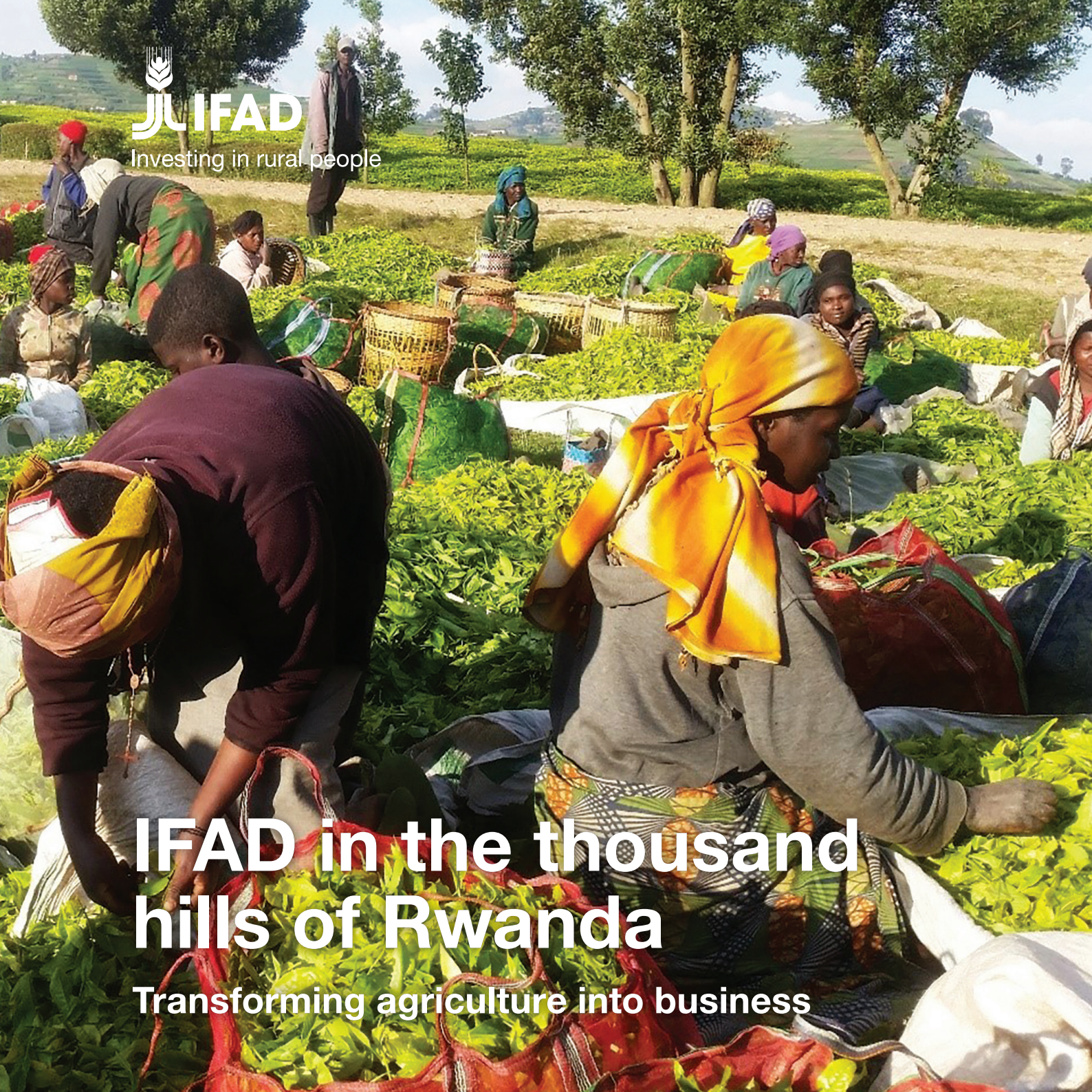

IFAD in the thousand hills of Rwanda

Transforming agriculture into business

A model for successful project implementation

The performance and results orientation of IFAD's Rwanda portfolio have been a model for the East and Southern Africa (ESA) region and beyond. Notable for its project management, financial management and procurement compliance, the Rwanda programme is one of the region's top performers. The enabling environment supports successful project delivery, results and innovation.

Since 1981, IFAD has financed 17 rural development projects in Rwanda, with over US$303 million leveraging US$222 million of cofinancing, and benefiting more than 634,000 households.

The IFAD country programme has significantly contributed to improving incomes and food security in rural areas through watershed development; increased production in irrigated marshlands and hillsides, development of livestock and export crops, creation of sustainable value chains, and promotion of market linkages through public-private-producer partnerships (known as 4Ps).


CADENCE
COLLECTI

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The Rwanda Dairy Development Project

There has been remarkable progress in the development of the dairy sector in Rwanda, but significant challenges remain. They include low milk productivity, limited support services, limited organization of farmers, and inadequate development and management of milk collection, processing and marketing. Small-scale producers also face limited access to finance and a lack of specific laws and regulations necessary for the growth of the dairy sector.

The Rwanda Dairy Development Project (RDDP) was designed to address these challenges. The overall goal is to contribute to pro-poor national economic growth and improve the livelihoods of resource-poor rural households. The focus is on increasing competitiveness and profitability of the dairy sector and ensuring the provision of high-quality products from small-scale producers to domestic and regional markets.

The project started in 2017 and is targeted at 100,000 resource-poor rural households, of whom 80,000 are involved in dairy farming and 20,000 in off-farm activities along the dairy value chain.

After one year of implementation the project has already:

- **Ensured the vaccination of over 600,000 cows against various illnesses**, notably black quarter, lumpy skin disease, East Coast Fever and brucellosis
- **Provided semen for artificial insemination to all 12 targeted districts**
- **Ensured the installation of a liquid nitrogen plant for semen conservation**
- **Supported eight dairy cooperatives and one private investor to access finance** through a 4Ps scheme for a total investment of about US$600,000.

The power of livestock farmer field schools

Thomas Akirimari and Giramaki Rugwe work at the Rurangazi Milk Collection Centre, a storage facility located in the Ruhango district. The collection centre is run by Giramata, a cooperative of 198 farmers who provide services to milk producers, including milk collection, veterinary services, provision of milk cans and access to health insurance. An average of 1,900 litres/day were collected in May 2018 from Giramata's cooperative members and 65 non-member smallholder farmers.

The Rwanda Dairy Development Project (RDDP) has brought significant changes to the lives of the Giramata cooperative members. Four members have been trained as livestock farmer field school (L-FFS) facilitators and will, in turn, train other members of the Giramata cooperative, as well as other farmers living in the area. This training is provided throughout the 12 districts targeted by the project, which aims to train 80,000 smallholder dairy farmers and around 15,400 farm assistants. This training will enhance the capacity, knowledge, attitude and behaviour of dairy farmers, increase the level of milk productivity and improve its quality.

The L-FFS approach has allowed members to learn and apply good agricultural practices in forage multiplication and the use of fodder, which are both key for increased milk production and improved milk quality, especially during the rainy season.

After one year of implementation of the L-FFS approach, RDDP has promoted the establishment of 393 L-FFS farmer groups, trained 315 L-FFS facilitators and distributed different forage varieties for production and multiplication.


REPUBLIQUE DU RWANDA
REPUBLIC OF RWANDA
CENTRE DE COLLECTE DE
LAIT DE RURANGAZI

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Better milk means better markets

Milk production in Rwanda has increased more than tenfold over the last 15 years. This, in turn, has increased average milk availability per person from 20 litres per year in the 1990s to 64 litres in 2015. Although consumption has increased, the low quality means it is a struggle to enter formal markets.

In response, in 2016 the Government of Rwanda adopted a Ministerial Order on the collection, preservation, transportation and selling of milk. Now, all milk sold in the country must be sent to a milk collection centre (MCC) where its quality can be tested.

Mukeshimana Venant is the technician in charge of quality control at the KIDACO Milk Processing Facility. RDDP helps the milk collection centres, milk collection points and processing facilities to ensure the supply of good quality milk to domestic and regional markets. To this end, RDDP not only trained the technicians of KIDACO, but also supported its members through a matching grant, which was used to purchase the equipment that is necessary to comply with both the Ministerial Order and the requirements set by the Rwanda Standard Board (RSB). The RSB certificate is a precondition for accessing other markets of the East and Southern Africa region.

The support provided by the project is having a significant impact on the 1,300 households that have signed a supply contract with KIDACO. Households are benefiting not only from a steady source of income, but also from the transport and collection services provided by the processing plant. They can also use the supply contract to obtain loans from financial institutions.

A cup of milk today for a brighter future tomorrow

The children at Muhororo Elementary School in the District of Huye are among the **20,396 pupils** who benefited from RDDP's efforts to improve the distribution of milk under the One Cup of Milk per Child Programme.

The Rwanda Agriculture Board (RAB) started implementing the programme in May 2010, distributing high-quality milk to pupils twice a week. To improve the efficiency and effectiveness of how milk is distributed, RDDP will test alternative solutions, notably purchasing pasteurized milk from local processors and encouraging parents to contribute, through the introduction of a cost-sharing arrangement. These solutions will significantly reduce the cost supported by the government to buy milk and increase the overall outreach of the One Cup of Milk per Child Programme.

The improvements in the distribution of milk achieved under RDDP have already generated significant impacts on children. At Muhororo school, attendance increased from 90 to 97 per cent; drop-out students returned, and the number of students attending the nursery school rose from 37 to 52.

Improving the nutrition of Rwandan children is one of the major goals of RDDP. Almost 38 per cent of children under five are still chronically malnourished, with very high stunting rates in around a third of the country. Improving nutrition levels brings multiple challenges, notably in terms of limited knowledge of basic nutritional requirements and inadequate food consumption patterns. Agriculture in general, and dairy in particular, have an essential role to play in overcoming chronic malnutrition by enabling rural households to improve food systems and the quality and quantity of their diets.


EDUCATION IS OUR FAVORITE
kwibuka 24
TWIBUKE JENOSID
YAKOREWE ABATUTSI
MATA 1994
twibuke twiyubaka

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Offering a new start to the widows of the genocide

Nzabamwita Immaculée is one of the many widows of the 1994 genocide. For several years she was trapped in poverty because of the limited production of her half-hectare farm, where she was cultivating maize, beans and sorghum. All her cows were killed during the genocide, which forced her to use her entire crop production to feed her four children.

None of her family consumed meat, fish or milk, which translated into severe micronutrient deficiencies, in particular for the children. Her life changed when she was selected as one of the beneficiaries of the model village built by the Rwanda Housing Authority in the Huye District. Under the Vision 2020 strategy, the government aims to have at least 70 per cent of Rwandans in rural areas living in planned settlements by 2020. The construction of this model village was coupled with the building of a communal cowshed and the distribution of cows through Girinka, the successful One Cow per Family Programme, which brought cows to more than 300,000 of the poorest households.

It is in this context that RDDP started supporting Nzabamwita and the other farmers of her cowshed through investment in improved forage and training in milk handling. **As a result, Nzabamwita is now selling 60 litres of milk per month. She is also keeping part of her milk for her family's consumption and using her profits to buy meat and fish.**

Despite these changes there is still much to be done. Limited access to water, distance from a milk collection centre and limited availability of land for forage cultivation are some of the key areas on which RDDP will focus in the future.

Transforming youth into agents of change

Emmanuel Abayisenga, aged 20, had travelled with his bicycle for more than 10 kilometres, in order to collect the milk produced by the farmers of Nyanza (Southern Rwanda). Emmanuel is one of many young transporters who have been hired by Nyanza Dairy Ltd to collect raw milk from the farmers who have signed supply contracts with the factory.

The collection and distribution of milk by young people like Emmanuel is not a novelty in Rwanda. Emmanuel has been doing this job for a few years, but as he says, *"Until 2016 it was like we did not exist. We were collecting milk from farmers and distributing to the market, but we did not have a formal role or any kind of recognition"*. Indeed, this situation has changed since the adoption of the 2016 Ministerial Order which, among other things, recognized milk collectors as part of the dairy value chain. RDDP facilitated the contract that was signed with Nyanza Dairy Ltd, and the training received in milk collection and quality testing. Emmanuel is now finally saving money, with which he hopes to pay the enrolment fees for an engineering course.

"My aim," said Emmanuel, "is to specialize in the construction and management of milk collection centres and other types of agricultural infrastructure. It is in these activities that I see my future."

The story of Emmanuel is a clear example of how the private sector can play a crucial role in empowering young people. This empowerment is key to a country such as Rwanda, in which over half the population is aged under 20, and about 82 per cent aged under 40. In order to transform this "youth bulge" into a demographic dividend, it is essential that young women and men are empowered not only through external interventions, but also through programmes designed by youth and for youth.

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The Climate-Resilient Post-Harvest and Agribusiness Support Project

The Climate-Resilient Post-Harvest and Agribusiness Support Project (PASP) is capitalizing on the results of the Crop Intensification Programme, a five-year project started in 2007 to increase the agricultural productivity of high-potential food crops (maize, wheat, rice, Irish potato, beans and cassava). PASP is promoting the development of inclusive business activities for maize, beans, Irish potato and cassava. It also promotes the horticulture and dairy value chains, while reducing post-harvest losses and enhancing climate resilience.

The goal of PASP is to alleviate poverty, increase the income of smallholder farmers and contribute to overall economic development. **Since the start of the project in 2014, it has already increased the level of climate resilience of over 185,000 smallholder farmers**, through a combination of training, coaching and investments in climate-resilient equipment and infrastructure.

The project is partnering with small and medium-size enterprises through the public-private-producer partnership (4Ps) approach, and has managed to leverage **over US$5.6 million from the private and the financial sectors**.

The strength of the cooperative is more than the strength of its members

Claudine Tuyishime is the Vice-President of the KOGIUM cooperative. This group of 43 farmers (28 women and 15 men) are involved in the cultivation, storage and marketing of maize. The cooperative ensures market access to over 150 smallholder farmers in the Musanze District in northern Rwanda.

KOGIUM is one of the 267 cooperatives supported by PASP, through a combination of capacity-building, coaching and improved access to finance. The design of PASP is based on the HUB model. A HUB is defined as the physical place where primary products are aggregated and where value addition occurs (through both primary and secondary processing), as well as the connection point between the different stakeholders (producers, buyers, inputs suppliers, financial institutions).

Claudine describes the impact the project is having on smallholder farmers.

"When I joined KOGIUM in 2011, my only source of livelihood was occasional carpentry work, which I did with my husband. Together, we were earning 60,000 Rwandan francs per month [about 70 US dollars], which was barely enough for the survival of my family. In 2014, I managed to get a loan of RWF 400,000 from the cooperative and I used it to buy a plot of land of 0.5 ha. The profit obtained from this land and from the dividends of the cooperative allowed me to buy another 0.5 ha, from which I obtained 2.3 metric tons of maize and about 400 kg of beans in 2017. All this production, however, was still affected by significant post-harvest losses, which prevented me from reaching the maximum possible profit. The post-harvest training provided by PASP, as well as the distribution of tarpaulin sheets and hermetic bags, allowed me to benefit, as it led to a significant reduction in the percentage of product lost per 100 kg, which went down from 30 per cent to about 2 per cent."

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Improved access to finance is a driver for sustainability

Limited access to finance is a significant constraint to the economic and social development of Rwanda. At project inception, less than 3 per cent of farmers had access to adequate rural financial services. Short-term loan periods, combined with high interest rates and stringent collateral requirements, made loan access and repayment very challenging and discouraged investments in agriculture.

The project improved access to and use of rural financial services by providing different matching grant windows, following a 4Ps approach. **These matching grant schemes allowed 156 cooperatives and small to medium-size enterprises to invest in storage and collection infrastucture, transport, post-harvest and climate-resilient equipment, as well as primary and secondary processing**.

As a result, the project leveraged about US$3 million from the private sector and an additional US$2.6 million from the financial sector. It also managed to establish a credit relationship between the supported beneficiaries and partner financial institutions providing loan services, which contributes to the project's sustainability.

Finally, the project's matching grant scheme enabled beneficiaries to aquire the post-harvest infrastructure, equipment and capacity that they needed to reduce post-harvest losses. **The project made a breakthrough in the provision of storage facilities, supporting the construction of over 70 climate-resilient warehouses**. These investments, together with the support provided in the area of post-harvest handling, transport and processing, have enabled smallholder farmers to reduce post-harvest losses and significantly increase their access to markets.

Partnering with the private sector for greater impact on the ground

Daniel Twagiramungu is the manager of the Muhe farm, a milk processing plant in Nyabihu, western Rwanda. Daniel's company was selected by the project to benefit from one of PASP's matching grants with the aim of fostering new partnerships with dairy producers operating in the area.

Daniel matched the resources provided by PASP (US$25,000) with an equity contribution of US$67,000 and a loan of US$39,000. This investment was used to construct a processing factory, which has a cooling capacity of 2,000 litres and the machinery required to transform raw milk into butter, cream, yogurt and about ten varieties of cheese (including mozzarella, ricotta, cheddar, edam and gouda). These products are sold to Rwandan markets and exported to the neighbouring markets of Uganda and Democratic Republic of the Congo.

One of the most interesting aspects of Daniel's work is that the majority of the milk suppliers are beneficiaries of the successful One Cow per Family Programme, which brought cows to more than 300,000 Rwandese households belonging to *Ubudehe* category 1. Category 1 includes those families who do not own a house and can barely afford basic needs, even though they are not the direct target group of PASP, which is focusing on *Ubudehe* categories 2 (those who have a dwelling or are able to rent one but rarely get full time jobs) and 3 (those who have a job and farmers who go beyond subsistence farming).

Daniel's work is a clear example of how partnership with the private sector is creating positive spill over effects, which are allowing PASP to have an additional impact on poor rural families who are not a direct target group of the project. This impact, as in the case of Daniel, was further amplified by the synergies created between PASP and Girinka.


Hygiene Manager
N° 08

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Promoting inclusive value chains through sustainable linkages

The development of inclusive value chains requires fostering sustainable linkages between buyers and suppliers. Since project inception, PASP has been supporting both processing enterprises and producers' cooperatives, thus facilitating profitable connections between market demand and the supply of smallholders' produce. Processing activities in particular have played an important role in building the supply capacity of smallholder farmers and adding value to their produce, as the story of Pasta Rwanda shows.

Pasta Rwanda, in the Muhanga district in southern Rwanda, is the first company in the country producing pasta for the local market. It began production in August 2017 and has now reached a capacity of five tons per day, and sells to government institutions and local shops. **PASP enabled the company to invest in cutting-edge technology for pasta production and biodegradable packaging, and to equip its plant with climate-resilient facilities including biogas cookers and rainwater harvesting tanks**.

Pasta Rwanda uses a mix of maize and wheat flour to achieve the perfect texture for its pasta. Most of the maize flour is sourced from IABM, a cooperative based nearby. IABM was also supported by PASP in rehabilitating a storage facility, which is now fully climate-resilient, as well as in the acquisition of a truck to collect produce and deliver flour. With a five-ton daily processing capacity, IABM is among the very few national flour processors to hold quality certification from the Rwanda Bureau of Standards.

The partnership between Pasta Rwanda and IABM is a good example of how a project can develop and strengthen the maize value chain from raw materials to an advanced end product, through the creation of sustainable linkages between cooperatives and private-sector partners. In doing so, the project is also promoting "Made in Rwanda" products and curbing the burden of imports.

Reducing food losses through improved post-harvest management

Zainab is the president of Kabiyaki, a cooperative operating in the Kamonyi district, southern Rwanda. PASP supported her cooperative in building an improved maize drying ground equipped with masonry boreholes for water harvesting. The new drying facility is made of metal and has a much larger capacity than the older timber structure. Thanks to this investment, all cooperative members are now able to dry their produce to acceptable moisture levels, which is translating into reduced post-harvest losses and limited aflatoxin contamination.

Rudimentary post-harvest practices are still prevalent in the Rwandan agricultural sector. Most of the produce is handled by smallholder farmers at the household level through traditional methods, which often lead to low-quality produce and high levels of post-harvest losses. This condition is exacerbated by climate change: more common unforeseen rainfall during the harvesting season leads to an increase in the moisture level of maize grains, which translates into higher aflatoxin contamination and post-harvest losses.

Reducing losses is just as important as improving yields, especially in the context of a changing and more uncertain climate. In response, PASP has been promoting the adoption of improved and climate-adapted post-harvest practices through training, as well as the piloting of climate-smart equipment and infrastructure.

Theogene, a potato farmer from COAPAI, a cooperative in the Musanze district (northern Rwanda), has a very clear idea of the significant impact that the training provided by PASP in post-harvest handling had on his life. He explains, *"Cooperative members like me finally know that we need to postpone the harvest if rain is forecast. We get a daily SMS with the weather forecast, so if rain is coming we postpone harvesting. We also know that we should use our hands to harvest our potatoes instead of sticks. The implementation of these and other best practices has reduced the level of post-harvest losses so much that our cooperative has recorded a threefold increase in productivity"*.

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A comprehensive solution to climate change

Climate change is seriously affecting farming practices in Rwanda. Farmers are confronted with unprecedented droughts and unpredictable rainfall patterns. This has had a significant impact on all value chains and has especially hit cassava, maize, beans and potatoes. Heavy rainfall during the harvesting season means that it is now more difficult to dry the produce to acceptable moisture levels, which quickly leads to pest infestation, aflatoxin contamination and ultimately post-harvest losses. On the other hand, increased drought events, such as in 2016-2017, are considerably affecting the production of staple crops in the eastern belt of Rwanda.

PASP has partnered with RAB to support the identification and promotion of crop and forage varieties that are adapted to these changing climatic conditions. Several drought-tolerant or early maturing varieties of maize, Irish potato and cassava were tested in the lab and in the field, and high-quality seeds were distributed to local seed multipliers. For example, in the maize value chain, the project mainstreamed nine hybrid varieties, some of which are early-maturing; by using varieties that mature earlier, farmers can avoid the heavy rains that now characterize the maize harvesting season.

The capacity of climate information service providers has also been strengthened. Project beneficiaries are now receiving regular climate information by text messages, enabling them to adjust their farming calendar to the weather. The project has also systematically integrated climate resilience into its financing strategy by setting up a specific grant-funding mechanism from IFAD's Adaptation for Smallholder Agriculture Programme (ASAP), which covers the incremental costs associated with investments in low-carbon and climate-resilient post-harvest infrastructure and equipment. To date, this financing facility has supported 24 private-sector enterprises and 54 cooperatives in "climate proofing" their infrastructures and purchasing low-carbon technologies and equipment.

Bahati, the project coordinator of 4B holding (a joint venture created with IFAD's support), is a beneficiary of this initiative. **Thanks to PASP, the joint venture he manages was able to build a 3,000-ton storage facility servicing hundreds of farmers**, and equip it with rainwater harvesting, as well as solar-powered ventilation and lighting.

The Project for Rural Income through Exports

The Project for Rural Income through Exports (PRICE) is helping to create pro-poor cash crop value chains. The ultimate goal is to raise the income of smallholder farmers by increasing quantity and quality, improving marketing, promoting effective farmer organizations and partnerships with the private sector. The project focuses on coffee and tea as existing export crops, and promotes emerging export crops, such as silk and horticulture.

Since 2011, PRICE has reached over 115,000 poor rural households, promoting: (i) the expansion of the coffee value chain through the rehabilitation of coffee washing stations and the branding of high-quality coffee; (ii) the rehabilitation of tea plantations and the establishment of 4Ps partnerships between tea producers and private-sector partners; (iii) the development of the first silk processing factory in Rwanda; and (iv) the delivery a "proof-of-concept" for scaling up adapted 4Ps business partnership models for smallholder horticulture growers.

After seven years of project implementation, PRICE has:

- **increased the average coffee yields from 1.35 kg/tree to 3 kg/tree**
- **supported the access of 170,000 smallholder farmers to facilitated advisory services**
- **increased the average price of coffee cherries from 240 RWF/kg to 300 RWF/kg**
- **ensured the adoption of improved production technologies and practices by 60,000 smallholder farmers**
- **created a critical mass of export-driven fruit crops with the plantation of over 2,000 ha of citrus, mangoes and avocados**
- **facilitated the GlobalGAP certification of two horticulture exporters who can now access international markets**
- **successfully lobbied for a decrease in freight rates from US$1.8/kg to US$1/kg for European Union countries served by Rwandair.**

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Looking at a stranger who resembles me

Mujawamariya Pelagie is one of the 2,600 smallholder farmers who benefited from the support provided by PRICE to the Rutsiro Tea cooperative. PRICE has in many ways helped transform Rutsiro into one of the most successful tea cooperatives of Rwanda, including through the establishment of plantations; the training of pickers; the provision of seedlings and fertilizer; facilitating the purchase of a truck and the building of an office.

As a result of the project's support, the Rustiro Tea Cooperative registered significant gains in both production and quality. The total production of the cooperative increased from 19 tons in 2013 to 641 tons in 2017. Income increased from about 2.4 million Rwandan francs (RWF) in 2013 (about US$2,800) to about RWF160 million in 2017.

The impact of PRICE on the life of smallholder farmers is very clear to Mwamariya: *"Before joining the Rutsiro tea cooperative I was cultivating maize, peas and potatoes. I was keeping nearly all my production to feed my four children, and I was managing to sell only a small amount for RWF1,500 per month [about US$2]. After switching to tea, I started selling my production for RWF100,000 and even more. Thanks to PRICE my life has changed so much. Before the project's intervention, I struggled to pay for the school fees of my children; I could not get any insurance and I was able to give meat to my sons and daughters only for Christmas and Easter. Now, we have meat every week, my house is connected to water and electricity, and I am discussing with my daughter about the university where she wants to enrol. If I compare my life to the life that I had before, it is like looking at a stranger who resembles me."*

From household roasting to international marketing

The journey of the KOPAKAMA cooperative started in 1998, when 46 women and men decided to dedicate their lives to a common goal: grow Arabica coffee on the volcanic soils of Lake Kivu in eastern Rwanda, at an altitude of more than 1,500 metres. These well-organized farmers were determined to increase the quality of their coffee, overcoming the challenges faced in household roasting through the establishment of a coffee-washing station.

With the support of the IFAD-funded Smallholder Cash and Export Crops Development Project, the KOPAKAMA farmers established their first coffee-washing station in 2003.

Kayitare Gervais, Managing Director of the cooperative, explains *"This washing station not only added value to our coffee but also allowed us to expand our membership. We now have over 700 members, of whom 40 per cent are women"*.

A larger cooperative and profits from the higher-quality coffee allowed them to buy a coffee dry mill and start processing their own coffee. Kayitare explains, "*Bringing our coffee to Kigali for primary processing was costly and not very efficient. Now that we have a dry mill, we have bargaining power; we can reach our customers directly and we can obtain a more favourable price. This dry mill exposed our cooperative to the international competitiveness of coffee standards".*

Moreover, with the support of the IFAD-funded PRICE project, the cooperative obtained a fair trade certificate from the Rainforest Alliance, opening the door to international markets. KOPAKAMA is now exporting an average of 220 tons of green coffee per year to the United Kingdom, United States and Japan, and its product is considered one of the best Rwandan coffees.

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