to collaborate with innovative fintech and agritech solutions.
16. Supplementary resources support innovative approaches at IFAD by providing a unique opportunity to foster innovation and allowing IFAD to engage in new and emerging areas of work that can yield new knowledge, tools and best practices to feed into its programme of work. Under the Insurance for Rural Resilience and Economic Development (INSURED) programme in Kenya, which is implemented by IFAD through the Platform for Agricultural Risk Management (PARM), more than 110,000 small-scale producers, including 58 per cent women farmers, have purchased area yield index insurance through the Kenya Cereal Enhancement Programme - Climate Resilience Agricultural Livelihoods (KCEP-CRAL) e-voucher platform, providing about US\$10 million in protection to an estimated 440,000 rural people.
17. Through its Private Sector Financing Programme (PSFP), IFAD has the potential to be innovative. The Africa Rural Climate Adaptation Finance Mechanism (ARCAFIM) is a non-sovereign operation funded through the PSFP. The mechanism is a blended finance risk-sharing facility combined with a technical assistance facility that catalyses up to US\$700 million in private sector climate change adaptation (CCA)

investments for small producers and micro, small and medium-sized enterprises in rural areas of Kenya, Rwanda, United Republic of Tanzania and Uganda. Climate variability and change affect the region's economic growth, food security, health and ecosystems. ARCAFIM supports large-scale private sector CCA financing by using a comprehensive approach that combines financial solutions, knowledge and policy advocacy as well as an innovative CCA finance taxonomy.

Institutionally supported innovations

18. At the corporate level, the IFAD Innovation Challenge, launched in 2019, promotes and incubates ideas to make IFAD's operations and business practices more efficient. It targets ideas that build and sustain partnerships, eliminate bureaucracy, enhance connectivity and integrate data analytics. IFAD now runs these open innovation challenges in collaboration with other IFIs and members of the Moonshots for Development Alliance who co-design and co-create mechanisms and processes to cofinance and support the scaling up of successful and proven innovations.

Pursuing strategic partnerships to build an ecosystem conducive to innovation

19. Within the United Nations, IFAD has also been promoting the use of the UN Innovation Toolkit, as part of the broader effort led by the United Nations System Staff College (UNSSC) to systematize innovation within the United Nations. Further, IFAD and UNSSC partnered to launch the innovation for impact e-learning pathway, which seeks to accelerate and foster innovation in the United Nations system by supporting capacity development to increase impact and enhance future resilience in the United Nations workforce. In 2023, IFAD launched the IFAD Innovation Labs⁵ to develop skills for the use of lean innovation tools (i.e. Lean Canvas, UN Innovation Toolkit) and to co-design an architecture, channels and incentives that help to promote a culture of innovation within IFAD.⁶
20. Each of the United Nations Rome-based agencies (RBAs) has established teams focused on innovation, and areas of collaboration have included: a joint RBA innovation working group, experience and knowledge exchanges, and technical inputs to each others' discussions and processes.⁷ Strategic partnerships with other IFIs and public development banks also provide an opportunity to assemble and deliver finance for impact.

V. Key constraints to innovations

21. While IFAD has been at the forefront of innovations for rural poor people, investing grant resources, staff time and support in internal and in-country processes for innovation, it is also constrained in many ways. The constraints to innovating are financial, operational and/or organizational.
22. Financially, innovations are implicitly risky. They require upfront financial investments to create and test them. With grant funding diminishing and less scope for borrowing for innovations, it becomes challenging to create the financial space to promote innovations. Some innovations are destined to fail and institutions need to have the appetite for failure and understand that this is part of the process. Furthermore, successful innovations need to be scaled up, for which funding is critical.
23. Operationally, particularly in IFAD's programme of work, safe and traditional approaches may be favoured. Borrowers typically shy away from investing in innovations. Innovation needs an architecture that supports the origination, testing and scaling up of innovations. This architecture is crucial for creating an enabling environment for innovation – at country or sector level as well as for project-

⁵ <https://www.unssc.org/news-and-insights/blog/ifad-innovation-labs-reshaping-culture-through-dynamic-innovation>.

⁶ Ibid.

⁷ See examples in the annex.

specific innovations. IFAD could be more intentional in building and supporting the right operational systems, structures, incentives and processes to test ideas, learn from past performance, tweak implementation for context specificities, and scale.

24. Institutionally, teams do not always have the incentives to invest their resources in innovating. IFAD is unlocking this through initiatives such as the Innovation Challenge, which can support staff in proposing innovative ideas for which funding is provided. Nonetheless, securing funding for taking those innovations to scale continues to be a challenge. The lack of appropriate legal instruments prevents IFAD from fully engaging with intended partners. To address this issue, IFAD is currently researching and developing a proposal on best innovative procurement practices that aims to learn from other IFIs and align the Fund's processes to best practices in the ecosystem.

VI. Questions for discussion

1. Within its current resources and comparative advantage, is IFAD being sufficiently innovative?
2. What role can IFAD play at the global, regional and country levels to promote an enabling environment for innovations that can transform rural areas?
3. What financial instruments should IFAD employ to increase investments in innovations?

Examples of innovations supported by IFAD

<i>Innovation</i>	<i>Description</i>	<i>Expected/achieved results</i>
1. Innovations with Rome-based agencies (RBAs)		With the World Food Programme (WFP), IFAD is cofinancing and offering technical assistance to Voice Companion for agriculture extension services in Zambia in partnership with VIAMO (https://viamo.io/) under the umbrella of the Moonshots for Development alliance, the working group of the innovations arms/units of international financial institutions (IFIs), WFP Innovation Accelerator and CGIAR. IFAD has also contributed to the selection of grant recipients of the Food and Agriculture Organization of the United Nations (FAO) Innovation Fund, and FAO and IFAD are collaborating in the behavioural design of the IFAD-developed Top Secret Helpline app to help the United Nations fight sexual harassment and emotional abuse. IFAD is also leading the design of the innovation management and capacity-building components of the Global Environment Facility GEF-7 (Great Green Wall initiative) and GEF-8 (Food Systems Integrated Program) in partnership with FAO.
2. Enhanced Adaptation for Smallholder Agriculture Programme (ASAP+)	The Adaptation for Smallholder Agriculture Programme (ASAP) has been a flagship programme for IFAD since 2012. It has mainstreamed climate in IFAD's operations, strengthened technical expertise and changed the way IFAD designs projects. Under ASAP+, IFAD envisions the largest fund dedicated to channelling climate finance to small-scale producers and aims to mobilize US\$500 million.	ASAP+ emphasizes IFAD's commitment to operationalizing climate adaptation interventions across its programme of work and will build on lessons learned from ASAP to deliver adaptation and mitigation results. ASAP+ works primarily in low-income countries – particularly those in debt distress – whose economies depend heavily on agricultural production. For every US\$1 of ASAP+, there is US\$9.04 in other financing.
3. TRACE	The TRACE Blockchain project traces funds from donor to farmer. Upon completion of its pilot phase, TRACE will be ready for implementation.	This innovation is both corporate and available for the field. It aims to trace the flow of funds from the donor to the farmer on the blockchain, showcasing a transparent, incorruptible, auditable financial record-keeping methodology and use of automation of the blockchain via smart contracts for business efficiency and compliance with IFAD's anti-money laundering policy.
4. Africa Rural Climate Adaptation Finance Mechanism (ARCAFIM)	ARCAFIM aims to introduce a practical, widely implementable model for achieving a paradigm shift towards systematic large-scale use of private financial resources for rural climate change adaptation (CCA) investments, the impact of which would go well beyond the direct impacts and timeframe of the programme. The key implementing and executing partners of IFAD are the regional ARCAFIM host banks, which are leading commercial banks in the regions and cofinance the programme investments.	ARCAFIM seeks to trigger a systemic change in private CCA finance to IFAD's target group in the four countries. It aspires to provide blended concessional finance principles for development finance institution private sector operations, and in doing so provide up to US\$700 million in CCA loans, benefit more than 336,000 households, improve food security and resilience for 208,000 smallholder farmer households, train small-scale producers and small and medium-sized enterprise (SMEs) on CCA options and financial investments, etc.
5. Inclusive Green Financing Initiative (IGREENFIN)	IGREENFIN is a cross-cutting programme that gives local farmers, farmers' organizations, cooperatives and micro and small-sized enterprises better access to credit and technical assistance. This support helps them implement climate-resilient and low-emission agriculture and agroforestry.	IGREENFIN provides high climate financial incentives with green loans at zero interest rate, longer tenors and investment grants. Through green lines established within the recipient agricultural banks, this onlending initiative seeks to remove financial barriers and non-financial services for smallholder farmers, encouraging the adoption of best adaptation practices and promoting renewable energy technologies in agricultural value chains.

<p>6. Youth Agropastoral Entrepreneurship Promotion Programme in Cameroon (PEA-Jeunes)</p>	<p>PEA-Jeunes is rich in innovations that can inspire scaling up actions successfully in Cameroon and elsewhere.</p>	<p>In almost all production areas, the programme has encouraged the integration of young people into supply chains, facilitating strong linkages to markets, aggregators and financial institutions. Involving young people formally in the supply chain provides a more secure framework for young entrepreneurs, with access to quality inputs and improved technical practices. A good example is the supply chain for <i>penja</i> pepper (protected geographical indication), which supplies national and international markets. Incubation structures and centres also position themselves as direct players in the value chain and strengthen the capacity and knowledge of young entrepreneurs. Inspired by PEA-Jeunes, the Government has developed and extended this model to the cacao and coffee value chains so that producers benefit from input subsidies and are linked to microfinance institutions and banks that give them loans with no collateral requirements but with agreements to pay after harvest. The programme has also built an able network of youth who actively participate in policy dialogue and specialize in service delivery in their entrepreneurial area of choice.</p>
<p>7. Nutri-ponds, through the Artisanal Fisheries and Aquaculture Project in Angola</p>	<p>Nutri-ponds enhance access to nutritious diets by promoting regional fish farming for consumption in inland rural populations in Africa. A fishpond set up within communities is stocked with a wide variety of local nutrient-dense fish species and engages local institutions in the management process. The total cost to establish a nutri-pond is approximately US\$1,000.</p>	<p>In Angola, the project set up at least 13 nutri-ponds, which contributed 62 per cent of fish consumed by families. The financial and technical support provided 1,337 kg of fish for sale and 1,300 kg for home consumption, estimated at US\$4,498 and US\$4,160, respectively. Upon the success of this scheme, project communities set up three additional nutri-ponds using their own resources.</p>
<p>8. Incorporating artificial intelligence (AI) on the Biodiversity Knowledge Platform (BDKP)</p>	<p>The IFAD Strategy on Biodiversity 2022–2025 supported the development of an interactive AI repository and chatbot for BDKP.</p>	<p>The repository and chatbot digitization innovation enable users to efficiently sort, filter and search documents, reduce data redundancy, provide thematic summaries and allow for querying of knowledge in a conversational manner. The chatbot generates contextual and reference responses to open-ended BDKP user questions.</p>
<p>9. Digital support tools</p>	<p>Digital support tools used across a wide geography of IFAD projects strengthened seed systems and crop management practices, especially for new varieties (South Asia), improved extension services in West and Central Africa (WCA) and East and Southern Africa (ESA), and even measured the size of plots, subsequently calibrating required agricultural inputs (WCA, ESA).</p>	<p>In South Asia, the Rice Doctor and SeedCast apps improved crop management and strengthened market linkages for seeds of improved and resilient rice varieties. In Nigeria and Senegal, the RiceAdvice app increased yields significantly, and the area calculator in WCA and ESA enabled farmers to precisely determine the required quantity of inputs and services, thereby averting the unnecessary waste of scarce resources.</p>
<p>10. Omnidata platform</p>	<p>In 2020, the Executive Board approved funding for the reform programme of the People, Processes and Technology Plan. As part of the Technology workstream, IFAD developed the Omnidata platform, a solution which democratizes access to data and analytics across the IFAD workforce.</p>	<p>Through Omnidata, IFAD has developed innovative approaches with AI and machine learning to analyse the portfolio of work, align with Member States' priorities, and improve knowledge and learning in strategic areas. For example, AI productivity tools may assess documentation, and AI chatbots and repositories may strengthen knowledge on thematic areas such as sustainability, biodiversity and the South-South and Triangular Cooperation. The Omnidata platform also enables regional data dashboards and performance scorecards.</p>
<p>11. GLEAM-i – Global Livestock Environmental Assessment Model – interactive</p>	<p>Greenhouse gas emissions are difficult to measure, and adequate measurements must consider the diversity of livestock production systems. Without a proper tool, it is challenging to understand the carbon footprint and the options to reduce them among systems and value chains. GLEAM-i calculates emissions</p>	<p>Through using the GLEAM-i measurement tool, results have shown that IFAD projects are improving productivity and overall production of livestock while reducing greenhouse gas emissions. For example, in Kyrgyzstan, the GLEAM-i tool was used to calculate the potential reductions of an IFAD project and found that the project would make it possible to increase the total production of meat</p>

	from livestock investments to ensure IFAD projects adequately contribute towards reduced emissions.	and milk by 4 per cent while cutting emissions by 17 per cent.
12. Food for the Future	The Food for the Future approach promotes local foods around the world to maintain and improve biodiversity, disseminate local knowledge and provide a rich source of nutrition.	The Kiribati Outer Islands Food and Water Project (OIFWP) improved food and nutrition security by promoting local species. The selection of plants and crops promoted by OIFWP was based on the Australian Centre for International Agricultural Research on the nutritional value of local plants and their adaptation to alkaline soil and climate resilience. During the prolonged drought that has affected the Outer Islands in the last two years, local species proved to be the most resilient and provided a valuable source of micronutrients throughout the year, even during adverse climate events when agricultural production is low.
13. Gender Action Learning System (GALS)	GALS is a household methodology that helps realize gender-transformative results in IFAD's operations.	A community-led empowerment methodology that uses principles of inclusion to improve income, food and nutrition security of vulnerable people in a gender-equitable way, it positions poor women and men as drivers of their own development, identifying and dismantling obstacles in their environment, challenging service providers and private actors. Currently, about 50 projects in IFAD's portfolio make provisions for the use of GALS.
14. SPARK: operationalizing IFAD's commitment to the UN Disability Inclusion Strategy	With the SPARK programme, IFAD promotes disability inclusion in its rural development programmes through the Social Innovation Labs, AgriLabs and adopting a Disability Inclusion Facilitator Approach.	The SPARK programme uses a systemic action learning approach to impact the lives of at least 7,000 persons with disabilities in Burkina Faso, India, Malawi and Mozambique. For example, in Malawi, AgriLabs tackled challenges that farmers with disabilities face at different nodes of the value chain, working together to develop prototypes to assist with farming.
15. Using push-pull technologies provides natural positive solutions to pest control	Push-pull technology is a biological control approach involving intercropping of the main crop with a "push" crop (a legume), which repels the pest, and a "pull" crop (usually a grass species) that attracts the pest. The pull crop provides a conducive environment for the pest to lay eggs but not for larval development. The push crop is planted between rows of the main cereal crop, while the pull crop is grown at the edges of the field. Push/pull crops can be used as livestock fodder, providing double benefits to farmers.	Under KCEP-CRAL, the push-pull innovation reduced fall armyworm populations by up to 90 per cent in maize compared to a pure stand. Given the successes of the pilot in Kenya, the innovation was replicated elsewhere in East Africa, improving soil fertility without using costly external inputs.
16. Use of effective micro-organisms to improve soil fertility	In the Lao People's Democratic Republic, the Southern Laos Food and Nutrition Security and Market Linkages Programme (FNML) introduced the use of effective micro-organisms to improve soil fertility in vegetable gardens and croplands and reduce pest invasion.	The introduction of effective micro-organisms subsequently helped improve yields and, in targeting female farmers, improved their livelihood status and incomes earned.
17. Flexi Biogas	In Rwanda, IFAD joined forces with the Government to promote the use of clean, renewable energy in the ASAP-funded Kirehe Community-based Watershed Management Project (KWAMP).	Select farmers were chosen to trial Flexi Biogas, a biogas innovation designed by Biogas International (a Kenyan company) that uses cow dung to produce biogas. The biogas supplied energy to farmers' homes and acted as an organic manure for small plots, improving soil fertility and crop productivity. Over the longer term, this partnership led to other intangible benefits, including reduced incidence of malnutrition (especially in children) due to increased food availability and safer food preparation.
18. Geospatial technology and participatory methods for securing tenure	GeoTech4Tenure reflects a basic understanding of the functional linkages between land tenure and land-based investments.	The peer-to-peer learning platform combines geo-informatics with participatory methods to improve tenure security through land recordation and mapping. The platform illustrates the process of protecting and securing legitimate tenure rights

rights (GeoTech4Tenure)		through recordation, describes how to use fit-for-purpose technology to strengthen and support the process, identifies choices in selecting the appropriate technology based on objectives and context, and provides clear criteria to inform the choice.
19. Resilience design and monitoring tool (RDMT) and ability to respond (ATR)	The RDMT and ATR are tools that monitor the performance of resilience-building interventions, by helping to identify these interventions and track their adoption and effectiveness in enhancing rural households' resilience capacities.	A household survey done using RDMT in Kenya allowed the KCEP-CRAL project to analyse which resilience-building interventions were being adopted most often in the different project districts, and which interventions were more likely to increase the participating household's resilience in different project areas with different agroecological and climate conditions. This enabled a redesign of the project's resilience strategy to tailor activities and investments to the vulnerabilities and resilience enhancing needs of the households. The ATR tool has provided IFAD a methodology to measure resilience in a pathway that is agnostic and translate this into possibilities for monetization.
20. LandMonitor	LandMonitor, funded through the Innovation Challenge, has established a process to collect, analyse and streamline land tenure data.	In-country project partners in Brazil and the Philippines have developed and implemented a methodology for identifying and collecting land tenure data on and with target groups to strengthen their engagement in land policy development. LandMonitor will frame and present land tenure data and findings from target groups in a way that allows actors to track progress against land-related Sustainable Development Goals and make informed decisions and investments in policy development.
21. Institutionalization of Capacity Development (INST) in Agricultural Risk Management (ARM)	To ensure that the impact of capacity development activities on agricultural risk management (ARM) lasts over time, this innovation is integrating ARM capacity development into university curricula and private sector practices. The action plan for this integration was developed by the local organizations attending the capacity development workshops.	Though still in its pilot phase, INST ARM has already seen results. Under the INST joint action plan in Burkina Faso, an organization of women farmers and a rural training centre worked together to facilitate ARM knowledge transfer from theory to practice. Additionally, the joint action plan between a rural and an urban Madagascar university supported agricultural value chains from production to market and vice versa.
22. Integrated cropping for nutrition (from the Managing Aquatic Agricultural Systems to Improve Nutrition and Livelihoods in Selected Asian and African Countries 2016–2020)	Low dietary diversity and a high incidence of malnutrition (particularly among children) tend to characterize poor households involved in aquatic agricultural systems. This innovation incorporates micronutrient-rich small fish into aquaculture. The community fish refuge consists of a village pond connected to rice fields through canals, stabilizing fish populations in rice fields, providing a safe refuge for fish and improving the productivity of rice field fisheries.	Across all projects that utilized this innovation, there was a 172 per cent increase in vegetable production, an increase in production and species diversity in fishponds, and nutrition improved holistically among target communities.
23. IFAD Innovation Challenge	A global competition for all colleagues across headquarters and country offices, which encourages staff to develop ways to innovate how staff work to enhance results and efficiency.	GeoScan and GeoTech4Tenure were the winners of the 2019 Innovation Challenge. The former uses geospatial data for evidence-based country strategy planning and monitoring and evaluation, while the latter is an online learning programme that enables participants to find solutions to secure tenure rights through geomatic technology. One of the 2022 winners, DigiClimate Risk, empowers financial service providers to integrate climate risks into their lending processes, and is now being integrated into IFAD's Inclusive Green Financing Initiative. Another 2022 winner, BehaviouralMindset Avanzar, is a toolkit that helps create operational knowledge and instruments for IFAD projects.