

Enabling the Digital Inclusion of Smallholder Farmers in Uganda

A Kampala Principles case study



Global Partnership
for Effective Development Co-operation

“The farmers today will tell you ‘I used to be a subsistence farmer, now I am an oil palm farmer.’

This is what you want to see in the whole country—that we move from subsistence to commercial agriculture.”

- Connie Masaba, Project Manager, National Oil Palm Project, Ugandan Ministry of Agriculture, Animal Industry and Fisheries⁴

Introduction

Uganda’s hopes of becoming an upper middle income country by 2040¹ hinge on moving beyond subsistence farming by modernizing and digitizing the agricultural sector.

The Government of Uganda views private sector-led growth² as a way to transform farming into a modern commercial enterprise, increase competitiveness, and gain access to markets.³ This transformation can be observed in real-time on the oil palm farms of Uganda’s Kalangala District.

Here, oil palm farmers have seized an opportunity to better their lives, orchestrated through a public-private producer partnership.

Since 1998, the partnership between the Government of Uganda, Oil Palm Uganda Limited, and the Kalangala Oil Palm Growers Trust has been diversifying the local economy, providing jobs and sustainable incomes to farmers, and alleviating poverty through oil palm cultivation.⁵ The local processing of palm oil is also conducive to environmental sustainability as it is fully traceable with digital technology and reduces the need to import crude palm oil from Southeast Asia.⁶

Subsequently, SAP introduced a cloud-based technology component to the partnership, a commercial agreement that has enabled the integration of 2,000 oil palm producers into local and regional agricultural value chains.⁷

These outcomes would likely not have occurred without effective development co-operation, including the support of the International Fund for Agricultural Development (IFAD) and the alignment of commercial interests with development goals. Such co-operation with private business is a demonstration of the **Kampala Principles** for effective private sector engagement (See Figure 4 and **bolded orange text** throughout).

Partners in Oil Palm Cultivation

In the late 1990s, Uganda was looking for ways to eliminate the country's dependency on

This Case's Connection to the UN Sustainable Development Goals:



imported oil, ensure a supply of domestic oil, and generate jobs and income for farmers.⁸

The Government of Uganda joined with IFAD to pursue a commercially viable partnership between smallholder farmers and private sector buyers.⁹ In 2003, the government formed a public-private producer partnership with Oil Palm Uganda Limited (OPUL)¹⁰ to begin commercially cultivating oil palm on Bugala Island, Lake Victoria, in Kalangala District.

For its part, the Government of Uganda acquired land for the new initiative, improved local infrastructure (see Figure 2), and created the organizational structure of the partnership.

The cornerstone of the partnership was a tripartite agreement between the Ugandan Government, OPUL, and the Kalangala Oil Palm Growers Trust (KOPGT) (Kampala Principle 1: Inclusive Country Ownership).¹¹

The Vegetable Oil Development Project begins

1998

2003

Public-private producer partnership established with Oil Palm Uganda Ltd.

Kalangala Oil Palm Growers Trust created

2006

2018

National Oil Palm Project is launched

SAP Rural Sourcing Management operational for KOPGT

2019



Through the project, smallholder farmers receive government assistance with fertilizer, seeds, and transportation¹² and obtain government loans for the first four years,¹³ allowing time for the oil palm trees to mature. These same farmers learn how to grow palm trees and harvest the fruit to be produced into oil. They have a guaranteed market for their harvest: OPUL purchases all of the palm fruit,¹⁴ meaning farmers benefit from close proximity to the processing mill, minimal transportation costs, and local demand for vegetable oil.¹⁵

Smallholder farmers are organized into a collective called the Kalangala Oil Palm Growers Trust (KOPGT). Established by the government in 2006 to connect farmers with OPUL¹⁶ and provide financial and administrative services to its members,¹⁷ KOPGT's 2,000 oil palm producers generated US \$3 million in sales in 2016.¹⁸

Funded by IFAD since its establishment, in 2019 KOPGT became financially self-sufficient, collecting a management commission from the repaid interest on the government loans given to farmers.¹⁹

IFAD, the development partner, assumed the role of broker from the start of the project, taking on tasks such as negotiating with private investors. It supported the creation of KOPGT, ensured the partnership would bring economic benefit to lower-income households, and responded to stakeholder concerns (see Figure 1).²⁰

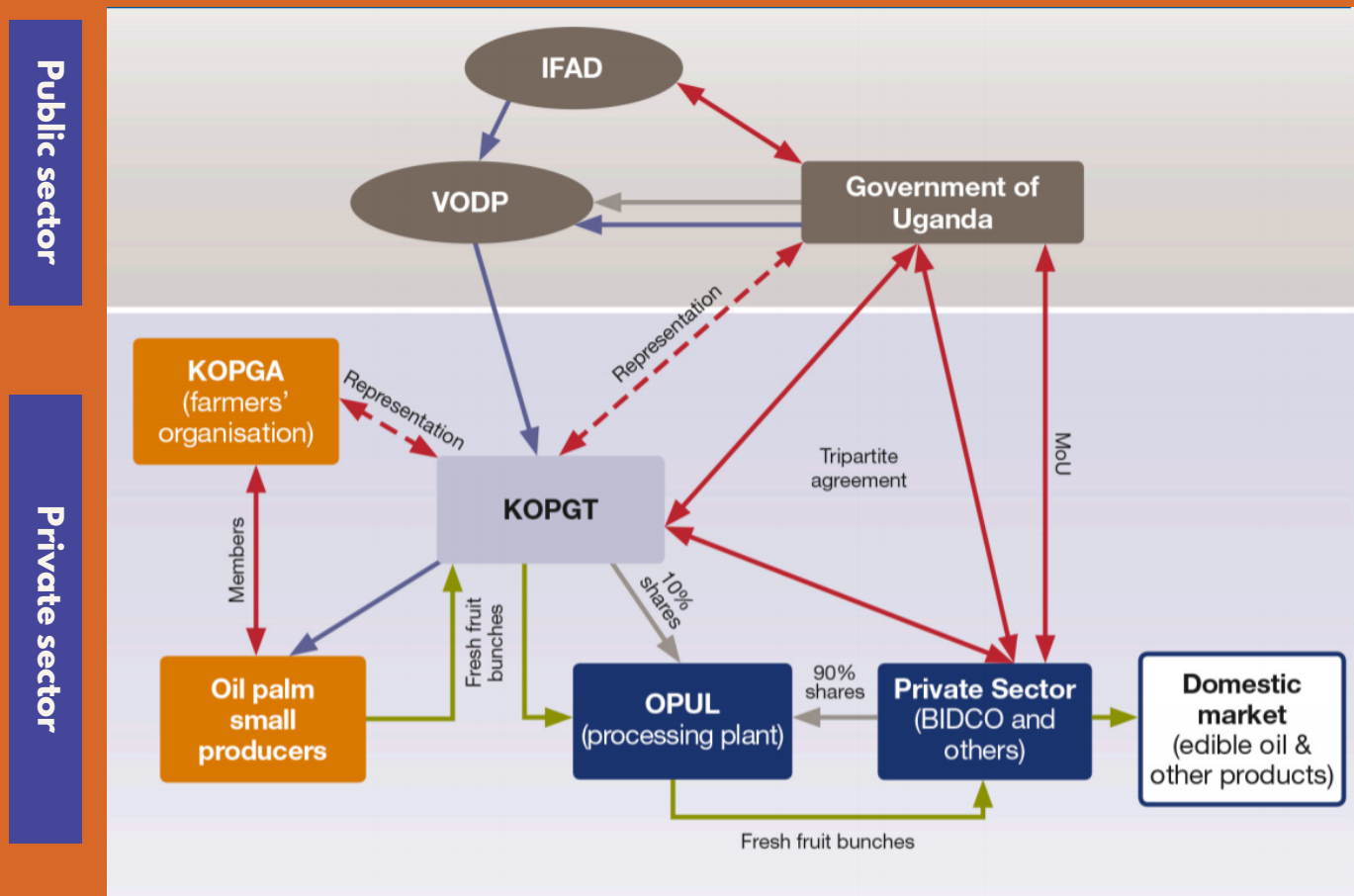
Figure 1: Environmental Sustainability of Oil Palm

Based on the smallholder farmer model, oil palm production in Kalangala District has built in safeguards to mitigate environmental and land use risks. IFAD carried out extensive environmental assessments and compliance monitoring of the Vegetable Oil Development Project (VODP).²¹

According to Uganda's National Environmental Management Authority, the project has met all environmental and social impact assessment requirements.²² Tree cover increased on Bugala Island as 60% of oil palms were planted on grasslands.²³ The island has a 200-meter forested buffer zone fringing Lake Victoria where indigenous tree species were planted, while the private partner OPUL adopted a "no burn policy" in the nucleus estate.²⁴

Concerning land use, the Government of Uganda purchased the land on a "willing-buyer, willing-seller"²⁵ basis and further allotted public land for oil palm development. The SAP Rural Sourcing Management software enables the traceability of oil palm from smallholder farmers to the processing mill, ensuring its sustainable sourcing and compliance with environmental and social standards.²⁶

Figure 2: Public-private producer partnership in Uganda's oil palm value chain



Source: Adapted from IFAD, Brokering Development

Going Digital, Going Global: SAP Joins the Partnership

In the past, KOPGT tracked its transactions using a paper-based system. Faced with an increasing number of transactions, the collective recognized the need to digitize its business processes and reached out to SAP via an introduction from IFAD.²⁷

The SAP Rural Sourcing Management solution, originally created in partnership with BMZ/GIZ, integrates smallholder farmers in agricultural value chains by digitally connecting them to buyers.²⁸

Launched in 2017, the Rural Sourcing Management solution has been used by producers of cashew, cocoa, maize, and palm oil across Africa. In Uganda, the use of SAP's mobile technology has made palm oil transactions more transparent, efficient, and predictable for farmers and buyers by allowing for the real-time access of information on transactions and palm oil prices.

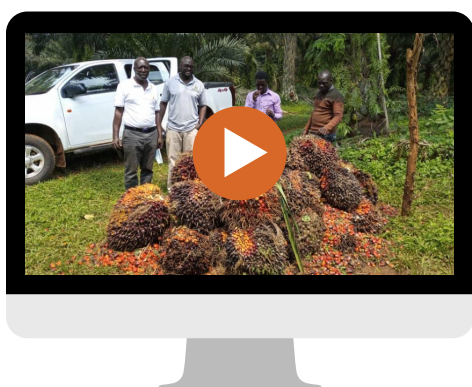
During the first phase of implementation in Uganda, the SAP Rural Sourcing Management system handled multiple aspects of palm oil transactions including farmer registrations, price distribution, crop collection, loading, and offloading of products.²⁹

The mobile technology was designed, built, and implemented in coordination with KOPGT (Kampala Principle 3: Inclusive Partnership).

Farmers participated in process mapping and prototyping. This started with a six-month onboarding process involving extensive consultations between SAP and KOPGT to verify the business requirements of the cooperative and tailor the software to their needs.

Based on these conversations, SAP developed detailed training materials and conducted multiple visits to Uganda to train KOPGT's IT specialist on the rollout and implementation of the software solution and to ensure proper data collection.³⁰ In turn, the cooperative's IT representative was able to train farmers how to use the technology in the field.³¹ SAP has continued to maintain email communication with KOPGT to answer questions and overcome obstacles.³²

The success of the SAP Rural Sourcing Management tool became evident to KOPGT in October 2019 when the collective first processed timely payments to 1,243 farmers.³³ The tool enabled greater quality control by rating each farmer's fruit at the time of collection.³⁴ It also eliminated ambiguities in the paper-based system, reducing data errors and freeing up time and staff resources.³⁵



Watch on YouTube: *Cloud Computing Helps Uganda Grow Its Agricultural Sector and Middle Class*

Dual Commercial and Development Benefits

The partnership between SAP and KOPGT has achieved several development outcomes in Uganda (Kampala Principle 2: Results and Targeted Impact).

To date, 2,000 smallholder farmers in Kalangala District have been digitally integrated in local and regional agricultural value chains, receiving fair wages and sustainable incomes.

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At the same time, the relationship is entirely commercial, ensuring profitability for SAP and an incentive for scaling the co-operation. The partnership also aligns with SAP's sustainability goals of compliance with environmental and social standards and advancement of the Sustainable Development Goals, particularly with respect to food security.³⁶

The Ugandan Ministry of Agriculture reported a positive impact on the entire country as its transition from subsistence farming to commercial agriculture continues.³⁷

"Oil palm doesn't only favor those who grow it, it also favors those in the community," said David Balironda, General Manager, KOPGT.³⁸ Every acre of oil palm planted contributes 2.2 million shillings per year (about US \$600) to the local economy. Out of this money, 800,000 shillings goes to non-oil palm farmers. People now have alternatives to subsistence and unsustainable activities such as timber cutting and fishing.



Photo: Ministry of Agriculture, Animal Industry and Fisheries

Sustained Value for Farmers

The introduction of oil palm cultivation has generated jobs and improved the livelihoods of farmers and their families, as well as contributed to greater food security, local infrastructure, and quality of life. As a result, Kalangala District is attracting people from other areas and has become a model for new oil palm development in Buvuma, Masaka, and Mayuge districts.

The adoption of the SAP Rural Sourcing Management mobile app facilitated greater inclusion of farmers, and in this way “leaves no one behind.” Farmers receive the monthly price of palm oil via their mobile phones³⁹ and are also updated on daily crop deliveries to the mill (Kampala Principle 5: Leave No One Behind).⁴⁰

After their harvest is weighed, farmers are notified of the exact quantity of their contribution and their expected payment.⁴¹

This added knowledge contributes to the digital and financial inclusion of farmers. In the future, with a digital track record of monthly earnings and expected income, farmers are expected to have greater access to financial and insurance services.⁴²

“Technology helps me to do my transaction and it saves my time. I do other work and I get the confidence that all my transactions are going OK. [...] Previously we would not afford school dues for the children but now we are able to fend for them.”

- George Muwereza, oil palm grower in Kalangala District

Inclusive Operations: Women's Engagement in KOPGT

Women represent 40% of the 2,063 KOPGT members and 30% of the lead farmers who record oil palm transactions. Women have access to land rights and participate in the leadership of the farming cooperative. Earning an income enables women to support their families, send their children to school, and improve their homes. Female smallholders are able to open a bank account, take out loans, and receive sustainable monthly income from the sale of the fresh fruit bunches to OPUL.

“Women have really been empowered. We have seen the transformation...to make decisions. We have women who are dreaming big. They are buying land for themselves because they are able to get some income from the project.”

- Connie Masaba, Project Manager of the National Oil Palm Project, Ministry of Agriculture

The rich array of data gathered by the SAP Rural Sourcing Management tool allows KOPGT and development partners to conduct targeted analysis of the project⁴³ from multiple vantage points, which increases understanding of project shortcomings and successes.

The technical capacity of KOPGT's farmers has also been enhanced, and the collective can conduct work in a more accountable and transparent manner (Kampala Principle 4: Transparency and Accountability).

Figure 3: Benefits of Cultivating Oil Palm in Uganda

For Farmers:

- Shift away from unsustainable, unprofitable fishing and wood collection.⁴⁴
- Steady stream of income from palm oil which can be harvested year-round.⁴⁵
- Attainment of assets: land ownership, housing, vehicles, and farm equipment.⁴⁶
- Ability to pay school fees and medical care.
- Annual dividends received as shareholders in OPUL.
- Sustainable exit from development financing in partnership with private sector.

For Community:

- **Poverty reduction:** Kalangala ranked 71 of 76 districts in 2005; in 2014, it was among the top 10 districts in per capita income (Kampala Principle 5: Leave No One Behind).⁴⁷
- Palm oil has high nutritional value and is an excellent source of healthy fats.⁴⁸
- Increased formalization of tenure rights for farmers and expanded land access for women.⁴⁹
- Employment opportunities in farming, construction, services, and the processing of palm oil.

Infrastructure Improvements:

- 500 kilometres of new roads
- Access to electricity
- Water supply
- New ferry service, landing sites⁵⁰
- Improved medical facilities⁵¹

According to Nelson Basaalidde, former General Manager, KOPGT:

“The digital platform from SAP means KOPGT has instant oversight into all the transactions happening and the productivity of our 2,000 farmers. We can analyze where there’s room for improvement, run reports instantly that show sales and pipeline, and understand our growing palm oil business here in Kalangala in ways that weren’t possible previously.”⁵²

SAP has brought five interns (German university graduates) to Uganda for three-month stints to support rolling out the SAP Rural Sourcing Management solution and to train staff and farmers on the use of the technology.⁵³

This is part of an entrepreneurship program called ASAprenuers, funded by the German Ministry for Economic Cooperation and Development (BMZ).⁵⁴

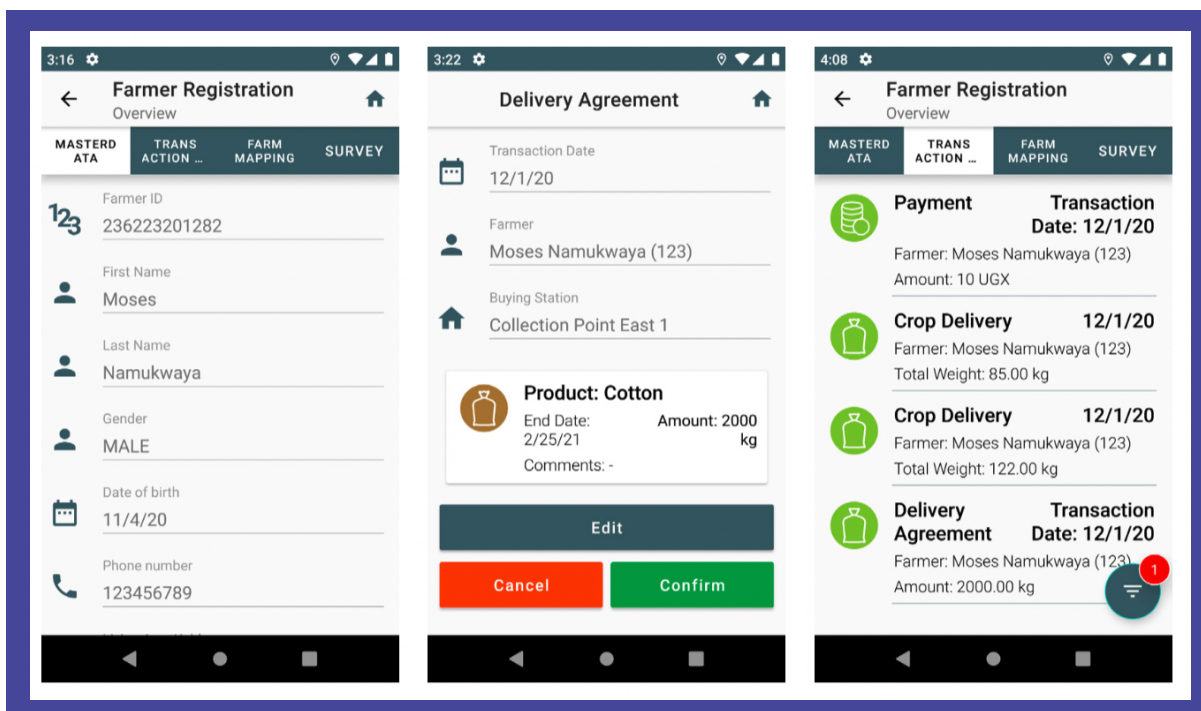
Conclusion

These innovative public-private producer partnerships have been a means to transform agriculture in Uganda, improve farming communities, and promote the Sustainable Development Goals.

Since 2017, the partnership has received a technological boost from the SAP Rural Sourcing Management mobile app.

While the partnership has effectively connected 2,000 farmers to agricultural value chains, it also demonstrates the power in applying the Kampala Principles for effective private sector engagement.

This case study has relevant lessons for governments, development partners, companies, and all who are interested in adopting or improving private sector solutions for sustainable development.



Screenshots of the SAP Rural Sourcing Management mobile app. Photos: SAP



The OPUL oil palm processing plant in Kalangala District. Photo: SAP

Several factors contributed to the success of this co-operation:

- There was a real market opportunity such that investments in the partnerships attracted further investment.
- A development purpose, in line with the Ugandan government's vision, defined the partnership while commercial incentives created a clear path to scaling the solutions
- Farmers were at the center of the partnership from the start and had organizations to mediate for them.
- Mutual benefit and mutual accountability were achieved through a clear tripartite agreement, brokered by development partner IFAD, and maintained through a close client relationship.
- Digital technologies allowed new possibilities for transparency, services, and learning. They were adopted within a strong partnership framework and tailored to user needs.



Palm tree seedlings are prepared for planting in Buvuma District, Uganda, one of the scaling sites for the National Oil Palm Project. Photo: National Oil Palm Project (NOPP) Facebook page

The public-private producer partnership is being replicated and expanded in a National Oil Palm project. Initiated in 2018 by the Government of Uganda and IFAD, the project brings oil palm production to four additional regions. The SAP Rural Sourcing Management solution, already tested on nine crops in 10 countries, can be adapted elsewhere in Uganda, Africa, and beyond. The potential for replication is well established.

Before replicating this partnership model, champions should factor in the years of prior investment and innovation that enabled Kalangala's success, as well as the complexity in managing and accommodating multiple stakeholder interests. This requires active dialogue and clear lines of ownership.

Above all, this case shows that effective private sector engagement rests not only on a sound business model or advanced technologies, but on principles that are lived out in partnership.

Using the Kampala Principles in your work? **We want to hear your story!** Click here and tell us more.



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Figure 4: Applying the Kampala Principles*

Principle 1: Inclusive Country Ownership

1A: Define national private sector engagement (PSE) goals through an inclusive process.

- Government of Uganda adopted a policy on public private partnerships in 2010, a decade after the first palm oil partnership.

1B: Align and co-ordinate PSE through development co-operation with national priorities and strategies.

- Government of Uganda formed a public-private producer partnership to pursue its strategy of modernizing agriculture through commercial enterprise.
- IFAD brokered a tripartite agreement between the government, commercial palm oil producers, and farmers.

1C: Invest in capacities for PSE through development co-operation.

- KOPGT was established to serve and mediate for farmers.
- SAP trained KOPGT's IT specialist on software and data collection.

Principle 2: Results & Targeted Impact

2A: Focus on maximizing sustainable development results.

- 2,000 smallholder farmers integrated into local and regional agricultural value chains, enabling a shift away from subsistence agriculture.
- Investments in land, technology, infrastructure, and agricultural supply.
- Relevant to Sustainable Development Goals 1, 2, 8, 15, 17.

2B: Ensure sustainable results by aligning core business and development interests.

- Commercial partnership gives SAP incentives to scale the Rural Sourcing Management solution in multiple countries and markets and develop new features that meet local farmers' requirements.

2C: Engage in partnerships according to agreed international standards.

- Project met environmental and social impact assessment requirements of the National Environmental Management Authority.
- IFAD and World Bank conducted impact assessments.

Principle 3: Inclusive Partnership

3A: Support and participate in inclusive dialogue and consultation.

- Representation of farmers through KOPGT & a farmers' association.
- Consultations with KOPGT to verify requirements and tailor the technology solution.

**The table indicates which partnership practices and features correspond to specific Kampala Principles, based on the authors' interpretation of available information. These partnerships were created before the Kampala Principles were adopted in 2019.*

Applying the Kampala Principles (continued)

3B: Promote inclusive, bottom-up, and innovative partnerships and raise awareness of engagement opportunities.

- 40% of KOPGT members are women, who participate in the leadership of the cooperative.
- Kalangala Oil Palm Growers' Association was a farmer-driven initiative.

3C: Make partnerships more accessible.

- With mobile technology, farmers are in charge with real-time information at each step of the process, from harvesting to processing.
- Local economic opportunities for non-oil palm farmers.

Principle 4: Transparency & Accountability

4A: Measure results.

- Monitoring by IFAD.
- Farmers have a digital track record of all transactions.

4B: Disseminate results.

- Transparent digital data on operations.
- Data analysis by KOPGT enables project improvements

4C: Ensure accountability.

- Mutual commitments are outlined in the tripartite agreement.
- SAP provides KOPGT with an IT solution that meets the client's requirements.

Principle 5: Leave No One Behind

5A: Ensure that a private sector solution is the most appropriate way to reach those furthest behind.

- The SAP Rural Sourcing Management solution enabled smallholder farmers' access to data, market opportunities, and finance.

5B: Target specific locations, markets, value chains, and investor types that are most likely to have a positive impact on those furthest behind.

- Targeted smallholder farmers in one of the poorest districts in Uganda.
- Replaced subsistence activities with steady income and higher living standards.
- Women have access to land rights and can access loans.

5C: Share risks proportionately to incentivize private sector contributions to leaving no one behind.

- Tripartite agreement guaranteed a market to farmers.

5D: Establish provisions to mitigate and manage risks.

- IFAD monitored and responded to stakeholder concerns.

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