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The Business Advantage

Mobilizing private sector-led climate actions in agriculture

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Abbreviations and acronyms

ASAP	Adaptation for Smallholder Agriculture Programme
AMD	Adaptation to Climate Change in the Mekong Delta Project
CARLEP	Commercial Agriculture and Resilient Livelihoods Enhancement Programme
CIAT	International Centre for Tropical Agriculture
IFAD	International Fund for Agricultural Development
MFI	microfinance institution
MSMEs	micro, small and medium-sized enterprises
NICADAPTA	Adapting to Markets and Climate Change Project
PPP	public-private partnerships
PPPP	public-private-producer partnerships (4Ps)
ProDAF	Family Farming Development Programme
SDGs	Sustainable Development Goals
SROI	social returns on investment

Summary

With private contributions becoming increasingly pivotal to global climate finance, it is evident that scaling up and channeling private capital is crucial in meeting the goal of achieving the Paris Agreement and limiting global warming to two degrees Celsius above the pre-industrial level. In the adaptation sector, however, little quantitative information is available regarding private financing flows, because adaptation activities are often integrated into broader development operations rather than existing as stand-alone interventions. In an effort to better understand how public funds can mobilize private resources for adaptation, the amount of private finance raised in matching public investment is often used as an indicator of success. But going a step further, what would be most relevant would be to know how much impact is generated through these public-private partnerships. In the context of rural transformation, it is also important to know how such impact is delivered to the farmer households that are in most need of adaptation support. Finally, understanding how the impact is distributed across financial, social and environmental outcomes would be helpful in learning to channel private investments into adaptation actions that are both profitable and sustainable.

While IFAD's fundamental goals have remained constant over the years, the way in which IFAD achieves them has undergone changes, with private sector actors taking a more central role. This change is necessary as smallholder farming activities are less and less for subsistence needs and increasingly for commercial purposes, whether selling agricultural products in the local markets or providing inputs to large-scale multinational corporations. Private actors, covering a broad spectrum of formality and scale, are increasingly recognized as a main force in development. Many of the adaptation investments were previously deemed high-risk by the private financer, but the Adaptation for Smallholder Agriculture Programme (ASAP) grant operates as a de-risking or insurance instrument to incentivize the private actors to invest in them.

Private actors are capable of promoting not only their own business growth but also inclusive growth, given the right incentives. In the case studies presented in this report, a general pattern is that most private actors perceive financial investments in adaptation activities in agriculture as risky. As a result, many existing and impending climate risks remain unaddressed, and communities continue to be both vulnerable and dependent on support from government. This study shows that IFAD's ASAP grants have been successfully used as a tool to lower the level of investment risk and thereby encourage the private actors to participate in adaptation actions. IFAD engages with the private sector with all levels of formality and in different sectors, from farmer entrepreneurs and farmer organizations to large private corporations, from agribusinesses to banking and the finance sector. As a result, ASAP operations have generated a profit and improved the level of trust between the private actors and other relevant stakeholders in the local communities. Profit has been accrued through increased productivity using more climate-resilient agriculture, added value of the produce and more direct trade specifically.

The study reviewed the 39 ASAP programmes globally through a desk study and surveyed stakeholders of four selected and contrasting case studies. The case study included a coffee and cocoa programme in Nicaragua, a family farming programme in Niger, a commercial agriculture and resilient livelihood programme in Bhutan, and an adaptation programme in the Mekong Delta in Viet Nam. In the case studies, we found that for every dollar of ASAP investment, between US\$0.77 and US\$2.85 was leveraged in private investments (financial and non-financial), showing the efficiency of the programme in leveraging additional investment to support its objectives. Non-financial contributions include expertise in operating the adaptation activities. In addition to contributing financial resources, the beneficiaries are empowered, gradually gain independence from public support and build trust with other stakeholders in the communities.

The worthwhile social return on investment (SROI) ratios (1.26 - 4.66 to 1) suggest that the existing engagement mechanisms in ASAP operations have delivered positive economic returns on investment in all cases studied. In addition to financial returns, evidence of social returns was documented, including reduced malnutrition (improved meals), improved skills of workers/farmers (via training programmes on diverse skill sets such as farming techniques and business management), and increased empowerment (through exclusion of intermediaries). Low counterfactual values, which consider the impact there would have been in the absence of IFAD, indicate that IFAD has been effective in the case study countries in filling in the rural development gaps that would not have been addressed otherwise. Despite the increase in business scale and product portfolio as a result of IFAD interventions with the private actors, none of the schemes has resulted in negative environmental impact. On the contrary, the investment schemes with the private sector have also generated modest positive environmental returns as a result of more sustainable crop management, such as climate-resilient agriculture and organic farming.

What is also relevant is that the benefits generated are distributed in large part to smallholder farmers. With these financial gains, many poor farmers have been able to settle debts, improve their meals, invest in education and increase household assets. In addition, their skills in general and for dealing with climate change have been augmented and they have been empowered in dealing with buyers. The impact is not only seen at the individual level. In some cases, the programmes organize farmers into groups and the benefits are delivered to – as well as amplified and sustained by – such groups. The findings in this report showcase some of the initial success and lessons derived from ASAP in striving to put the local smallholder at the forefront in working with the private sector to efficiently achieve inclusive and equitable economic growth and increasing resilience overall.

The study also describes the engagement of private actors across all ASAP interventions globally, using four different engagement strategies: development of new enterprises; enhancement of existing micro, small or medium-sized enterprises (MSMEs); leveraging investment of non-MSMEs; and leveraging resources of microfinance institutions and commercial banks. All IFAD-supported projects that integrate ASAP components are designed to deliver positive impacts to smallholders and rural communities by leveraging resources from the private sector, using one or a combination of direct engagement approaches, such as education and training,

fostering market linkages, capital investment, financing mechanisms, or instead by using an indirect engagement approach, such as participation in meetings and discussion for better alignment of activities and operations or creation of an enabling environment for private business development.

With incentives targeted at the right needs, public funds can be used to harness the resources from the private sector and aid national efforts to address multiple Sustainable Development Goals (SDGs). The findings in this study provide evidence of initial success in lowering the barriers to private investment in adaptation actions that address SDGs related to poverty eradication (SDG1), achieving zero hunger, including by promoting sustainable agriculture (SDG2), and climate change actions (SDG13), as well as the SDGs related to inclusive development more broadly, such as ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all (SDG4), promoting sustained, inclusive and sustainable economic growth, and full and productive employment and decent work for all (SDG8), and reducing inequality within and among countries (SDG10).



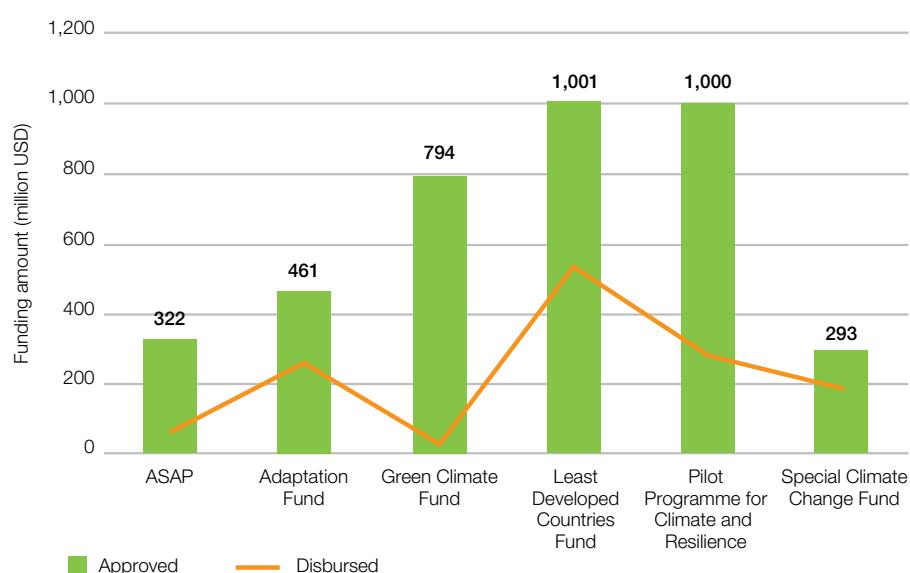
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Introduction

The Adaptation for Smallholder Agriculture Programme (ASAP) of the International Fund for Agricultural Development (IFAD) is one of the major multilateral adaptation financial mechanisms that have been launched globally (figure 1). In the agricultural sector, ASAP stands out as the largest climate finance programme that is dedicated to adaptation of smallholders to climate change. Since its launch in 2012, 45 ASAP projects have been approved in 39 developing or vulnerable countries across Asia, Africa, Central and Latin America, and Europe. Currently, 31 ASAP projects are ongoing to address climate change adaptation objectives within IFAD loan-recipient countries, aiming to build the resilience capacity of smallholder farmers in the face of climate change.

Within the last decade, engagement with the private sector has gained momentum as an effective complementary pathway for promoting inclusive development. Building linkages with private sector actors is necessary because they interact with farmers through value chains, thus exposing farmers to risks in marketing and trading activities. Changes in prices or trade policies in importing countries could now have repercussions on farmer producers in different continents. The risks posed by climate change are no longer confined to the biophysical sphere but can influence the uncertainty of socio-economic forces, such as disruption in trade and distribution channels, as a result of natural calamities (Karfakis et al., 2012). For example, flooding can disrupt transport of goods and services (International Finance Corporation, 2011), and have repercussions on agricultural producers across continents. Additionally, a sizeable financing gap exists between public

Figure 1:
Multilateral public funding for adaptation projects by amount approved and disbursed



Source: Adapted from Climate Funds Update (2018).

funding sources and current climate finance flows required to implement developing countries' nationally determined contributions, even in the most optimistic scenario. Scaling up both public and private sources of climate finance is therefore needed to meet the climate change goals of the Paris Agreement (Plunkett and Sabhlok, 2016), especially in developing countries where the adaptation finance gap is large and likely to grow in coming decades (UNEP, 2016). In reality, private actors have contributed, on average, over 60 per cent of total climate finance flows in recent years (Climate Policy Initiative, 2017).

IFAD recognizes the changing roles played by the private sector and the public sector in rural economies: although the latter continues to be crucial in providing an enabling policy environment, infrastructure and public goods, the private sector has become the engine of growth in developing countries. Private actors of all sizes and types, including smallholder farmers, farmer organizations, agribusinesses, and large national and international companies, together form the growing private sector that IFAD identifies as central to rural development (IFAD, 2012).

IFAD has adjusted its approach to promote greater engagement with the private sector in its operations. In recent years, IFAD has increasingly acted as a broker that forges trust between different actors in the rural economy. Valuable lessons have been drawn from IFAD's experience in partnering with the private sector via mechanisms, such as public-private partnerships (PPP) (IFAD, 2013) and public-private-producer partnerships (PPP, or 4Ps) (Camagni, 2016), to engaging with the private sector. 4Ps are IFAD's effort to include producers in the partnership and empower them. Along with the traditional farm-level actions, value chain-level interventions are

employed in the ASAP to generate change for all players, including the private sector and other local beneficiaries. With this approach, impacts are not restricted to direct beneficiaries, but are amplified along the value chain so that communities as a whole can experience the positive impacts that are sustained in the more climate-resilient value chains.

Sustainably partnering with the private sector in climate adaptation activities requires harmonizing the goal of inclusive growth for smallholder farmers and business incentives for the private sector. Broadly speaking, the main motivation for the private sector to engage in adaptation is to minimize supply chain risk, for example by protecting revenues and preventing future costs due to changing climatic conditions (which can impact physical assets, health and production). With its mandate to support poor farmers, IFAD's partnerships with the private sector need to be navigated carefully to ensure compliance with its objectives. Therefore, IFAD engages with the private sector by leading them towards adaptation investments that are both financially profitable and socially and environmentally sound. Many of these adaptation investments were previously deemed high risk by the private financer, but the ASAP grant operates as a de-risking or insurance instrument to incentivize the private actors to invest in them. To measure these impacts in this framework, we adopted the social returns on investment (SROI) methodology, which is a stakeholder-informed process to capture all financial, social and environmental impacts that go beyond standard financial measurement.

IFAD works with a diverse range of private entities. In some areas where the formal private sector is weak or even non-existent, IFAD works directly with farmer entrepreneurs or farmer organizations, providing direct funding to support the development of small commercial farming, especially to encourage smallholder farmers to start their own agribusinesses. One of the most important areas of engagement is with micro, small and medium-sized enterprises (MSMEs), which often lack access to resources. ASAP grants, therefore, are crucial in lowering financial barriers to scaling up or adopting climate-smart practices by MSMEs. Where the formal private sector is established, IFAD engages with large private corporations and multinationals, helping them to direct their agricultural investments in a way that maximizes inclusive development in rural communities. In addition to agribusinesses, IFAD also engages with commercial banks and microfinance institutions to leverage their resources and capacity in managing loans to farmers.



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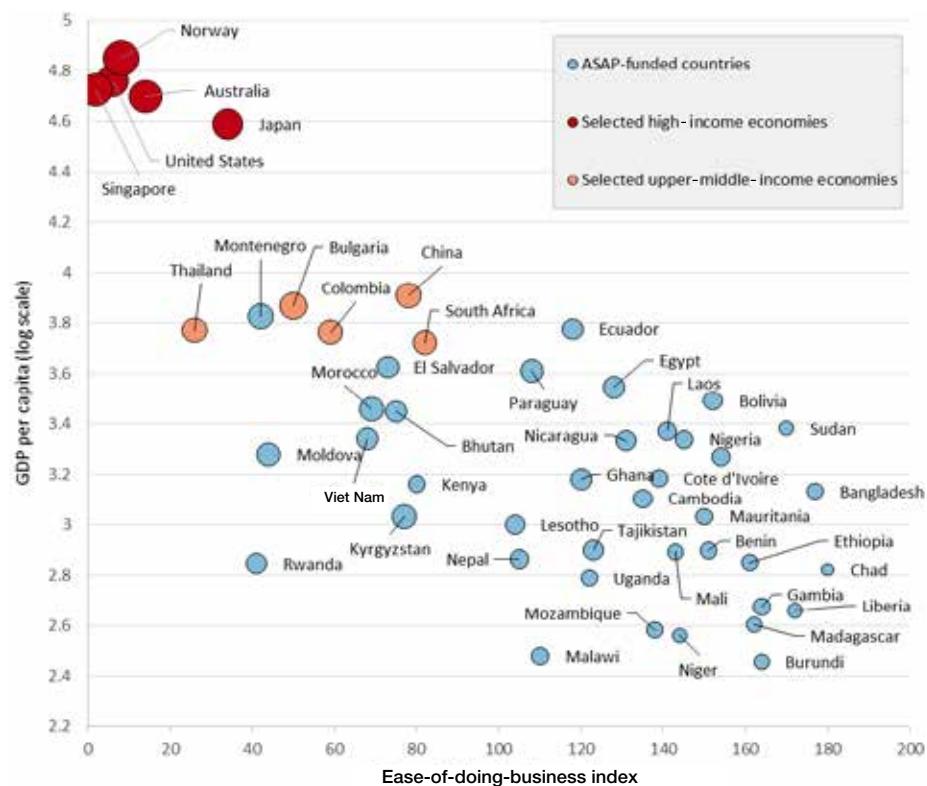
Private sector engagement in project design

The context of private sector engagement

The development of private sector involvement depends not only on the design of engagement approaches, but also on the efficiency of engagement. ASAP investments are designed to fit specific country contexts. For example, in countries where the private sector is limited or has low capacity, engagement is usually designed to include capacity-building, and ASAP investments are therefore directed at MSMEs incubation. This approach not only builds the foundation for commercial farming, but also builds value chain development in rural areas. Where large private corporations are present, engagement is directed at forging linkages with local producers and promoting inclusive growth, such as through PPP mechanisms. Therefore, understanding the environment and socio-economic context in which the private sector operates is crucial.

Currently, the 39 countries in which ASAP operates are at different levels of economic development and situated in diverse socio-economic contexts (see figure 2). This, in turn, shapes the business environment in the country. For example, countries with high GDP per capita (e.g. Ecuador, El Salvador, Montenegro and Paraguay), in combination with high ease-of-doing-business rankings, would likely be active participants in global trade and thus have an environment more conducive for private sector development. At the other end of the spectrum are countries with low GDP rates (e.g. Burundi, Malawi, Niger and Mozambique) and a low ease-of-doing-business

Figure 2:
ASAP-funded countries by GDP and ease of doing business



ranking, which would require different approaches to galvanize investment from the private sector. Naturally, there are countries scattered across this multidimensional spectrum, adding diversity to the contexts in which IFAD operates. For example, Bhutan's low GDP per capita coupled with a small population size results in a shortage of labour and limited growth of the domestic market. In contrast to Bhutan is Bangladesh, which possesses a higher GDP per capita and a large population that could supply both an adequate labour force and an outlet for produce, but despite this potential it is constrained by the lack of a conducive environment for business development and operation. ASAP targets countries that are most vulnerable in a variety of aspects, from a weak enabling environment for businesses, to low climate change resilience, to low levels of financial capital.

Figure 2 shows countries where ASAP funding has been approved. They are displayed as a gradient of GDP per capita against the ease-of-doing-business ranking (World Bank, 2018) – the lower index the country has, the more conducive its regulatory environment is to starting and operating local firms. Bubble size correlates with the ND-GAIN index that represents the score for climate change resilience (Notre Dame Global Adaptation Initiative, 2018) – a high-resilience score correlates with a high readiness level and low vulnerability to climate change. Hence, the bigger the bubble, the better. ASAP-funded countries tend to cluster around high ease-of-doing-business index, low GDP per capita and low climate change resilience.

Engagement strategies and approaches

As the context where ASAP operates is highly diverse, different strategies to engage¹ with the private sector are employed depending on the specific condition and needs. The major strategies are identified as follows, with the possibility of applying a combination of strategies in any given area.

- 1. Development of new enterprises or support to start-up businesses to be run by capable individuals or farmer groups in the community.** This strategy is deployed in areas where private agribusiness activities are few or even non-existent. It is characterized by provision of support for technical, start-up capital (infrastructure, agricultural inputs, equipment, etc.) and financial resources for the establishment of new businesses in the local community. The targets are entrepreneurial-minded individuals, with an emphasis on young people (in Bhutan, Nigeria and Sudan) and on women (in Kyrgyzstan and Nigeria). The focus on young people can take advantage of their receptivity to technology. This strategy can address both value chain development and migration issues in rural areas.
- 2. Enhancement of existing MSMEs, including farmer-based organizations such as cooperatives.** This strategy is deployed in areas where private agribusiness exists but is disorganized. Supporting enterprises run by local farmers or farmer groups is a sustainable way to ensure inclusive growth in the community. Support to the MSMEs can be diverse, from a training programme to improving management skills of women business owners (in Djibouti), facilitating contracts between farmer producer groups and companies (in Lao People's Democratic Republic), cofinancing business plans proposed by MSMEs (in Moldova), to matching grants with loans from financial institutions for agribusiness and farmer-based organizations to support their access to credit (in Ghana).
- 3. Leverage investment of non-MSMEs.** Non-MSMEs are private corporations (larger in size compared to MSMEs) that are high in capacity and resources. This strategy is deployed in areas where private agribusiness is developed, but some groups in the community are marginalized. ASAP activities aim to tap the existing resources (infrastructure, capacity, credit, etc.) and channel them in a way that maximizes the delivery of benefits to the community. Engagement approaches with this group include co-investment schemes in which the private sector receives investment from ASAP on their business, so that the local community benefits through job creation, enhanced capacity or resilience to climate risks (as in Kenya and Viet Nam). In addition, ASAP activities also forge business linkages between these non-MSMEs with smallholders, and MSMEs such as via contract (in Ghana and Lao People's Democratic Republic).

¹ Engagement with the private sector refers to linkages that have the potential to deliver benefits to the different stakeholders in rural areas, in addition to financial profits. As a result, all service contractual relationships between IFAD and private service providers (e.g. IFAD contracts companies for road construction without commitments from these companies to generate additional benefits to the local community) are not included.

4. Leverage resources of microfinance institutions (MFIs) and commercial banks. ASAP activities also channel resources of MFIs and banks (encompassing financial management capacity, local knowledge, and financial resources) to rural development. This strategy is deployed in areas where access to credit is a barrier to agricultural development. Engagement approaches also include provision of financial incentives to complement credit from MFIs and banks. Such incentives not only increase credit size, but also lower credit risks borne by the MFIs and banks and thus increase access to credit by agribusinesses and smallholder farmers (in Nigeria, Niger and Rwanda).

Since each strategy addresses different types of private actors, multiple strategies can be used in tandem to address the various actors in the value chain holistically and simultaneously. For example, ASAP activities in Benin, Bhutan, Nigeria and Rwanda used a combination of three different strategies. In each strategy, different approaches or a combination of engagement approaches were used.

Engagement approaches

IFAD-funded programmes that engage with the private sector use a variety of approaches, either directly or indirectly (figure 3). While market linkage is only present in 17.5 per cent of the projects, the remaining three mechanisms are equally popular, with a frequency of 50 per cent to 63 per cent of projects. Investment in education and training is mostly from IFAD and appears to have higher frequency in countries with lower GDP per capita. Capital investment is the most popular mechanism and is equally popular in all countries; it galvanizes private investment in 64 per cent of projects that employ this mechanism. Financing galvanizes private investment in 60 per cent of projects that employ this mechanism, and appears to be more popular in countries with higher GDP per capita. The sustainability of a financing mechanism depends largely on the competence of private enterprises to manage the financial capital, which requires a higher level of financial autonomy and capacity for loan repayment. Thus, this mechanism could be more effective in its implementation in countries where the private sector is more developed (which may also correlate with a higher GDP per capita).

Direct engagement approaches

Education and training

Provision of technical assistance or capacity-building on agricultural practices, financial management, business planning through different modes, such as training programmes, field demonstrations and farmer field schools. This approach has strong synergies with other mechanisms as it lays the foundation for effective interventions.

Investor: IFAD or private actors through cofinancing mechanisms. Private employers might contribute in training or demonstration materials (e.g. in Cambodia and Liberia).

Beneficiaries: Farmer producers, farmer groups, local workers. The beneficiaries can be the private entities themselves (such as entrepreneurially oriented farmers or groups). The private sector benefits indirectly because of improved capacity of the farmers and workers.

Example – Viet Nam: IFAD and the owners of private businesses conduct training programmes for workers and farmers to upgrade their skills (e.g. agricultural practices for organic farming). The funding comes from a business plan, co-funded by ASAP and private companies.

Market linkage

IFAD functions as a broker that creates market linkages that connect different players in the agriculture value chain. This can be done either by creating a platform with participation of value chain actors (e.g. producer, wholesaler, processor and trader) and linkages to be sparked among the participants, or by IFAD actively connecting and matching suitable producers and buyers such as through PPPPs. This mechanism is formalized by contracts or memoranda of understanding to predetermine price, quantity or quality of produce. The main objective of the mechanism is to create an assurance of agriculture produce for the farmers and stable, quality supplies for the buyers.

Investor: IFAD does not have a formal investment in any specific stakeholders, but instead catalyzes connections in the value chain. Investment from IFAD might be in training for producers on good agricultural practice or negotiation skills.

Beneficiaries: Diverse actors in the value chain can benefit directly, including private actors.

Example – Nicaragua: The project supports cooperatives to establish direct links to exporters and upgrade value chains from producing commodities to final products.

Capital investment

This refers to investment for specific economic needs for all aspects, from production to marketing activities. IFAD invests in business development plans that ensure inclusive growth in the community and that support start-up of commercial farming by entrepreneurially oriented farmers or groups. Investments are to procure predetermined business needs (e.g. seeds, equipment and training to strengthen, scale up or expand businesses). In many cases, capital investment is implemented on a competitive basis in which beneficiary enterprises have to go through a selection process. Training programmes (e.g. on business management) that support capital investment are not considered separately to avoid double counting.

Investor: Usually implemented by means of cofinancing or grant-matching from the private entities themselves. In some cases, IFAD fully sponsors activities using this mechanism (e.g. in Bhutan and Malawi).

Beneficiaries: Private actors are direct beneficiaries. Benefits are distributed to local farmers/workers depending on their relationship with/position in the private enterprises. For farmer-based enterprises or groups, local farmers are the main beneficiaries (i.e. in Bhutan and Nicaragua). For cases in which the beneficiary enterprises are not farmer based (i.e. in Viet Nam), farmers/workers benefit indirectly through job creation and salary increases.

Examples – Bhutan: ASAP funds were used to provide agricultural inputs to farmers, upgrading the equipment and facilities of both the company and the farmer groups in the dairy value chain. These investments bolstered milk production, increased quality and strengthened the commercial relationship between the farmer groups and the dairy company.

Financing mechanism

IFAD provides grants or loans to private entities to develop their businesses or facilitate their access to financial services of other providers such as banks and microfinance institutions. To support private entities' access to financial resources, IFAD may also provide counterpart funds or guarantees as a form of trust-building.

Investor: IFAD provides grants or loans directly to private actors, matched by loans from other private financial institutions or credit schemes. Financing might all come from financial institutions with IFAD only playing a facilitator role. Investment can come from IFAD, but is managed through on-lending by other finance institutions in competitive bidding for services (e.g. in Egypt and Mozambique).

Beneficiaries: Private actors benefit directly. Financing institutions such as commercial banks also benefit from having additional services. Similar to the capital investment mechanism, farmers/workers might benefit indirectly through job creation and salary increases.

Example – Niger: an ASAP grant was used to supplement the loan from commercial banks to farmers to upgrade irrigation systems in their fields. The bank gives 50 per cent of the credit as a loan, ASAP grant matches with 40 per cent as a grant, and the remaining 10 per cent is borne by the farmer.

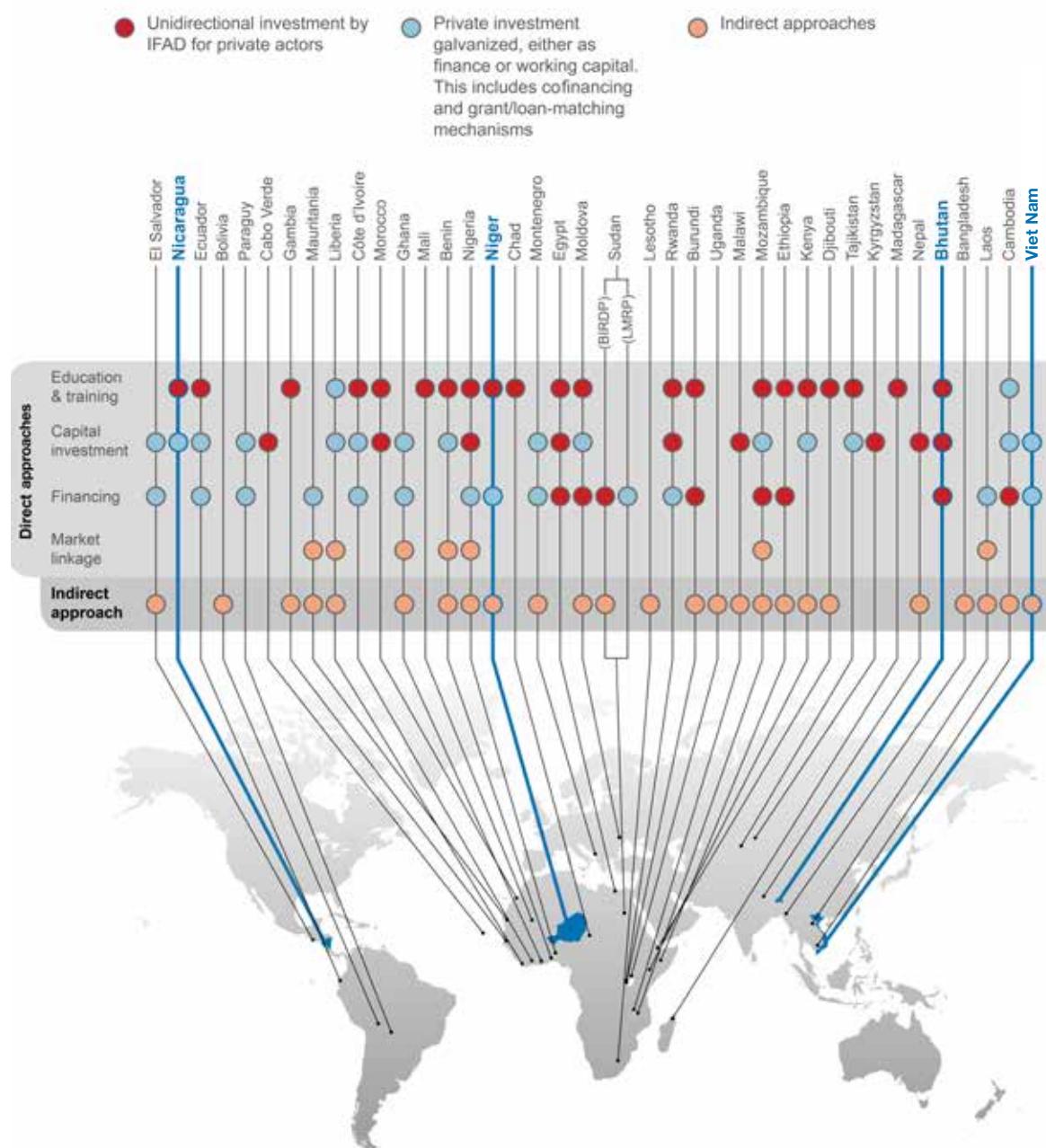
Indirect engagement approaches

IFAD also fosters involvement of private actors in rural transformation without formal investment from any stakeholders. Indirect approaches are frequently used in combination with direct ones, either at the early stage of the project to lay the groundwork for direct approaches or throughout the project to facilitate an enabling environment.

Examples of indirect approaches include the involvement of private actors in operations, such as their participation in meetings and training programmes, in project steering committees or in consultation with project activities. Indirect approaches also include activities that create an enabling environment for private sector growth, such as market-oriented infrastructure construction (e.g. roads, markets), capacity-building of local labour to attract private investment, and enhancement of the government institutional framework to foster a conducive environment for the private sector. Compared to direct engagement, indirect engagement activities do not necessarily result in materialized, formal commitments such as established partnerships, memorandums of understanding or contracts.

Figure 3:

Summary of existing approaches employed in IFAD programmes with the private sector as of 2017





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Methods – social returns on investment analysis

Social returns on investment (SROI) analysis was adopted for the four in-depth case studies analyses. SROI is an appraisal and evaluation methodology that captures financial, social and environmental outcomes and that goes beyond the standard financial measurement by using indicators and proxies. This approach captures the benefits of an intervention for multiple stakeholders (e.g. the targeted population, the private sector, the community and the environment). In essence, SROI is an outcome-based measurement tool that captures changes for the stakeholders that were impacted or would be impacted by project activities. This approach has been applied in evaluating community-based adaptation to climate change in recent studies (Sova, 2012; Nicholles, 2012).

For each case study, the SROI analysis was conducted following six steps.

Step 1: Establishing scope and identifying stakeholders

In consultation with the IFAD local staff in each project, the typology of private sector and specific engagement strategies were identified (table 1). Based on the designed activities and their progress, the scope of existing and future outcomes were identified, consisting of key stakeholders that experience changes as a result of the engagement with the private sector in the project. These key stakeholders include local government, environment, enterprises' short-term and permanent workers, farmers and supply providers.

Table 1: Typology of private-sector entities engaged in case studies



	Degree of formality and revenues volumes					
	Small farmers/groups (micro scale)		Small to medium-scale businesses		Large-scale businesses (corporate)	
	Individual farmers	Farmer groups	Agricultural SMEs	MFIs	Agribusiness	Commercial bank
Bhutan	X	X			X	
Nicaragua			X			
Niger	X				X	
Viet Nam		X	X	X	X	X

Step 2: Mapping outcomes

Also in consultation with IFAD local staff and based on a desk study of IFAD-relevant project documents (project design, supervision reports, field reports, etc.) and existing literature, a theory of change was identified to illustrate and subsequently demonstrate how activities deliver outcomes. This includes both negative and positive, intended as well as unintended, direct and indirect outcomes on the different stakeholders.

Step 3: Evidencing outcomes and attributing values

A first draft of the SROI model was constructed as a blueprint guiding fieldwork in the next step. In this theoretical model, each of the outcomes was identified with incidence and specific indicators to understand how much change has occurred or would occur for each stakeholder.

Step 4: Establishing impact

Based on the theoretical SROI model in step 3, fieldwork was conducted in project sites in Bhutan, Nicaragua, Niger and Viet Nam to collect data as well as to align the SROI theoretical model with the situation on the ground. Data collection was carried out using key informant interviews following semi-structured questionnaire and focus group discussion formats, with at least two relevant stakeholders from the following groups: private enterprise representatives, local farmers/workers who experienced direct changes, and local government officials, to assure that the data sources can be triangulated. The data were captured using an ordinal five-point scale corresponding to the level of confidence by both the interviewees and the researcher, for aspects such as strength of relationship between stakeholders, sustainability of outcomes and profitability of investment.

During data collection, a contribution identification process was conducted in order to separate the outcomes generated by the specific private sector engagement activities from those generated by other contributors connected to the projects. This involved gathering observations of local farmers and workers, enterprise representatives and government officials, and their opinions on the contribution of other actors to the projects' outcomes. The proportion of outcomes generated by other actors' contributions was then deducted from the estimate.

Researchers also measured the counterfactual, which considers the outcome that would have happened even in the absence of IFAD, in order to understand the added value of IFAD investments. Calculation of counterfactual is based on the historical observation of the stakeholders who projected their knowledge on a hypothetical scenario in which alternative activities might have generated similar outcomes. The stakeholders then gave their assessment as to how likely this scenario might have happened. For example, in the absence of IFAD cofinancing, how likely private enterprises would be able to find alternative funding and execute similar activities as the support through IFAD.

Step 5: Calculating SROI

In this step, outcome values were added up in the calculation. Proxies of social and environmental outcomes (such as reduced malnutrition, increased skills, sustainable land use) were used to monetize these non-market outcomes. The gross value of "returns" was then multiplied by the contribution proportion (to the overall values) and counterfactual to arrive at the net value of returns. Given the nascence of all investments, we applied a highly conservative ratio of 100 per cent drop-off value for Bhutan and 20 per cent for the others. This means the outcomes would completely diminish over a time horizon of five years.

Step 6: Reporting, using and embedding

SROI results were embedded in reports and communicated with local project staffs for verification. In this step, several phone calls to interviewees were also requested to resolve discrepancies in the results. The final model was then embedded in this report.

Study limitations

Thus far, private sector engagement in all four case studies is young; therefore, the research is prone to certain limitations. First, systematic gap filling was conducted for those variables where data were unavailable at the time of research. For example, the value of the amount of carbon sequestered per crop management practices was based on the existing literature and, therefore, data have not been monitored on site. As the values are arrived at using a combination of primary (interviewees' responses, financial analyses of enterprises, etc.) and secondary data (from gap filling exercise), we performed sensitivity analysis to ensure the robustness of the calculation to the variation in those parameters that are of high uncertainty. Second, the research is *ex ante* in nature and was based on predictive estimations from the stakeholders, which are also bound to objective uncertainties (e.g. changes in prices, natural calamities). This could be addressed by an *ex post* study in the future, optimally after the business plans or engagement duration ends in order to strengthen the evidence base of the assessment. The time horizon of the case studies was five years, except for Bhutan, where we employed a one-year time horizon because of the high level of uncertainty. Finally, even though this method presents the effectiveness of interventions in a single metric (the ratio), this is not necessarily comparable across studies. This is because in each of the case studies a different engagement approach was employed to best fit local needs and context, thus resulting in different stakeholder composition and outcomes.



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CASE STUDIES

Bhutan

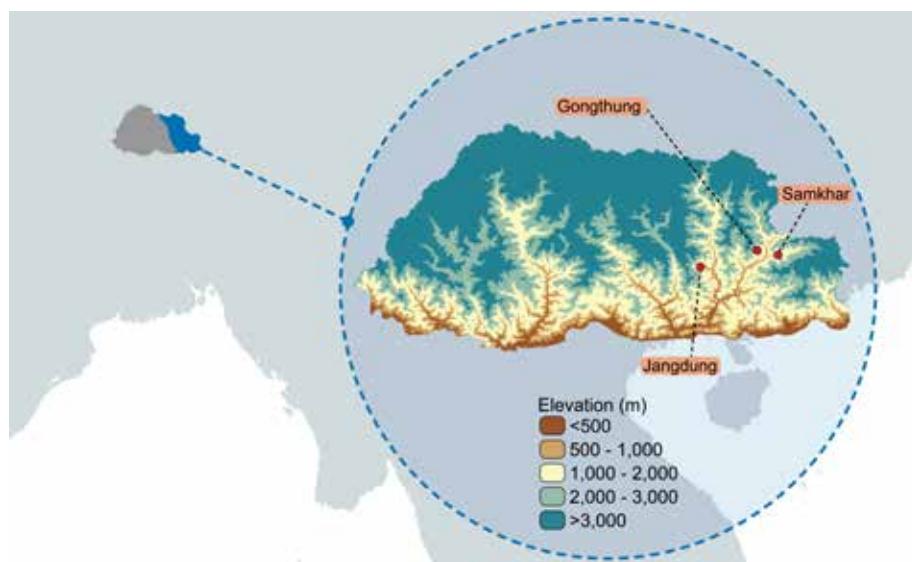
Background

The agriculture sector is crucial to Bhutan's development. Despite taking up a mere 3 per cent of the land area (Meenawat and Sovacool, 2011), the sector supplies 60 per cent of Bhutan's food needs and provides jobs for 65 per cent of the labour force (Bhutan Chamber of Commerce and Industry, 2014). Agricultural production in Bhutan is dominated by small-scale subsistence-oriented farming (Bhutan Ministry of Agriculture and Forests, 2016). The average landholding size in Bhutan is 3.38 acres, with 60 per cent of the households owning plots under 3 acres (Bhutan Ministry of Agriculture and Forests, 2015).

Bhutan's agriculture has not met the country's food needs: a third of the population suffers from food insecurity, and acute malnutrition causes stunting in a third of Bhutanese children (Wandi, 2017). Although food sufficiency is a persistent issue, 26.3 per cent of agricultural land in Bhutan is fallow (Bhutan Chamber of Commerce and Industry, 2014). A career in farming is considered unattractive, especially to young people (Wandi, 2017), contributing to the prevailing rural-urban migration issue that causes a lack of skilled labourers in rural areas.

Major issues in Bhutan's agriculture sector could be attributable to the confluence of sociopolitical and biophysical constraints. With regard to the sociopolitical context, the Government of Bhutan has a history of subsidizing agricultural activities of farmers, which has been held to create a disincentive for diversification and innovation, as well

Figure 4: Location of field sites with elevation and project site



as building farmers' dependence on government support (Santini et al., 2017). Bhutan's highly mountainous terrain results in small and scattered landholdings, underdeveloped infrastructure and difficulties in transporting agricultural commodities and inputs (Bhutan Chamber of Commerce and Industry, 2014). The rough terrain, in combination with recurrent natural calamities, especially frequent landslides during monsoon season, also makes road construction and maintenance costly.

Bhutan has a history of self-imposed isolation from global commercialization. However, this isolation has also aided the preservation of its natural landscape and traditional farming practices, with low usage of synthetic chemicals, endowing Bhutan with a renowned national green image. Bhutan has been hailed internationally for having negative carbon balance (Munawar, 2016). Leveraging that image, the Bhutanese Government is implementing a strategy to establish organic farming at the country level by 2020 (Dorji, 2015) and aim for high-value niche agricultural markets.

The contribution of the private sector to Bhutan's economic growth is still limited (Bhutan Chamber of Commerce and Industry, 2014). With a small population of 800,000, private sector development constantly faces a shortage of labour (Meenawat and Sovacool, 2011). In addition, the private sector is stymied by restrictive government policies and poor infrastructure (Bhutan Chamber of Commerce and Industry, 2014). Private businesses in Bhutan are predominantly microenterprises operating as sole proprietorships and concentrated in the largest cities, focusing on tourism services (Santini et al., 2017). In the agricultural sector, the commercialization level is low and the majority of agricultural enterprises are micro, small and medium, which is considered weak (Asian Development Bank, 2014). In addition, the private sector faces stiff competition with state-supported entities (Santini et al., 2017).

Project Summary

Commercial Agriculture and Resilient Livelihoods Enhancement Programme (CARLEP)

Total cost: US\$31.526 million

Approved IFAD loan: US\$9.3 million

ASAP grant: US\$5 million

Other contributions: Royal Government of Bhutan (US\$5.767 million), Food Corporation of Bhutan Ltd. (US\$4.802 million), beneficiaries (US\$0.659 million), financing gap (US\$6 million)

Project period: 7 years (2015-2022)

Executing agency: Ministry of Agriculture and Forests

Beneficiaries: 28,975 smallholder households

Project objective: increased returns to smallholder farmers through climate-resilient production of crops and lives

CARLEP engagement with the private sector

In CARLEP, the private sector was engaged through two main approaches. In the first engagement, CARLEP focused on creating market linkage between the dairy company Koufuku International Private Ltd. and dairy farmers. In this approach, CARLEP aims to capitalize on existing infrastructure and capacity of the company to create an assured market for dairy farmers.

In the second engagement, CARLEP supported the start-up of agricultural microenterprises. CARLEP invests resources in young microenterprise owners, whose generation is deemed most economically active. This investment is not only to strengthen the value chains, but also to address the prevailing migration issue in the project area.

This project targets six districts (or *dzongkhags* in Bhutanese) in the east of Bhutan. These *dzongkhags* are among those with the roughest terrain and highest level of poverty, and are deemed least developed in terms of agriculture private sector in Bhutan. According to the baseline survey of CARLEP, commercial enterprise in these *dzongkhags* was almost non-existent for agricultural value chains. The lack of an established private sector necessitates that the project support the development of microenterprises.

Market linkage creation

The key actors in this initiative are Koufuku International Private Ltd. and local dairy farmers. Koufuku is a joint venture company between Druk Holding and Investment Ltd. (DHI) and Shin Nippon Biomedical Laboratories Ltd. Until being engaged by CARLEP about five months earlier, profitability of Koufuku declined to the point that the factory was de facto non-operational. The main reason was the lack of quality milk input that could meet the processing standards for the specific cheese types aimed at the Japanese market. Because the milk supply could not meet the hygienic standards of the factory, the business relationship between local farmers and the company weakened as the profitability of the latter diminished. On the other hand, given the lack of an assured outlet for their produce, farmers maintained small-scale production

Table 2: Overview of engagement with Koufuku in CARLEP

Stakeholder	Investment	Benefits/Motivation
CARLEP	<ul style="list-style-type: none"> • Financial investment <ul style="list-style-type: none"> - Procurement of machinery - Provisions of agriculture inputs - Upgrading of facilities • Technical support <ul style="list-style-type: none"> - Training programmes for farmers 	Long-term goals: value chain development and microenterprise establishment
Koufuku	<ul style="list-style-type: none"> • Existing machinery, structure and capacity • Daily transportation from collection centres to the company (> 500 litre) 	Benefits: stable milk supply leading to increased profitability
Dairy farmers	<ul style="list-style-type: none"> • Monthly maintenance of collection and chilling centre • Daily transportation from collection centre to the company (< 500 litre) 	Benefits: assured market, enhanced technical knowledge and resilience

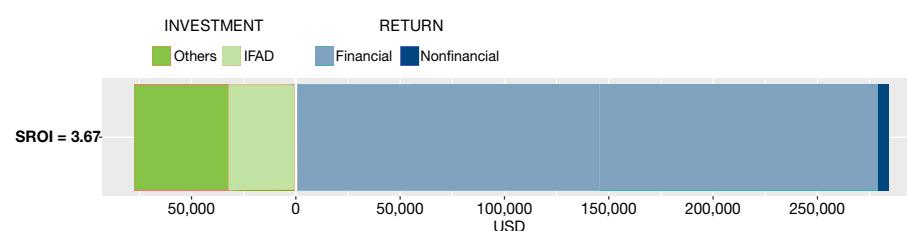
to meet their household needs and the surplus was processed and brought to markets in their neighbourhoods.

Since 2017, IFAD investments have been directed at initiating the connection between these actors and to tap the existing resources available to create a mutually beneficial business relationship, thereby contributing to an improved dairy value chain and enhanced economic resilience of the local people.

Economic returns

Because of the underdeveloped nature of the dairy value chain in the project area, none of the stakeholders in this scheme were requested to develop a business proposal. Investments to the stakeholders were granted without formally committing to future investments into the scheme or a financial analysis that forecast profit in the coming years. In addition to this lack of formal commitment and financial analysis, these schemes were initiated within the last five months of the time of the analysis.

Figure 5: Return on investment in CARLEP's engagement with Koufuku



Therefore, the SROI ratio for CARLEP engagement in market linkage creation was calculated for the current year, instead of five years into the future as with other case studies in Nicaragua, Niger and Viet Nam.

The US\$32,122 investment from IFAD was met with US\$30,982 from Koufuku and US\$14,325 from the farmers calculated in the first year. As a result, total investment size in the first year was US\$77,429, which is close to 2.5 times the investment from IFAD alone. This result shows that the ASAP grant has been successful in leveraging additional investment from other stakeholders.

With regard to the effectiveness of the investment in the first year of the scheme, all of the returns accrue to the farmer beneficiaries as Koufuku has yet to profit. The company reported loss-making operations, as milk supply has not reached the full capacity of the factory, but is expected to reach more farmer milk providers in the near future. On the other hand, farmer groups reported their income from dairy, which increased from 54 per cent to 170 per cent due to higher milk production and improved price. This increase in income has been used to improve their living standard and converted into assets for economic expansion, such as additional procurement of cattle and equipment. Taking into account both financial and non-financial returns (increased resilience and reduced malnutrition), the economic social returns ratio to the IFAD investment is 3.67, which is beyond the cost-effective level of 1:1. This result indicates high effectiveness of IFAD investment in engaging with the Koufuku company as a means to generate additional income for the local community.

Since dairy farmers in this scheme are gathered in groups, the engagement with Koufuku has changed the dynamics in the groups, leading to changes in their size and structure. The addition of new members occurred as previously non-member farmers in the community aspired to access similar opportunities. On the other hand, disagreements on changing group commitments (such as sharing of maintenance and transportation costs) have led some members to withdraw from the groups. However, these withdrawing members did not experience negative impacts on their income, as they continued selling their products in the local market. The high-end niche market of Koufuku is separate from the local market and thus no additional competition was introduced at the local level. In sum, although our framework was unable to capture the financial costs and benefits of these changes, we have not observed any negative impacts on the community.

Counterfactual – what would have been the alternative scenario without engagement from IFAD?

Overall, the counterfactual value was estimated at 13 per cent, meaning that in the absence of these business plans, about 13 per cent of the observed impacts might have taken place. Therefore, engagement of IFAD with these private actors has contributed 87 per cent to the observed total impacts reported by the stakeholders.

Even though IFAD has been active in Bhutan for nearly four decades, ASAP employs a novel approach that has not been attempted in these *dzongkhags* before. Both the actors had a presence in the area before IFAD activities began, but the market linkage between them had not been efficiently established and sustainability maintained. Individually, each actor professed the possibility to have had access to financial support from sources other than IFAD (bank loans for farmers, and capital investment

from the mother group – DHI – for the company), but the timely connectivity was crucial in reigniting the business linkage and kick-starting the gradual scaling up of business for both sides.

"We have funding from the parent company, but the farmer part would have been impossible without CARLEP." – A representative of Koufuku²

"Before CARLEP, production was small scale. Without this, this rise in income could not have occurred. Thanks to connection with an assured market, we get motivated and work hard." – A representative of one farmer group

"CARLEP is different from previous projects in that CARLEP focuses more on marketing and value chain development. Previous projects focused more on the production part... Now the farmers are more comfortable and are more interested to do dairy." – Livestock Officer at Trashigang Dzongkhag

Sustainability of the impacts

Our analysis was limited to the returns in the first year for the lack of formal business plans and nascence of the investment. However, the sustainability of relationship between stakeholders over time is crucial as market linkages previously failed. As expected by both parties and local authorities, the market for dairy products in Bhutan will remain stable and positive, competitors will remain absent, and the government will likely continue to support the dairy value chain in the future. Therefore, the sustainability of the impacts will depend on the capacity of each party (farmers and Koufuku) to maintain and grow their enterprises.

From the farmers' side, sustainability mechanisms include propagation of fodder (two out of four groups), on-farm dairy cows breeding (one out of four groups), and enhancing organization of the group (two out of four groups), so that they can be independent from project support. As for Koufuku, the company's strategy is in line with the national agricultural strategy to aim for high-end niche markets, primarily targeting tourists. This is because tourism is one of Bhutan's major engines of growth (ASEAN Development Bank, Australian AID and JICA, 2013) and catering to this niche market still has potential for growth. We also reported high confidence that Koufuku will increase profitability, in the view of local government and the company itself. In addition, it is unlikely that profit disparity between both parties would emerge in the future as Koufuku is a social enterprise that regards social welfare above profitability. The company's vision is in line with Bhutan's strategy to harmonize economic development with spiritual and emotional well-being in monitoring national progress. Instead of adopting a market-based yardstick of national wealth such as GDP, Bhutan embraces the philosophy of harmonized growth as encapsulated in the idea of Gross National Happiness.

In sum, promising elements for ensuring lasting, positive impacts in the community beyond the time frame of support from IFAD were found even at the early stage of the engagement.

² All names in the report were omitted or changed to protect anonymity of the interviewees.

Start-up support – establishment of microenterprises

In addition to the previous approach that IFAD engaged with an existing private business, IFAD also supported the development of new enterprises. Young and economically active farmers were selected to receive support from IFAD to commercialize their farming activities. All investments were started at the beginning of the year; thus, a financial analysis was impossible since many crops have not completed their first harvest. However, signs of positive impacts have emerged, such as creation of new jobs for the community. This result suggests that the success with these start-up models is a promising way to organize rural labour around more capable farmers, addressing the migration issue in Bhutan via job creation.



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Nicaragua

Background

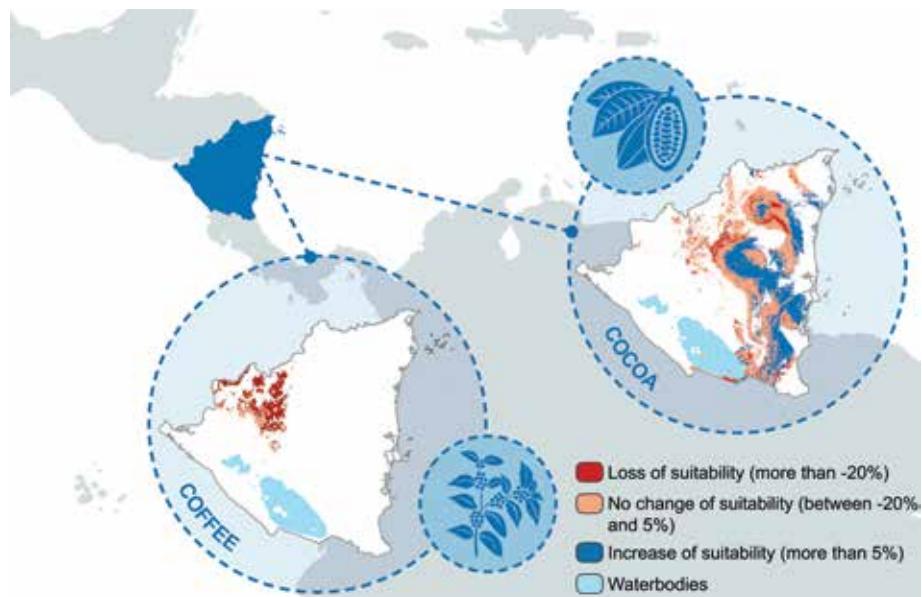
Nicaragua has already experienced substantial climate change, which has contributed to stagnating yields for maize and beans. The country's Arabica coffee sector (*Coffea arabica*) is, after El Salvador, the most exposed globally to progressive climate change (Gourdji et al., 2015; Ovalle-Rivera et al., 2015). In Nicaragua, coffee production accounts for 18.2 per cent (MAGFOR, 2013) of GDP, and is considered a national strategic activity, since it is grown on 127,000 hectares, providing livelihoods for 44,500 families and employing 332,000 workers directly and indirectly (MAGFOR, 2013).

The latest climate impact study conducted by Läderach et al. (2017) shows that currently Arabica coffee has its maximum suitability at elevations 800-1,200 metres above sea level (masl), and models project decreases in suitability by 2050 in more than 90 per cent of the growing areas. At lower altitudes (500-800 masl), the effect is very pronounced, whereas at mid-altitudes (800-1,400 masl), the suitability decreases slightly. However, at higher altitudes (1,400-1,600 masl), new areas in which no coffee is currently grown become suitable by 2050.

Given the importance of coffee and the threat of progressive climate change, it is pivotal to invest in adapting coffee production for Nicaragua's economic development and preserving the livelihoods of thousands of families.

Cocoa, on the other hand, has only become of commercial relevance in Nicaragua over the last decade, but is increasing rapidly in area and importance. Cocoa as an agroforestry crop also offers a good substitute for Arabica coffee. Its production is also affected by climatic variability, in particular by rust disease and excessive rains, but

Figure 6: Projected future suitability (2050) of coffee and cocoa in Nicaragua



it has proved to adapt much better and is predicted to become more suitable in the future (Läderach and Van Asten, 2012).

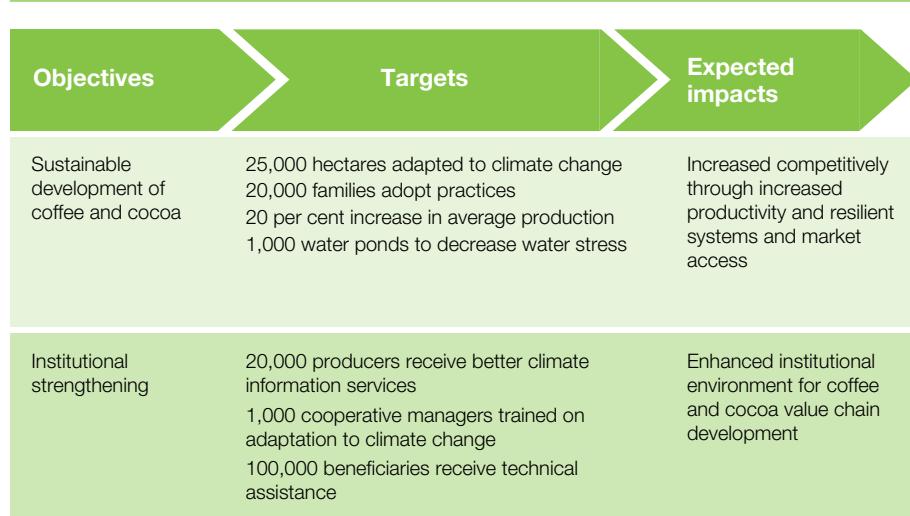
That is why the Adapting to Markets and Climate Change Project (NICADAPTA) is investing in sustainable development of coffee and cocoa productivity and strengthening institutions to confront the threats of climate change. This includes training of cooperatives to access markets and improve coffee and cocoa quality and yields through better production and business management. Investments in productive infrastructure such as water storage and means to standardize size and quality of coffee and cacao beans are deployed in combination with sustainable water and environment management and training in good agricultural practices.

Institutional strengthening is achieved by promoting services to increase the capacity of cooperatives and public institutions in production and dissemination of climate-resilient technologies and agro-climatic information, with an emphasis on disease control. This is done in combination with policy dialogue with the government and cooperating agencies to promote and strengthen coffee and cocoa production, as well as brokering and facilitating private investments.

Cooperatives in climatically vulnerable and promising coffee and cocoa growing areas have been invited to submit business plans, which were reviewed and selected jointly by the ministry and IFAD. Eighty-four plans have so far been approved and are being implemented across all the main coffee and cocoa growing areas.

Each investment plan is a mix of grant and loan. Cooperatives and farmers typically contribute 5 per cent in kind and 10 per cent cash, while IFAD contributes 85 per cent to the cooperative, of which about 45 per cent is a donation and 40 per cent a loan to the government. The loan is cofinanced by the Central American Bank for Economic Integration and rural development banks.

Figure 7: Summary of objectives, targets and expected results for NICADAPTA



NICADAPTA engagement with the private sector

Project Summary

Adapting to Markets and Climate Change Project (NICADAPTA)

Total cost: US\$37.0 million

Approved IFAD loan: US\$8.1 million

ASAP grant: US\$8.0 million

Other contributions: Republic of Nicaragua (US\$3.4 million), beneficiaries (US\$2.6 million) and Central American Bank for Economic Integration US\$7.0 million)

Project period: 5 years (2014-2019)

Executing agency: Ministry of Family, Community, Cooperative and Associative Economy (MEFCA)

Beneficiaries: 100,000 smallholder households

Project objective: Raise the living standards of rural families by improving access to markets and reducing their vulnerability to climate change

Leveraged economic value for different development outcomes

By enabling private sector engagement, NICADAPTA contributes to increased financial value (84 per cent of total value), such as improvements in income and resilience (figure 8). The financial value is due to a predicted increase in productivity of coffee and an increase in the cocoa-producing area, as well as due to newly planted varieties and climate-resilient management. Post-harvest infrastructure and training generate added value through improved quality, diversification of products and direct trade. Several NICADAPTA co-ops have also launched their own coffee or chocolate products and brands for national markets, further boosting their income through bypassing intermediaries. Increased resilience is achieved through increased asset ownership, but also through diversified product ranges and long-term employment at the cooperative.

Box 1: Cooperatives in Nicaragua and NICADAPTA

Cooperatives as drivers of rural development in Nicaragua

In Nicaragua, over half of the national income comes from cooperatives (producer organizations) and small family businesses, together called “the popular economy”. The popular economy is the main economic driver in the country. The cooperative movement has had a long trajectory and goes back to the 1920s. Cooperatives are owned and governed by their members. Large cooperatives usually maintain full-time staff, whereas small ones depend on volunteers. Cooperatives are considered in NICADAPTA as the private sector, because their main objective is aggregating and marketing produce to achieve better conditions for farmers.

In addition, they often serve as credit facilities to members for production- and non-production-related loans, as well as providing training and extension services, and selling agricultural inputs at low cost to members.

At the cooperative, we all support each other; we know that we can only improve our livelihoods jointly. Through the cooperative we can market our coffee jointly, access credit, projects and support, which we would not be able to do on our own. (Farmer, former manager and founder of Coop. Augusto Cesar Sandino).

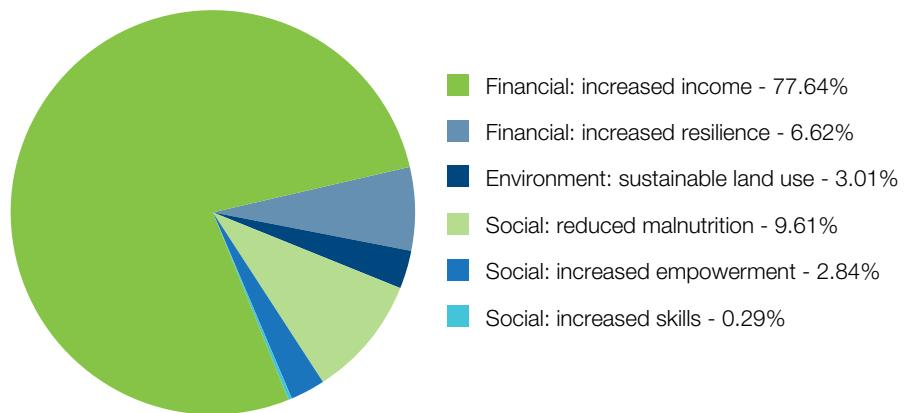
“We don’t depend on intermediaries anymore; our coffee is marketed with UTZ, Fair Trade or Organic labels and we directly contract the coffee processing and exportation.” – Manager cooperative Flor de Café, Murra Nueva Segovia

Social value created accounts for 13 per cent and includes reduced malnutrition, increased skills and empowerment. Farmers and cooperative workers all state that increased income is used for better and healthier diets, which decreases malnutrition. Farmers receive training on good agricultural practice and climate change, while cooperative employees receive training related to strengthening the institution as well as climate change. Farmers and cooperative workers feel empowered by the trainings, both by learning on the job and to the evolution and success of the cooperative. The cooperatives’ social funds supported by increased economic earnings also support their all-round well-being.

“The impact of NICADAPTA and my employment at the cooperative Augusto Cesar Sandino has been very positive and opened a unique professional opportunity.”
– A co-op investment accountant

Environmental value leveraged accounts for 3 per cent of the economic returns and revolves mainly around the use of more sustainable practices, such as planting resistant and adapted varieties under agroforestry systems, use of organic fertilizer, decreased dependency on chemical inputs, water harvesting and water-saving infrastructure. The benefits also include rehabilitation of rangeland for cocoa and coffee agroforestry systems.

Figure 8: Distribution of value leveraged through NICADAPTA by outcomes



Overall increased resilience and sustainable land use is likely to be achieved through additional income and assets, diversified product ranges and decreasing dependency on external inputs as more resistant varieties are being planted and locally available organic fertilizer is being used. Cocoa farmers and farmers from small co-ops state that they save part of their additional income to build their resources/resilience.

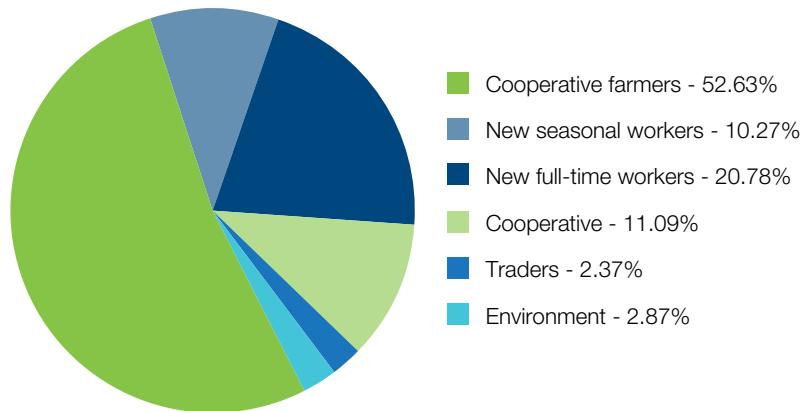
"I am coming to the cooperative as if it were my house. I have a very close relationship and trust with all the employees at all levels of the cooperative." – A farmer at Cooperative el Polo, Yali.

Leveraged economic returns for different stakeholders

On average, more than half of the economic returns benefit smallholder farmers of the cooperatives, and another 31 per cent the seasonal farm workers and the permanent employees at cooperatives. As the productivity of the entire system and the area is predicted to increase, the benefit to seasonal workers will likely be long term in nature. Most cooperatives will maintain around half of the additional permanent staff that run NICADAPTA after the programme finishes; the cooperatives that manage to establish new products and brands plan to retain all those additional workers.

Several local, national and international traders and intermediaries are losing market share as the cooperatives trade directly and become more empowered. This accounts for minus 2.4 per cent of the total value. Cooperative income increases proportionally to farmers' income, as a percentage or fixed amount on the produce sold is used to sustain the cooperative. The distribution among actors between coffee and cocoa cooperatives is very similar, but there are some notable differences between smaller and larger co-ops. In the larger cooperatives, farmers get a larger share of the total value, but seasonal workers are larger beneficiaries of the small co-op model.

Figure 9: Distribution of value leveraged by NICADAPTA by stakeholders



"For the implementation of the investment plan, we hired six full-time staff of which we plan to maintain five at the end of NICADAPTA; we hired three additional permanent staff for processing and marketing the national coffee brand that we launched." – Extension agronomist, Cooperative, 20th of April, Quilalí

Social returns on investment for small and large cooperatives and for cocoa and coffee

The social returns on investment (SROI) analysis shows that small investments generate higher SROIs; however, smaller IFAD investments tend to galvanize less investment from other banks and partners. In other words, the total value per farmer for the small co-op investments is more than double that of the large co-op investments, whereas the total investment per farmer for the small co-op investments is only 5 per cent higher than the investment per capita for the large co-op investments.

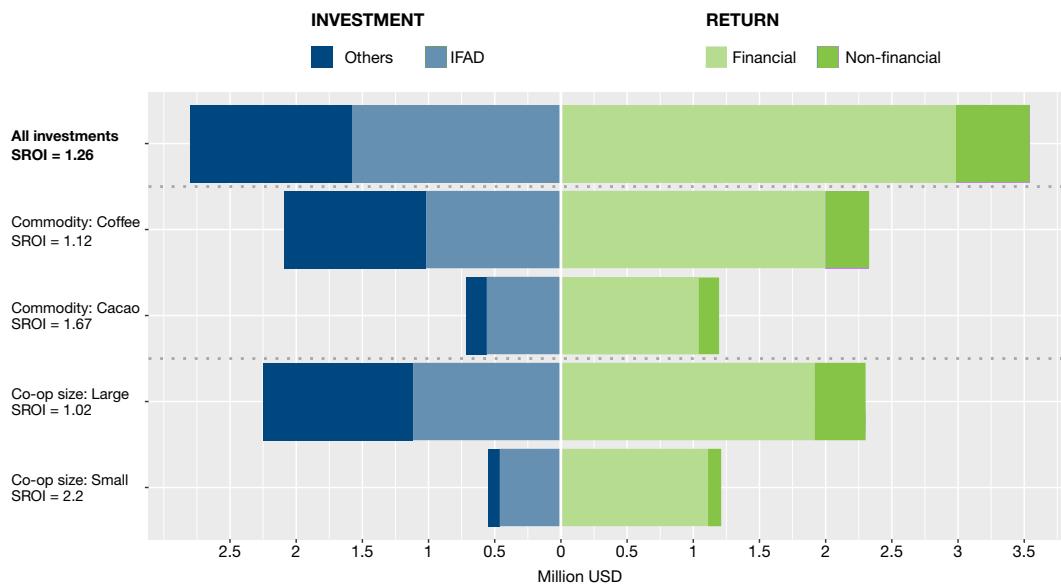
The sensitivity analysis shows that the return on investment ranges between around 1.1 and 1.4 (with a base case of 1.26). The upper bound is calculated through having 100 per cent confidence in the business plans and the lower bound is employing the counterfactual estimate of the cooperatives over the more pessimistic estimates (used in the base case) of the third-party interviewees. This means that for the large cooperatives and coffee cooperatives the range is either side of 1, which makes them potentially a less valuable investment, but the cacao and small co-op investments are more valuable investments.

Counterfactual

Overall, the counterfactual value was estimated at 1.5 per cent and restricted to environmental impacts, meaning that in the absence of these business plans, about 1.5 per cent of the observed impacts might have taken place. Therefore, engagement of IFAD with these private actors has contributed 98.5 per cent to the observed total impacts reported by the stakeholders.

In answer to the hypothetical question of what would have been the alternative scenario without engagement from IFAD, the cooperatives felt that it would have been

Figure 10: Social return of investment, size of investment and return across cocoa, coffee, small and large cooperatives



almost impossible to obtain financial support without NICADAPTA. Representatives of the cooperatives state that they could potentially get loans or microcredits, but not at the same rate or amounts as through NICADAPTA. Often, they would not even be able to get access to finance because of the lack of guarantees. NICADAPTA is not only facilitating financial support, but also technical support through the implementing Ministry of Family, Community, Cooperative and Associative Economy.



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Niger

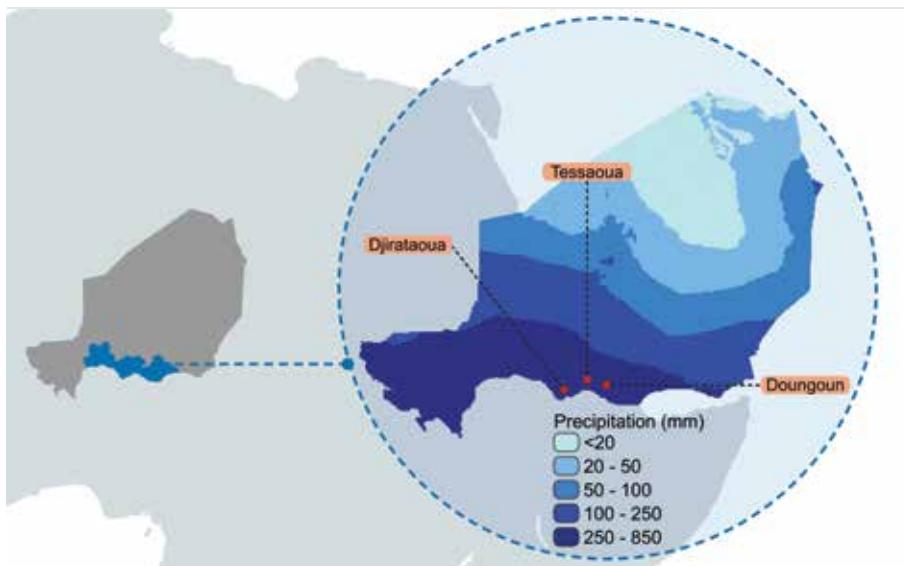
Background

Niger is considered one of the least developed countries by many measurements. The country was ranked second lowest in the Human Development Index (United Nations Development Programme, 2017), its per capita GDP is the third lowest (World Bank, 2017), and ease of doing business was ranked 144th out of 190 countries in the world (World Bank, 2018). The agriculture sector contributes 42 per cent of GDP, employs over 80 per cent of the country's population and is the second largest source of exports after mining (Republique du Niger, 2016). Over 80 per cent of the population lives in rural areas and 95 per cent of the agricultural land is in the hands of resource-poor subsistence farmers (Wildemeersch et al., 2015).

Food security is a chronic issue in Niger, with an estimated 22 per cent of the population suffering from food insecurity (Zakari, 2014). A shortage of skilled labour is also a challenge to Niger's development, and the literacy rate is only 19.1 per cent (Central Intelligence Agency, 2018). A weak industrial sector also provides limited employment opportunities outside agriculture, accounting for only 4 per cent of the labour force and 4 per cent of GDP (Central Intelligence Agency, 2018). In addition, Niger's population growth in 2016 was a strong 3.8 per cent (the third highest globally, World Bank, 2017), which results in increased pressure on fertile land.

Agriculture production in Niger faces serious challenges from hostile natural conditions due to its arid climate and landlocked position. The Sahara desert covers 77 per cent of the country's area (Republique du Niger, 2016), and the limited fertile land is mostly in the southern part of the country, resulting in 60 per cent of the population being concentrated in Maradi, Tahoua and Zinder, which are the project

Figure 11: Location of field sites and precipitation map of Niger (mm).
The project area is highlighted in blue in the country map.



regions. These three regions are the market gardening production areas, with vibrant cross-border trading with Nigeria.

With a hostile climate marked by very low precipitation and high temperatures, the lack of irrigation is a major challenge. This challenge is likely to exacerbate with the prospect of climate change that entails temperature increase and changes in extreme weather events, such as droughts. Irrigated cropping accounts for 30 per cent of agricultural production, 90 per cent of exports and is increasing in importance (IFAD, 2015). As the country is susceptible to recurring droughts, the reduction in agricultural production remains a perennial problem, leading to increased food insecurity. Smallholder farmers, with 2-6 hectare plots, are the main producers and represent the bulk of economic actors in the country (IFAD, 2015). However, they lack both the financial and non-financial resources to invest in technologies such as irrigation systems to cope with recurring shocks.

Access to financial services in rural areas in Niger is considered extremely limited and farmers are thwarted by high banking fees, having almost no access to bank credit to invest in irrigation. The agriculture sector is often excluded from the banking sector's investment strategy, as banks perceive the agriculture sector risky due to the volatility of yield and price. As a result, the agriculture sector only received 1.5 per cent of bank lending to the private sector (World Bank, 2011). Overall, financial inclusion is low, with less than 5 per cent of the population using banking products and 1.6 per cent owning a bank account (Making Finance Work for Africa, 2018).

To address this, the Government of Niger in 2012 launched the 3N Initiative, which aims to further develop and strengthen the agriculture sector (Republique du Niger, 2016). One of its pillars is to support irrigation to increase yields, focusing on large-scale irrigation as well as community-based irrigation and resilient agriculture. In order to implement the initiative, the Government supports and finances projects

that combine “classic” public grant funding, private funds (such as banks, microcredit institutions) and public-private partnerships. The cost-sharing activities implemented by the Family Farming Development Programme (ProDAF) in Niger and detailed in this case study fall into this category, mixing grants and loans from the banking sector, to develop smallholder irrigation systems.

ProDAF engagement with the private sector

ProDAF has partnered with formal private credit lenders (banks and microcredit institutions) to set up a cost-sharing financing scheme for smallholders engaging in commercial farming. There are two types of beneficiaries: individual farmers and farmer cooperatives, which are groups of farmers that have registered legal entities. The scheme funds business activities that include irrigation infrastructure (e.g. construction of water wells, motor pumps and irrigation networks). The participants are assessed by the banking actors to ensure profitability and commit to finance 10 per cent of the business plan. ProDAF provides grants equal to 40 per cent of the project value, and a loan equal to 50 per cent of the project value is provided by the banks (table 1). This scheme aims to galvanize resources from and distribute risks among all actors: the farmer beneficiaries, the private bank and IFAD. Investment from IFAD was necessary to incite interest from the private bank, as a lack of trust was deemed a barrier to improving access to credit in Niger. Based on the initial progress (123 hectares irrigated through the investments), the stakeholders reflected on the changes they have experienced and project future impacts in a participatory process.

Project Summary

Family Farming Development Programme (ProDAF)

Total cost: US\$205.4 million

IFAD loan and DSF loan: US\$97 million

ASAP grant: US\$13 million

Other contributions: Republic of Niger (US\$33.4 million), OFID (US\$15 million), beneficiaries (US\$11.1 million), Italian Cooperation (US\$28.2 million), GEF (US\$7.6 million)

Project period: 8 years (2015-2023)

Executing agency: ProDAF National Advisory Assistance Unit

Beneficiaries: 290,000 smallholder households

Project objective: Contribute to ensure durable food security and resilience of rural households of Maradi, Tahoua and Zinder regions

Project components: (1) developing sustainable smallholder farming through strengthening production basins; and (2) strengthening markets in these basins through developing infrastructure and strengthening economic actors

Table 3: Summary of stakeholders, investments and benefits/motivations in ProDAF

Stakeholder	Investment	Benefits/ motivation	Target over the course of the project
ProDAF	40 per cent of business plan (as a grant)	Long-term goals: value chain development and microenterprise establishment	4,300 hectares of land to be irrigated with cost shared by ProDAF equivalent to US\$4,334,400
Farmers/ cooperatives (private sector)	10 per cent of business plan	Benefits: stable milk supply leading to increased profitability	700 off-farm microenterprises to have business plans funded with cost shared by ProDAF
Commercial bank (private sector)	50 per cent of the business plan (as a loan); review of applications and managing investment; training of farmers	Benefits: assured market, enhanced technical knowledge and resilience	grant value of US\$671,910

ProDAF has engaged with three credit lenders: the Agriculture Bank of Niger (BAGRI), ASUSU and MECAT (both as microfinance institutions) to run the selection process and operate the initiative with farmers and agriculture cooperatives. ProDAF signed a partnership agreement with the three lenders and deposits the grant amounts regularly into their accounts after the previous instalments are disbursed. ProDAF's involvement is limited to the conditional deposit of the grant into the accounts of the lenders, who manage the entire scheme. This financing mechanism galvanizes not only the financial resources from the banks but also their expertise in supervising the

Credit lenders in the agricultural sector in Niger

There are two main types of official credit lenders: banks and microfinance institutions (MFIs). The banking sector has an urban bias, while MFIs have a more active presence in rural areas. In rural areas, bank loans are mostly offered to large companies, while MFIs target low-income clients. However, the MFIs are considered weak and highly dependent on donor subsidies. Banks can offer refinancing to MFIs.

The Agricultural Development Bank of Niger (BAGRI) was established in 2010 by the Government as an effort to tackle the lack of rural finance. ASUSU is Niger's largest MFI by asset size (World Bank, 2011). ASUSU and BAGRI are active in all three regions; MECAT is active only in Maradi.

In November 2017, when this study was conducted, a total of 123 hectares had been irrigated.

investments. In particular, MECAT provides training to the farmers in order to ensure their ability to pay back their loans.

"Our approach, to ensure that they repay, is to firstly provide financial training to teach them how to negotiate their credit and manage their budget before they submit their application." – Managing Director of an MFI

Leveraged economic value for different development outcomes and stakeholders

ProDAF investment in business plans with engagement from the formal private credit lenders contributes to better financial and social outcomes. Most (99.6 per cent) of the economic returns to investment are financial, of which a large part is increased income (67.5 per cent of all economic returns). All of the farmers and cooperatives interviewed reported a significant increase in their income levels. The newly built irrigation system has enabled them to cultivate in larger or new areas, or to resume farming activities and thus increase their production and income.

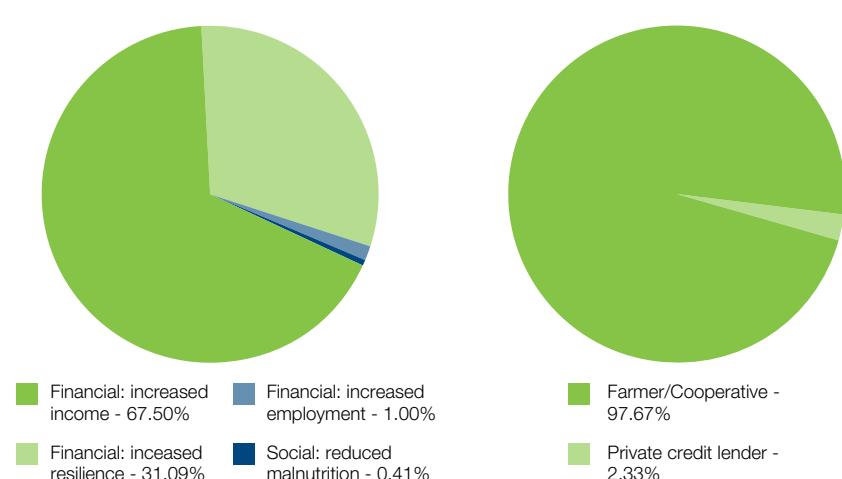
"For many years, I had to stop gardening because my well was dry. With this financing mechanism, I will be able to resume my market gardening activity."
– Tessaoua market gardening farmer

On average, farmers reported an expected increase in production of 338 per cent as a result of improved irrigation. Based on the progress of the activities, the projected increase in income over five years for farmers linked with MECAT, BAGRI and ASUSU are, respectively, US\$5,500, US\$3,600 and US\$1,700 on average.

"I want to change categories and become a big producer. I own another hectare and want to create value out of it." – Doungoun rainfed and market gardening farmer

While investments were made within the second half of 2017 and are at a very early stage, we reported confidence of success from both the banks and farmers because farmers/cooperatives funded in this scheme are experienced in commercial farming

Figure 12: Distribution of values by outcomes and stakeholders in ProDAF



and deemed by the private lenders to be financially capable to pay back loans. Investments managed by MECAT in particular were assessed with a high degree of confidence of success, partly due to the training component: MECAT applicants must undergo a finance and budget management training to be eligible. MECAT reported this training to be a key feature to ensure recovery of monies lent.

Increased resilience of farmers/cooperatives contributes 31 per cent to all the economic returns and was self-reported by 67 per cent of interviewees. This is a result of income converted into financial assets such as savings that could enhance their resilience to future shocks like climate change. Though we were unable to quantify it, the increased income would lead to an increase in non-financial assets like livestock (88.9 per cent of interviewees) and additional investment in education for children and vocational training (66.7 per cent of interviewees). Though only 0.4 per cent of the return is in reduced malnutrition, this effect is observed in 100 per cent of the interviewed farmers. All of the beneficiaries reported that with increased income, their meals are improved.

By stakeholder, most (98 per cent) of the returns are to the farmer/cooperative beneficiaries, while only 2 per cent goes to the private credit lenders. Returns to lenders are interest from the loan; therefore, they are relative to the investment size.

Social returns on investment ratios

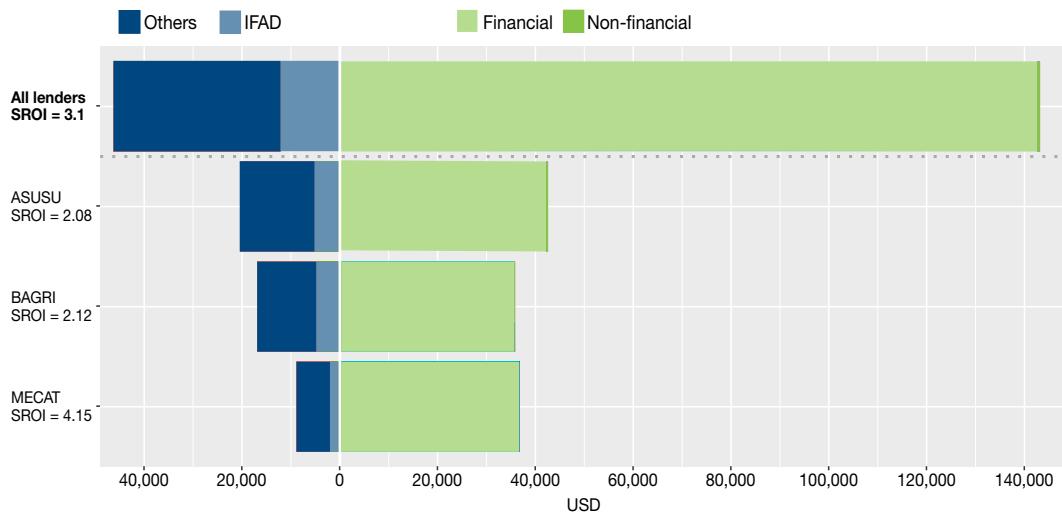
The overall economic SROI ratio across all investments is 3.1, the economic SROI for IFAD investment is 11.9 (table 4), suggesting a high success level of IFAD in mobilizing resources from other stakeholders. A ratio above 1:1 indicates cost-effective investments.

Table 4: Social return on investment ratios across and by each of the three lenders

	Total SROI	IFAD SROI
Total	3.1	11.91
ASUSU	2.08	8.22
BAGRI	2.12	7.45
MECAT	4.15	18.24

These results show that the investments studied in this case study are cost-effective. These also indicate that IFAD has successfully attracted resources from other actors, especially the credit lenders in Niger, in investing in irrigation systems at the plot level, addressing one of the most pressing issues for agriculture in the country. In addition, these ratios are likely to be an underestimate, as the non-financial investment from the private banks have not been fully captured given the nascence of the investments. First, training provided by MECAT was deemed an important factor in enhancing payback capacity of the farmers, which reflects their ability to manage farm businesses. Moreover, the banks also contributed time and expertise, which

Figure 13: Returns to investments, size of investment and return



does not necessarily incur additional costs from their perspective but are highly valuable in the operation of the investments.

Counterfactual

Overall, the counterfactual value was estimated at 14 per cent. This means that in the absence of these business plans, about 14 per cent of the observed impacts might have taken place. Therefore, engagement of IFAD with these private actors has contributed 86 per cent to the observed total impacts reported by the stakeholders.

When asked about a hypothetical scenario in which the farmers/cooperatives had not obtained IFAD investment, 67 per cent of them reported that they would not have looked for other funding, 33 per cent stated that they might have actively looked for alternative funding, and only 10 per cent reported a high likelihood to have sought other funding. These results are supported by the lenders: none of the lenders reported confidence that the respective business plan would have been funded by other schemes, and only 22 per cent stated that they might have actively looked for alternative funding. These results suggest that both stakeholders have low confidence in successful access to alternative funding and suggest that IFAD investment has filled in a niche that was not addressed by other actors in the three regions.

One of the reasons why this niche has not been filled is due to lenders' lack of confidence in farmers' ability to pay back their loans. With agricultural production extremely vulnerable to climatic variation, lenders were unwilling to shoulder the risks of farmers:

"We have a big problem today – the banks do not have confidence in the agricultural sector. [...] The goal isn't quantity; the goal is to finance the producers who can be financed... In the long run, we want to restore trust between the banks and the producers." – Official at the Regional Chamber of Agriculture in Maradi

Without IFAD's contribution to the schemes, lenders reported being unable to contract loans with similar size to these low-income clients, as the schemes would have exceeded the credit line of the lenders. Thus, IFAD engagement with the private sector (i.e. a 40 per cent grant attached to an irrigation project) has lowered the barrier to lenders' engagement and supported the inclusion of vulnerable farmers.

Therefore, without the engagement of ASAP with the private sector, these smallholder farmers/cooperatives would likely not have been able to invest in plot-level irrigation. While the data available do not suffice to extend this conclusion to the entire scheme, it is reasonable to assume that it is applicable, considering the banking actors' investment strategy is the same across regions and the economic development spectrum.



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Viet Nam

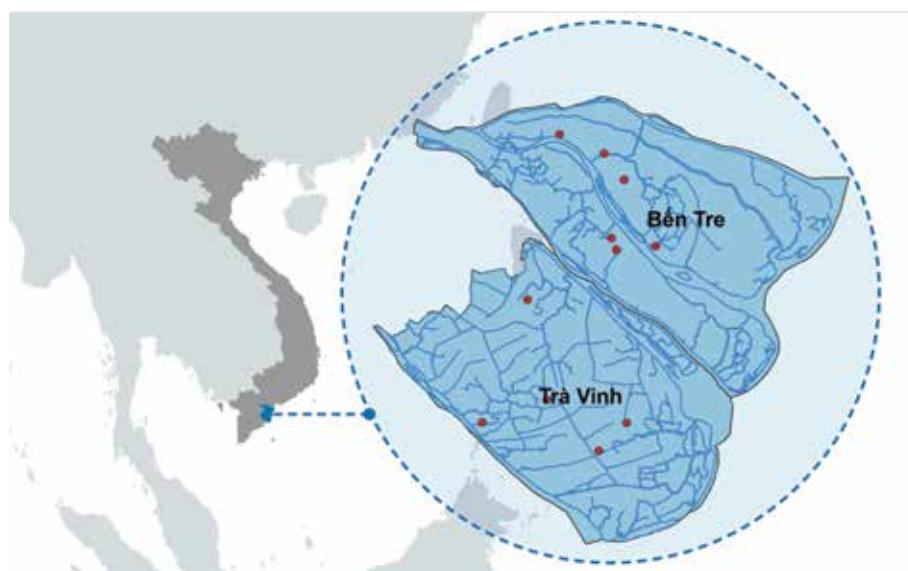
Background

Viet Nam has experienced remarkable economic growth in recent decades, becoming one of the most dynamic emerging countries in Asia. Since the economic and political reforms launched in 1986, the country transformed itself, achieving a lower-middle-income country in 2011. Viet Nam has quickly transitioned from a substantially agrarian economy to an export-oriented manufacturing, industry and service-based economy. In its economic transformation, the Viet Nam agriculture sector remains an important driver for growth and poverty reduction, contributing on average about 20 per cent of GDP in the past five years (World Bank, 2017) and providing jobs for 42 per cent of the labour force in 2016 (General Statistics Office of Viet Nam, 2017).

As part of the economic transition, Viet Nam rural livelihoods have experienced a strong diversification trend. Between 2008 and 2012, 22 per cent of rural households involved only in agriculture have diversified their income, mostly to supplement agriculture with labour activities. Diversification into household enterprise is deemed the most beneficial means by which to generate income and improve families' welfare (Newman and Kinghan, 2015).

A large part of Viet Nam's success in economic development came as a result of the blossoming private sector. As of 2015, close to 513,000 enterprises were operational in Viet Nam, providing jobs for 12.8 million labourers (Vietnam Chamber of Commerce and Industry, 2015). The agriculture sector in Viet Nam still experiences high growth in terms of the number of newly registered enterprises, though investment is disproportionately low, preventing the sector from fully realizing its growth potential.

Figure 14: Location of field sites and waterways



The Mekong River Delta is the main crop production area of Viet Nam. However, this area is highly vulnerable to climate change impacts, especially sea level rise. Thus, the communities in the provinces Ben Tre and Tra Vinh, which are the target provinces of IFAD investment, are at risk for increasingly constrained livelihood options as a direct result of salinization (Lan et al., 2016). Developing climate-smart value chains that are inclusive and adaptive to climate change would be a solution to ensure that vulnerable rural populations are benefited by the IFAD investment and experience sustainable impacts.

Adaptation to Climate Change in the Mekong Delta (AMD) Project engagement with the private sector

In this project, private sector engagement is facilitated via a public-private partnership. A grant scheme was established to finance the companies' business plans that could develop pro-poor and climate-change-resilient value chains. In order to be eligible for an IFAD grant, the companies must demonstrate that farmers, especially marginalized groups (poor, woman-headed, ethnic minority households) benefit directly from the business plan.

This initiative aims to mobilize resources from the private sector by offering them a financial incentive with conditions. With this approach, the development of private companies is bound to the development of communities, especially the marginalized groups. As a result, a co-development process is facilitated.

Project Summary

Adaptation to Climate Change in the Mekong Delta (AMD)

Total cost: US\$49.3 million

Approved IFAD loan: US\$22 million

ASAP grant: US\$12 million

Other contributions: Government of Viet Nam (US\$7.6 million), beneficiaries (US\$7.8 million)

Project period: Six years (2014-2020)

Executing agency: Provincial People's Committees of Ben Tre and Tra Vinh provinces

Beneficiaries: 124,800 smallholder households

Project objective: To strengthen the adaptive capacity of target communities and institutions to better contend with climate change

Table 5. Overview of engagement with the private sector in AMD

Stakeholder	Investment	Benefits/motivation
AMD	Cofinances up to 49 per cent of the business plan (in the form of grant)	Long-term motivations: inclusive development
Commercial enterprises	Cofinances at least 51 per cent of the business plan (at least 21 per cent in cash and 30 per cent in kind)	Benefits: business plans funded that support business expansion or diversification, and overall contribute to business resilience by: - enhancing the capacity of workers/farmers that supply produce; - upgrading infrastructure and technology; - improving loyalty with workers/farmers that supply produce
Farmer households/workers	Time investment in participating in trainings	Benefits: job creation, increased income and resilience as a result of enhanced capacity and organization in groups

The private companies that were engaged with AMD vary in size, with net value ranging from US\$12,000 to US\$27 million, and various legal status (e.g. sole proprietorship, limited liability companies and joint stock companies). In-depth interviews were conducted to assess 10 business plans, of which 6 are MSMEs and the remaining four are domestic corporations (including joint stock and limited liability companies). Domestic corporations are higher value and more advanced business management models than the MSMEs (Vietnam Chamber of Commerce and Industry, 2015).

In the business plans, different approaches were used to establish the linkage between the companies and farmers. Financial approaches included up-front payment and revolving funds. Up-front payment functions as a market insurance for

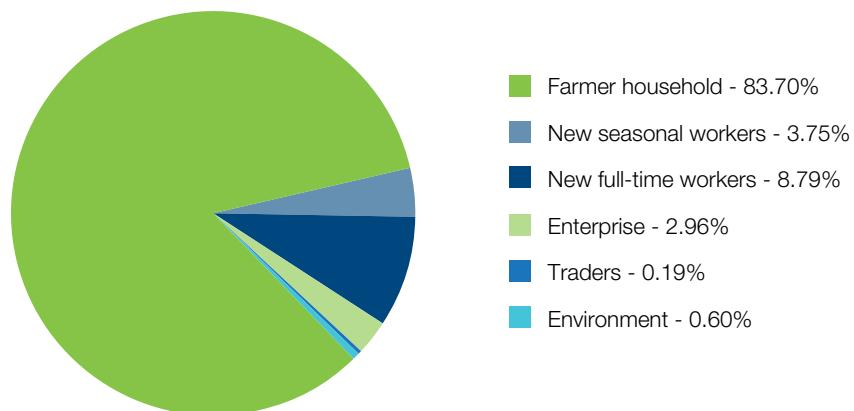
farmers' produce, encouraging farmers to invest in good cropping practices and select high-quality seeds, which eventually ensures high-quality supplies to enterprises. Revolving funds are to be managed by the farmers in the group and to meet their daily needs. The funds function as a financial mechanism to foster communication among the groups and improve their cohesiveness. The establishment of workers'/farmers' cooperatives with an elected head is a social tool to organize communication between companies and farmers/workers, especially for quality control of production, training programmes, and reducing the need for traders.

Leveraged economic value for different development stakeholders

Most (96.6 per cent) of the economic returns are to farmers and workers. The increased financial income to the stakeholders is skewed towards farmers: the enterprises reported little improvement to their profits, while the local community experienced significant improvements to their livelihoods. Of the enterprises, only 20 per cent reported an increase in profit, 60 per cent reported no significant change to their profit level, and 20 per cent reported losses, citing unfavourable climate as the main factor. The low returns to the enterprises could be attributed to the early stage of the investments, which might require more time to be fully realized. On the other hand, 74 per cent of the workers and supply farmers reported an increase in income, as expressed in monetary value or possession of additional cattle, and the remaining 26 per cent reported no or insignificant change to their income.

"All of our family income is from making brooms in this facility. Before working here, our livelihood was salt-making. I do not keep track how much, but working here gives us a more stable and higher income that we can use to improve our life, our meals and put a little aside for savings." – A woman worker at the coconut-leaf broom-making facility, near-poor household

Figure 15: Distribution of value by stakeholder in AMD



Leveraged economic value for different development outcomes

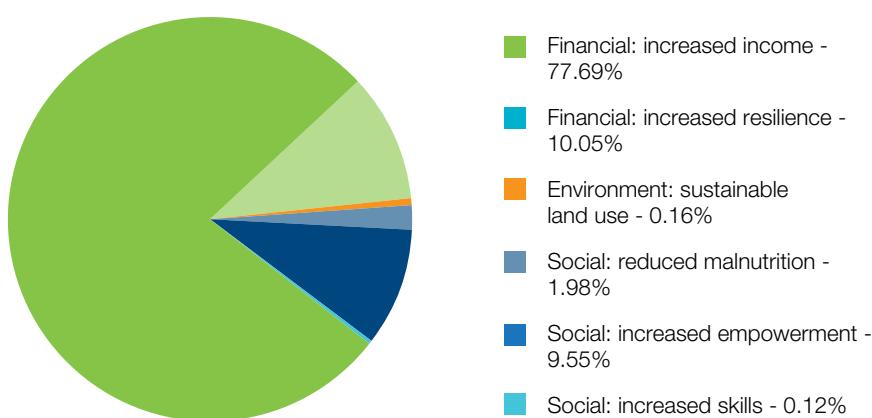
The funded business plans have led to economic returns on several fronts, most of which are financial (87.7 per cent), of which the majority are in the form of increased income (77.7 per cent). The investments have also reduced foreseeable loss compared to business as usual, and this loss reduction is considered incremental economic gain for private enterprises.

"To be honest, a year into this PPP, our profit has not increased. This year, the price dropped horribly but we kept the same price [as agreed in the beginning] with the supply households. This scheme has buffered our loss." – Head of an enterprise in Tra Vinh

Social returns (11.7 per cent) came as a result of improved meals, improved empowerment by dealing directly with buyers and increasing the share of the margin to suppliers, and improved skills for the workers. Evidence of emerging social benefits has been observed in the local community: all enterprises are confident that implementation of the IFAD-funded business plans has improved the relationship between enterprises and workers or farmers. This view is supported by all the local authorities interviewed. From the farmers/workers' end, 79 per cent of those interviewed said that they would stay committed and had not or would not consider changing employers or buyer enterprises. Environmental improvements account for 0.6 per cent of value leveraged as a result of conversion to organic practices in coconut planting, reducing the use of chemical inputs.

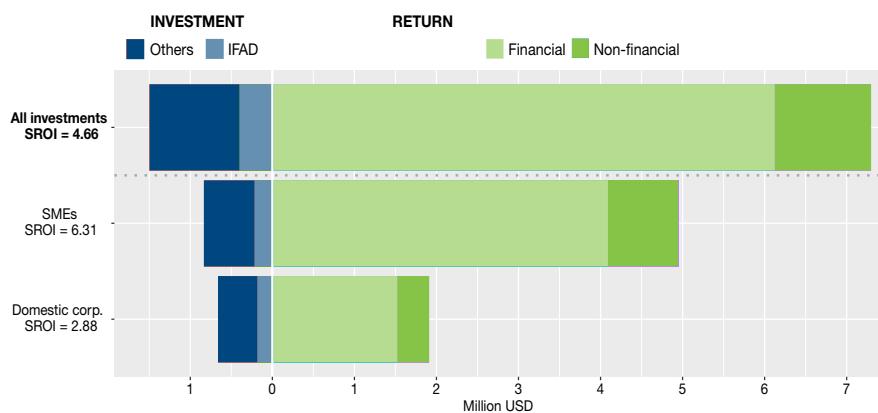
"About half of my family income is from selling coconut to this company. Before being included in their organic programme, the traders put a lot of pressure on the price. My income is now higher. I do not keep track how much... I bought two goats and a cow last year... I can improve the meals and send my daughter to more classes." – A woman household head and farmer-coconut supplier to an enterprise

Figure 16: Distribution of value by outcome in AMD



Social returns on investment in Viet Nam

Figure 17: Social returns on investment in AMD across and by each business category



The total investment size was close to US\$1.5 million, of which the contribution from IFAD amounted to US\$0.4 million and the remaining US\$1.1 million was leveraged from private companies. The present value of all economic returns as a result of this investment over five years was calculated to be close to US\$7 million, giving a total SROI ratio of 4.7 (table 6). SROI ratios for IFAD engagement with the private sector in Viet Nam are above 1:1, the level at which investments are considered cost-effective. These SROI ratios indicate the effectiveness of the IFAD investments.

The large difference between the IFAD SROI and total SROI ratios indicates that IFAD has been successful in leveraging additional sources of private sector funding. By bringing the private companies in, IFAD has been successful in further improving the lives of farmers and workers, especially the most vulnerable. Resources from the private sector that have been galvanized include their existing facility and business structure, technical capacity in training programmes, as well as financial resources invested into the business model.

Table 6. Social returns on investment ratios across business types

	Total SROI	IFAD SROI
Total	4.7	15.3
Domestic corp.	2.9	8.3
MSMEs	6.3	18.8

Disaggregating the SROI for the two business models shows a higher SROI in engaging with MSMEs than with domestic corporations. This result suggests higher cost-effectiveness for IFAD in investing in linkages with the simpler, lower-capacity businesses. MSMEs operate on a less sophisticated model with lower revenue and are mostly run by families or evolved from farmer groups or cooperatives that maintain historical ties with local people, including their supply farmers and workers. This might explain the lower proportion of returns to be distributed to the enterprises in the MSME models compared to those of the domestic corporations.

However, another important issue is whether the positive impacts can be maintained by the enterprises sustainably. In this aspect, the domestic corporations are more confident of their resilience to shocks. When asked about mechanisms to ensure the sustainability of business plans, most of the MSMEs referred to external factors (the optimistic market and lack of competitors) as main factors, while the domestic corporations expressed that they would rely on their own financial and technical competitiveness. Nonetheless, given the modest sample size and short duration since implementation of the investments, this finding would require further monitoring and validation.

Counterfactual

Overall, the counterfactual value was estimated at 46 per cent, meaning that in the absence of these business plans, about 46 per cent of the observed impacts might have taken place. Therefore, engagement of IFAD with these private actors has contributed 64 per cent to the observed total impacts reported by the stakeholders.

There were differences in stakeholders' estimation of the counterfactual value; 40 per cent of the enterprises reported high confidence in obtaining alternative funding had IFAD investment not been present, and 50 per cent expressed that they might or would have actively looked for alternative funding. The possible alternative funding sources referred to were commercial banks, internal resources from the enterprises themselves or financial support from affiliated companies. Local authorities, by contrast, unanimously asserted that there was no alternative funding that would have been able to support similar activities as were funded by IFAD.

This discrepancy between enterprises' and authorities' opinion towards the ease in accessing alternative funding is due to the weights that the stakeholders put on different business plan objectives. Had funding from IFAD not been available, the enterprises could employ other means to improve profits since commercial growth is usually a part of most enterprises' strategic development plans. However, the impact on vulnerable groups would not have been a priority in the case of the counterfactual, as illustrated by the quote below

"If we had not received investment from IFAD, we definitely could have had [financial] resources from our parent company. Money is not a major issue with us. Our main gain from working with IFAD is access to the local government and the supply households, thanks to the credibility of AMD. [In selecting farmer beneficiaries] had it not been the conditions set out by IFAD, we would not have differentiated whether the farmers are vulnerable or poor." – Representative of one of the largest enterprises in the scheme

On the other hand, the local authorities looked at the efficiency of IFAD investments through the lens of inclusive growth for the community as a whole. A prerequisite of IFAD investments is inclusion of poor and vulnerable groups; for example, business proposals by enterprises were selected on a competitive basis, with high scores given to high representation of farmer or worker beneficiaries who are in the vulnerable groups. In reality, 30 per cent of the enterprises expressed disapproval of the poor group for their lack of skill and capacity for technology uptake, and 20 per cent listed low capacity and commitment from the poor group as a gap in the investment from IFAD. Thus, IFAD engagement with the private sector had supported inclusion of the vulnerable groups in the growth of the private sector, which would have low to no chance of being engaged by the enterprises in the absence of the project.

"The investment has organized farmers into groups, establishing a sustainable relationship with the company. This could not have happened without PPP. Had it not been for IFAD, no other organizations or government investment would have reached this enterprise in this approach. Previous agricultural projects have only implemented pilot activities or demonstration [of practices] and at household levels."

– Local government official

This observation indicates that IFAD has filled a niche in generating benefits for the community.



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Conclusions

Private sector approaches and strategies

- IFAD funding in the form of ASAP grants helps break down barriers to private investment in adaptation activities in rural communities. IFAD investments play a crucial role in catalyzing a wide and diverse range of adaptation-related investments. This was achieved by strengthening the capacity of local stakeholders, from the commercial financers to farmer households to local government. In addition, this was also achieved by undertaking agricultural investment risks that private actors would normally avoid.
- Based on IFAD's experience, four different engagement strategies were found to be effective in leveraging private investment: (1) development of new enterprises or support to start-up businesses to be run by capable individuals or farmer groups in the community; (2) enhancement or existing micro, small or medium-sized enterprises (MSMEs), including farmer-based organizations; (3) leveraging investment of non-MSMEs, such as private corporations; and (4) leveraging resources of microfinancing institutions and commercial banks.
- Direct approaches – such as education and training, fostering of market linkages, capital investment, financing mechanism or indirect approaches, including participation in meetings or creation of an enabling environment for private business development – deliver positive impacts to smallholders in rural communities.

Relevance and efficiency

- This report provides the value-for-money evidence on IFAD's effectiveness in engaging with the private sector via ASAP's grant mechanism. The private investment

leverage ratios (other investment relative to IFAD's investment) (2.23, 0.77, 2.85, and 2.73 for Bhutan, Nicaragua, Niger and Viet Nam, respectively) show IFAD's initial success in incentivizing additional investment in aid of the programme's objectives. The worthwhile SROI ratios (above the 1:1 threshold) documented for the case studies show positive returns on investment in all cases. Low counterfactual values (13 per cent, 1.5 per cent, 14 per cent and 46 per cent in Bhutan, Nicaragua, Niger and Viet Nam, respectively) show that IFAD has been effective in the case study countries in filling in the rural development gaps that would not have been addressed otherwise.

Social and environmental outcomes

- Evidence of SROI was documented, including reduced malnutrition (improved meals), improved skills of workers/farmers (via training programmes), and increased empowerment (increased direct dealing with the buyer). There were also non-quantifiable social benefits observed in the community, such as improved relationships between members in farmer/worker groups, and improved trust between private actors and farmers/workers.
- Despite the increase in business scale and product portfolio as a result of IFAD interventions with the private sector, none of the schemes has resulted in a negative environmental impact. On the contrary, the investment schemes with the private sector have also generated modest positive environmental returns, as a result of more sustainable crop management, such as climate-smart agriculture and organic farming.

SDGs addressed – poverty eradication and inclusive development

- The efficiency of engagement with the private sector has been demonstrated in the positive financial returns to investment in all case studies. The distribution of these benefits to local farmers, and specifically to vulnerable households, has been transformed into improved meals and assets. Changes to the living standard and income level of the smallholder farmers and local workers indicate that these operations have addressed the poverty-related SDG1 (End poverty in all its forms everywhere) and SDG2 (End hunger, achieve food security and improved nutrition, and promote sustainable agriculture). Improved assets and skills of farmer households also contribute to enhancing their climate resilience, which is addressed in SDG13 (Take urgent action to combat climate change and its impacts).
- IFAD's investments appear to promote business growth of the private sector, and at the same time promote inclusive growth in the local community. Growth of the private sector includes expansion of their businesses and diversification of product portfolios, which requires more labour and new skills. As a result, local smallholder farmers and workers have benefited from job creation, skill upgrading and increased income, which ultimately lead to living standard improvements and increased empowerment. Additionally, as IFAD ensured the inclusion of vulnerable groups by imposing this as a condition for investment in the business plans, benefits appear fairly distributed in the community. These are the objectives that have been set out in SDG4 (Ensure inclusive and equitable quality education and promote lifelong

learning opportunities for all), SDG8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all), and SDG10 (Reduce inequality within and among countries).

The way forward

- Despite these initial successes in engaging, guiding and leveraging the resources of the private sector, it remains uncertain how these impacts would unfold in the future. This is because the climate risk levels of rural communities depend to a large extent on climatic variations besides their adaptive capacity. Revisiting these investments in the next few years would allow sufficient time for climate variations to materialize and strengthen the evidence base and clarify the success/failure pathways in comparable individual investments.
- The study results highlight the diverse needs and capacities of the different private actors in different contexts, which resulted in different approaches employed in each case study. Thus, the effectiveness index (SROI ratio) documented for each case study should only be treated as empirical evidence of impact and not as an absolute measurement of effectiveness. Similarly, the leverage ratio serves as evidence of engagement success rather than a comparable yardstick of effectiveness across case studies. Since these engagements are new in all countries, a more robust sample size might be reached in the next few years when more private actors are enrolled in the scheme, allowing comparative analysis to be performed.
- In the context of limited climate finance, it is important to allocate resources to interventions that promise high economic returns and sustainable impacts. However, it is nearly impossible to set up a real-life “controlled” situation that serves as a baseline for analysis of intervention effectiveness. Therefore, in moving forward from the lessons learned from this study, the future design of activities could be guided by appraisal techniques that can weigh and rank local needs and capacities in a participatory approach. Such an exercise could be useful to best tailor the intervention to the community’s level of adaptive capacity, sensitivity and exposure to the impacts of climate change in the future.

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APPENDIX: SROI model for Viet Nam case study

Stakeholder	Outcome	SDG	Outcome indicator
Farmer households	Reduced economic poverty	1	Increased net income
	Increased resilience		Increased asset ownership (financial or non-financial)
	Reduced malnutrition	2	% of extra income spent on more food
	Increased empowerment	11	Deals direct with buyer (not trader)
Enterprise (all)	Increased economic sustainability		Increased product range
			Reduction of external inputs
	Increased economic income	8	Change in profit level
	Increased skills of workers	8	No. trained
New seasonal workers	Increased income	1	No. of new jobs
New long-term workers	Increased income and stability	1	No. of new jobs and length of job
Traders	Reduced livelihood	11	Reduced income
Environment	Reduced energy		CO ₂ emissions abated (per unit of produce)
	Sustainable land use	15	Hectares of new climate-smart crop production – carbon sequestration

*Present value over five years with drop-off value of 20 per cent. All outcomes were 100 per cent attributed to IFAD with counterfactual value of 46 per cent.

Indicator	Outcome incidence	Net outcome incidence	Proxy value	Total value	Year 1	PV*
99%	2,635	1,432	\$1,258	\$1,800,941	\$1,800,941	\$4,355,442
90%	2,403	1,306	\$222	\$289,845	\$289,845	\$700,970
60%	3,204	1,741	\$33	\$57,089	\$57,089	\$138,066
86%	2,284	1,241	\$222	\$275,438	\$275,438	\$666,126
58%	6	5.75		—		
—						
9	9	9			\$44,234	\$199,104
1,900	1,900	1,900	\$5	\$9,310	\$9,310	\$8,464
502	502	273	\$398	\$108,538	\$108,538	\$262,491
353	353	192	\$1,327	\$254,355	\$254,355	\$615,139
7	7	4	-\$1,479.58	-\$5,629	-\$5,629	-\$13,613
		0				
1,006	1,006	547	32	\$17,503	\$17,503	\$42,329

ASAP Donors and Partners

IFAD's Adaptation for Smallholder Agriculture Programme (ASAP) is a multi-donor programme that helps smallholder farmers cope with the impacts of climate change so they can increase their resilience.

As of 1 October 2017, the total commitments from 10 donor countries (Belgium, Canada, France, Finland, Netherlands, Norway, Republic of Korea, Sweden, Switzerland and United Kingdom) amount to US\$366,498,858 (subject to market currency fluctuations).



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