



PAPAB

PROJECT SUPPORTING AGRICULTURAL PRODUCTIVITY IN BURUNDI

FINAL REPORT

JULY 2020

TABLE OF CONTENTS

ACRONYMS & ABBREVIATIONS	2
SUMMARY: INTEGRATED SOIL FERTILITY MANAGEMENT	3
INTRODUCTION: THE PAPAB PROJECT AT A GLANCE	6
OUTCOMES OF THE PAPAB PROJECT	
Outcomes of Component 1 – Consolidating fertilizer distribution	8
Increased number of households using mineral fertilizers.	9
Increased volumes of fertilizers used by the project beneficiary households	10
Increased agricultural production	11
Proposal for a professionally-managed fertilizer distribution system.	11
Facilitation of fertilizer-related operations by setting up a financial and social inclusion system (UMVA and G50)	12
New fertilizer formulas and measures to correct soil acidity are tested and validated.	12
Improving the technical and financial management of PNSEB	15
Conclusions and recommendations	15
Outcomes of Component 2 – Increasing agricultural production, resilience, organizing farmers, and access to markets	16
The PIP approach as a driver of change and ISFM as a priority measure	18
The PIP story	22
PIP households organize themselves into “Solidarity Groups for Savings and Loans” to strengthen their resilience and promote their financial inclusion.	24
Structuring PIP households into PICs and cooperatives	25
A communication strategy based on project targets and approaches	27
CONCLUSIONS	28
ANNEXES	
Annex 1. Monitoring and Evaluation Matrix of the PAPAB Project.	30
Annex 2. Testimonies of Eric Ntiranyibagira and Esperance Nimpaye, PIP farmers	34
<i>Supplemental annexes provided as separate files:</i>	
Annex 3. Final Financial Report on the PAPAB Project	
Annex 4. Final Report of the Final Evaluation of the PAPAB Project (<i>Resources and Synergies Development</i>)	
Annex 5. PIP Impact Study Report (Oxfam)	
Annex 6. Update Report on Economically Profitable Fertilizer Formulas for Five Main Food Crops (IFDC–ISABU–DFS)	
Annex 7. Final Audit Report (<i>to be submitted before August 31, 2020</i>)	
Annex 8. Final Inventory Report on PAPAB Project Equipment	

ACRONYMS & ABBREVIATIONS

ACMA	Communal Approach to Agricultural Markets (<i>Approche Communale de Marché Agricole</i>)
ADISCO	Supporting Integral Development and Solidarity in the Collines (<i>Appui au Développement Intégral et à la Solidarité sur les Collines</i>)
BPEAE	Provincial Office for Environment, Agriculture and Livestock (<i>Bureau Provincial de l'Environnement, de l'Agriculture et de l'Elevage</i>)
CNFA	National Committee for Fertilizers and Soil Amendments (<i>Comité National pour les Fertilisants et Amendements</i>)
CTFA	Technical Committee for Fertilizers and Soil Amendments (<i>Comité Technique pour les Fertilisants et Amendements</i>)
DFS	Soil Fertility Directorate (<i>Département de la Fertilisation des Sols</i>)
EFICC	Integrated, Continued and Competitive Family Farms (<i>Exploitations Familiales Intégrées Continues et Compétitive</i>)
FENACOBUR	National Federation of Cooperatives in Burundi (<i>Fédération Nationale des COOPEC du Burundi</i>)
FOMI	Organo-Mineral Fertilizers Industries (<i>Fertilisants Organo-Minéraux Industries</i>)
GALS	Gender Action and Learning System
ISFM	Integrated Soil Fertility Management
GSEC	Solidarity Group for Savings and Loans (<i>Groupe Solidaire d'Epargne et de Crédit</i>)
MFI	Microfinance Institution
IFDC	International Fertilizer Development Center
IGG	<i>Imigwi yo Gutererana no Gufatana mu nda</i> (Solidarity and Self-promotion Group)
ISABU	National Agricultural Research Institute of Burundi (<i>Institut des Sciences Agronomiques du Burundi</i>)
ISSD	Integrated Seed Sector Development
LAE	Erosion Control measures (<i>Lutte AntiÉrosive</i>)
MINEAGRIE	Ministry of Environment, Agriculture and Livestock
ONCCS	National Office for Seed Control and Certification (<i>Office National de Contrôle et de Certification des Semences</i>)
FbO	Farmer-based Organization
PADANE	Agricultural Development Support Project for Nutrition and Entrepreneurship (<i>Projet d'Appui au Développement Agricole pour la Nutrition et l'Entrepreneuriat</i>)
PAGRIS	Project Supporting Responsible and Integrated Soil Management (<i>Projet d'Appui pour une Gestion Responsable et Intégrée des Sols</i>)
PAN-PNSEB	Project Supporting the New National Fertilizer Subsidy Programme (<i>Projet d'Accompagnement du Nouveau Programme National de Subvention des Engrais</i>)
WFP	World Food Program
PAPAB	Project Supporting Agricultural Productivity in Burundi (<i>Projet d'Appui à la Productivité Agricole au Burundi</i>)
PEA	Agribusiness Cluster (<i>Pôles d'entreprises agricoles</i>)
PI	Innovating Farmer (<i>Paysan Innovant</i>)
PIC	Integrated Community Planning (<i>Plan Intégré Collectif</i>)
PIP	Integrated Farm Plan (Plan Intégré Paysan)
PNSEB	National Programme of Fertilizer Subsidy in Burundi (<i>Programme National de Subvention des Engrais au Burundi</i>)
PIIP	PIP Farmers (<i>Paysan-PIP</i>)
PPP	Public Private Partnership
SCAD	Community Solidarity for Self-Development (<i>Solidarité Communautaire pour l'Auto-Développement</i>)
VSLA	Village Savings and Loan Association
WENR	Wageningen Environmental Research

SUMMARY:

INTEGRATED SOIL FERTILITY MANAGEMENT

A HIGH PRIORITY IN SUSTAINABLY INCREASING AGRICULTURAL PRODUCTIVITY IN BURUNDI

The Project Supporting Agricultural Productivity in Burundi (*Projet d'Appui à la Productivité Agricole au Burundi - PAPAB*), has sustainably increased agricultural productivity, strengthened resilience and raised income for 865,666 farming households (Component 1 - Year 2019) and 59,575 farming households (Component 2). An impact study¹ (2019) carried out to assess the

Integrated Farm Planning approach (*Plan Intégré Paysan - PIP*), has shown that over 80% of PIP households claim to have significantly increased their income over the past three years. According to this study, the percentage of PIP households stating that they did not have sufficient food throughout the year is significantly lower than among non-PIP households,

FIGURE 1. % of households stating that they have significantly increased their income over the past three years

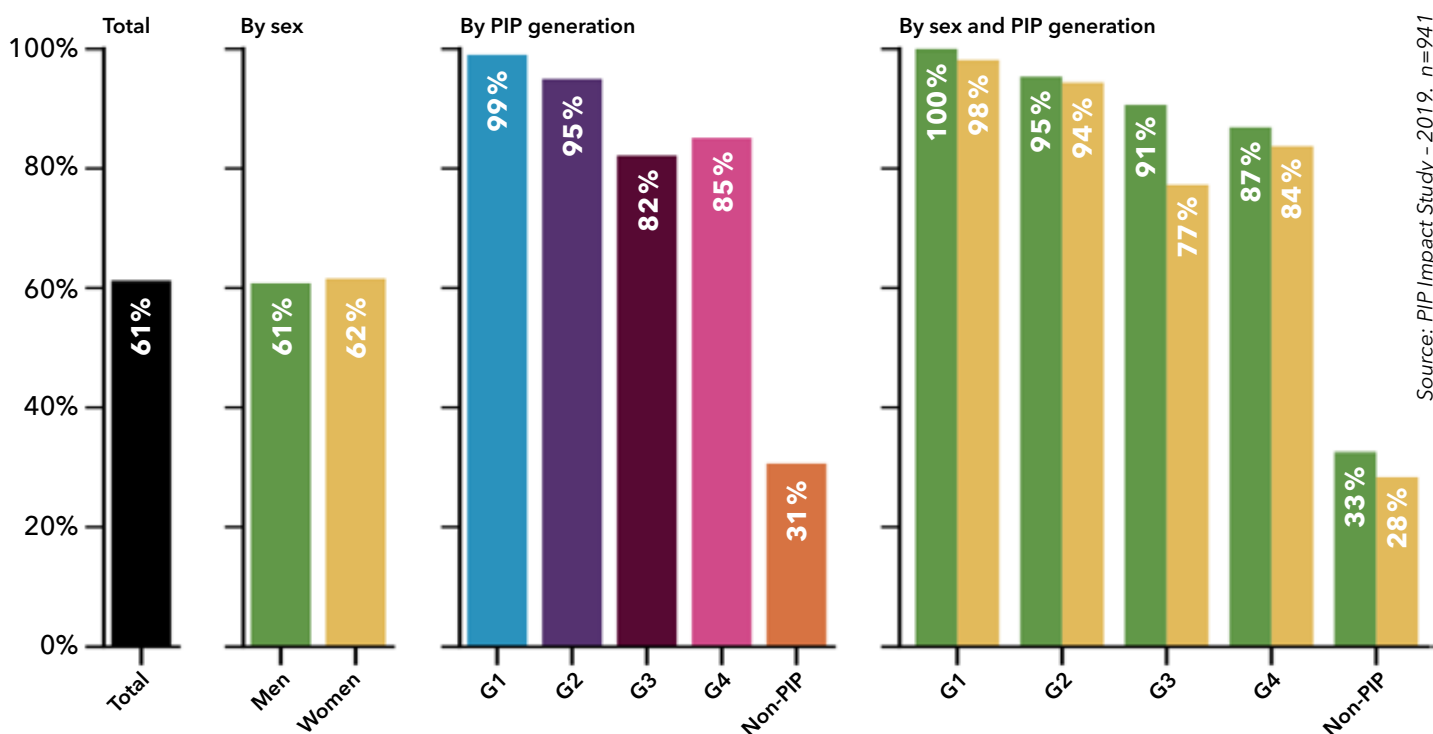
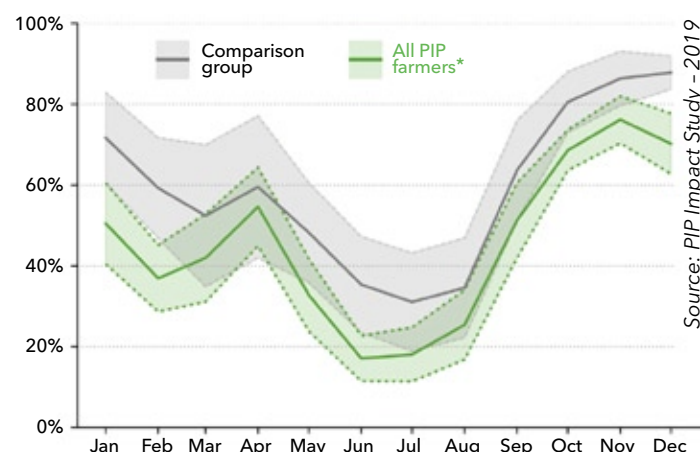


FIGURE 2. % of farmers stating that they do not have sufficient food every month

Line represents percentage of farmers reporting to have not enough, or barely enough, food in each month. Shaded areas are 95% confidence intervals, n=897.

* Computed using sampling weights to correct for over-representation of earlier generations in the sample.



¹ PIP : Integrated Farm Plan. A PIP is a 3 to 5 year plan developed by all members of a household that aims to significantly improve farm management in an integrated and sustainable manner. The PIP is the basis for the emergence of a self-help dynamic among the household members.

which reflects a greater level of resilience among PIP households.

The PAPAB project operated for four and a half years, from November 2015 to May 2020, on a grant from the Embassy of the Kingdom of the Netherlands. The project was implemented by a consortium of seven partner organizations (IFDC/Project Lead, Alterra/WenR, Oxfam, ZOA, Réseau Burundi 2000+, OAP and ADISCO). PAPAB also partnered with public entities, namely the technical services of the Ministry of Environment, Agriculture, and Livestock, as well as private entities, including Tanga Oil, to promote the cultivation of Patchouli. The project focused its activities on: providing technical support to strengthen the National Fertilizer Subsidy Programme in Burundi (*Programme National de Subvention des Engrais au Burundi* – PNSEB); contributing to the Common Fund for Soil Improvers and Fertilizers to partly support the distribution of subsidized fertilizer through PNSEB; and providing direct support to farmers to sustainably improve the management of their farms in an integrated, more resilient and responsible way.

PAPAB AND THE AGRICULTURAL PRODUCTIVITY ISSUE

In January 2015, a workshop on the Theory of Change took place around the “soil fertility” issue. This workshop stressed that Burundi was undergoing a severe soil fertility crisis. It also stressed the importance of developing synergy among the different projects working towards increasing agricultural production and conserving soil and water resources. Hence the need arose for setting up a new project to continue supporting PNSEB and reinforce the desired impact, within a sustained and integrated framework, in order to meet various preconditions and trigger a sustainable increase in agricultural productivity. This laid the foundation for the PAPAB project, which initially was planned for a four year period, from November 2015 to December 2019.

The root cause of the stagnation of agricultural production in Burundi is the low productivity of agricultural land resulting from a combination of factors including: low access to and poor use of fertilizers (organic and chemical) and soil improvers, limited

THE OVERALL OBJECTIVE OF THE PAPAB PROJECT IS TO SUSTAINABLY INCREASE FOOD SECURITY AND HOUSEHOLD INCOME IN BURUNDI

access to improved seeds, farming practices unsuitable for restoring and preserving soil fertility, low agricultural income, and farmers’ inability to invest in their farm business. Restoring and optimizing the potential of the use of fertilizers and soil nutrients by diversifying fertilization practices, and supplying crops with nutrients from sources other than chemical fertilizers, are the main issues that PAPAB aimed to tackle through

its two components: (i) Improving soil fertility through consolidating fertilizer and soil improver supply systems and (ii) Increasing farming productivity and resilience, organizing farmers and facilitating access to markets.

KEY OUTCOMES OF THE PAPAB PROJECT

INCREASING THE RATES OF FERTILIZER USE

The number of farmers enrolled in PNSEB increased significantly with the implementation of the PAPAB project, from 625,892 in 2016 to 865,666 in 2019, a growth rate of 38%. It is estimated that, in 2019, 48% of Burundian farming households had access to fertilizers through PNSEB. The increased rates of fertilizing products used during this same period were 69% for fertilizers and 112% for dolomite. This led to substantial increases in agricultural production. The PNSEB impact assessment study has shown that 81.8% of farmers were more satisfied with the levels of their agricultural production compared to the period before PNSEB.

EXTENSION OF THE PIP AND ISFM APPROACHES

With the Integrated Farm Planning approach implemented by the PAPAB project, 59,575 households have developed their own PIPs, extending the project coverage now to over 205 collines (or 26 communes) across the six initial target provinces, of which 49 collines have developed their visions collinaires.² This number should continue to grow since emphasis has been placed on farmer-to-farmer training through the continuous extension of the PIP and ISFM approaches which will be strengthened by other ongoing projects (mainly PAPAB+³ and PAGRIS⁴). The PIPs form the basis of a continuing process of self-promotion and sustainable development, whereby farming households and communities get involved and organized to implement their individual and community projects.

FINANCIAL INCLUSION AND ACCESS TO FINANCE

Under the PAPAB project, individual and joint initiatives have been strengthened and supported by on-demand technical trainings and facilitation activities to promote the organization of participating households through 1,305 Solidarity Groups for Savings and Loans (VSLAs). These informal structures have also largely contributed to strengthening resilience and social cohesion within target households and communities, while triggering organizational dynamics around savings and loans principles, which gradually led to financial inclusion. These initiatives have also set the stage for more formal structuring dynamics around entrepreneurial and community activities. This provided project beneficiaries with the opportunity to connect with financial institutions and other market players, while developing specific capacities and services to meet common needs.

STRUCTURING FARMERS AND ACCESS TO MARKETS

Increased agricultural production has been a motivating factor in organizing and structuring farming households into Farmer-based Organizations (FBO) and cooperatives, mainly to develop services aimed at improving post-harvest management (including storage) and access to markets. A total of 179 Integrated Collective Plan structures (*Plan Intégré Collectif* - PICs), 93 FBOs and 40 cooperatives have been established. Actions have been launched, with support from the World Food Program (WFP), to provide these community-based structures with quality storage equipment, such as plastic silos and conservation bags. Through the Communal Approach to Agricultural Markets (*Approche Communale de Marché Agricole* - ACMA), the PAPAB project has also promoted the networking of actors and stakeholders, including FBOs and cooperatives, with Microfinance Institutions (MFIs) and local traders, with a view to facilitating the sales of agricultural products at better prices. A total of 25 cooperatives are now operational and have the relevant bodies authorized to carry out their management activities in accordance with their business plan. However, the structuring process, and post-harvest management system in particular, will need a monitoring and supporting framework, after the closure of the PAPAB project, to advance their activities and sustain their self-empowerment.

Calinie Ntahondereye of Colline Nyamaboko in Bujumbura Province and a beneficiary of PAPAB, presents the PIP vision for her household.



Photo © Lisa Murray | Oxfam | 2019

² To that must be added 14,405 PIP households, in 41 collines (or 6 communes), among which 14 have a “vision collinaire” (ex-SCAD project area).

³ PAPAB+: A 9-month project (April–December 2020) led by IFDC to assure the continuity of certain activities specific to the PAPAB project.

⁴ PAGRIS: Project Supporting Responsible and Integrated Soil Management (March 2020–February 2024).

INTRODUCTION: PAPAB AT A GLANCE

PROJECT STAKEHOLDERS

NL Netherlands



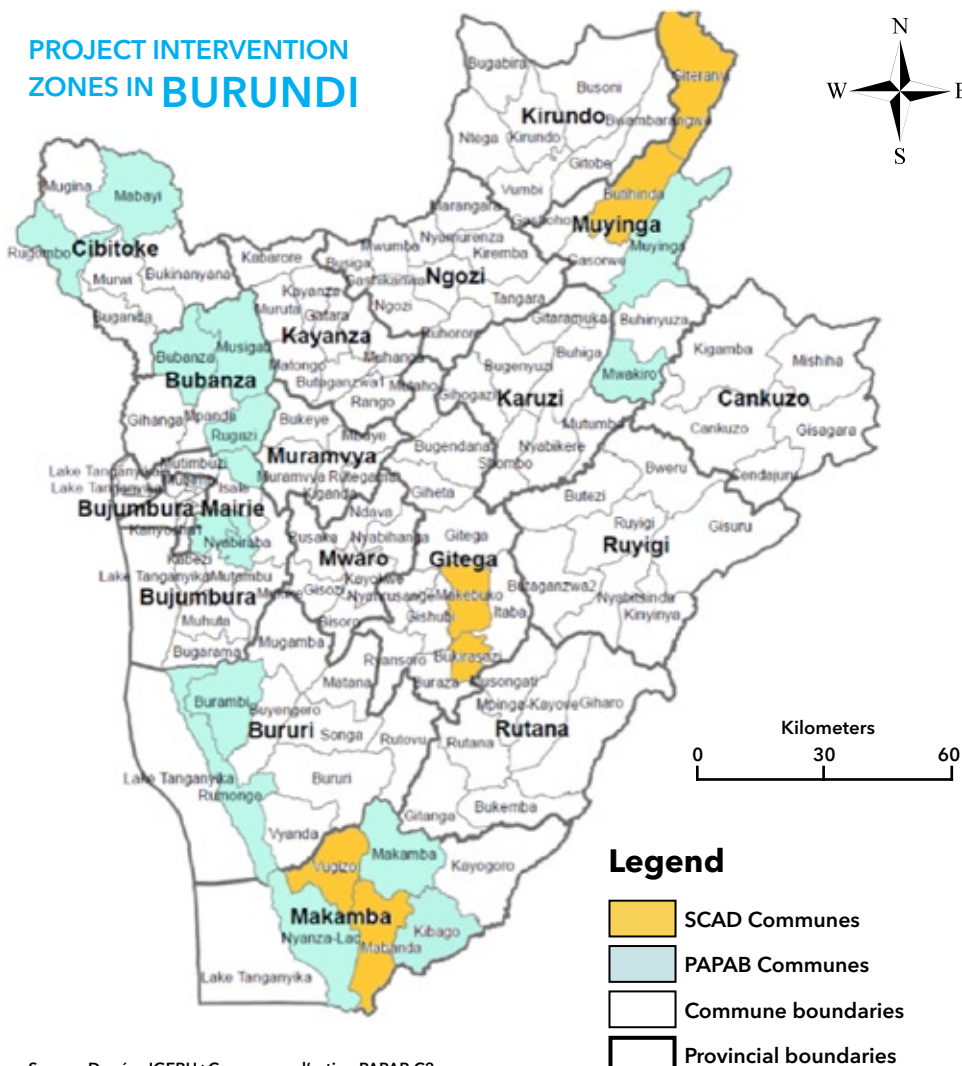
NGO PARTNERS



PRIVATE SECTOR PARTNERS

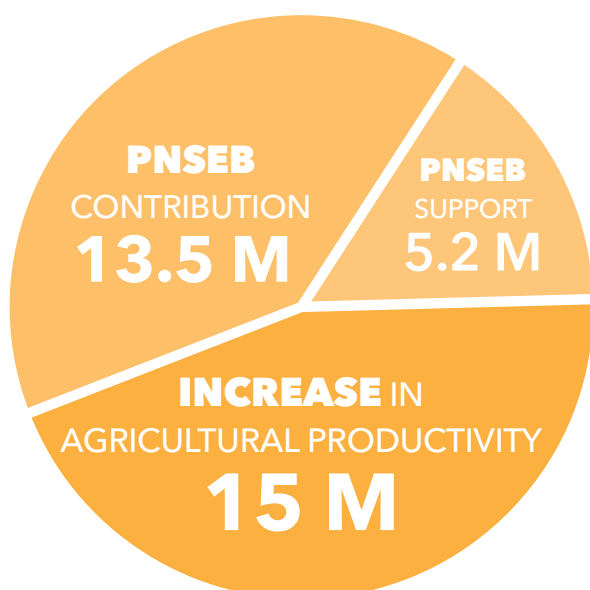


PROJECT INTERVENTION ZONES IN BURUNDI



Source: Données IGEBU+Communes d'action PAPAB C2

TOTAL PROJECT BUDGET: 33.7 M



MAIN OUTCOMES OF COMPONENT 1

2015/2016 → **2018/2019**
 625,892 farmers → 865,866 farmers
 28,780 tonnes fertilizer → 48,672 tonnes fertilizer



MAIN OUTCOMES OF COMPONENT 2



INTEGRATED FARM PLAN (PIP)

The Integrated Farm Plan, "*Plan Intégré Paysan*" (PIP), is a methodological approach to bring about a change in mentality, whereby farming households and communities learn to develop and invest in a vision supported by an integrated plan of change towards a desired future. The PIP approach is based on beneficiaries' awareness of their current situation, their capacities and opportunities for change, taking into account the strengths, weaknesses, opportunities and threats identified at the household, colline and community levels. In line with this, this approach fosters self-management, knowledge sharing and responsible commitment for carrying out jointly defined activities (at household or colline level), including improved management of natural resources. Self-empowerment, integration and collaboration are the key principles of this approach.

SOIL FERTILITY TOOLS (SFT)

Soil Fertility Tools (SFT) refers to a set of techniques that use local soil data as well as online meteorological data to provide an overview of the level of accumulation/decomposition of organic matter and ultimately soil nutrient status. These data serve to formulate nutrient recommendations for different crops. In developing context-specific crop nutrient recommendations, several crop parameters come into play to reflect the local growing conditions at farm level. To determine these parameters, soil testing is carried out in a wet chemistry laboratory, and crop and biomass analyses are carried out, with several replicates, in different agro-ecological zones. With these parameters, the SFT can be calibrated to formulate recommendations. A validation process is required to assess if the recommendations provided allow achieving the best results for farmers.

VILLAGE SAVINGS AND LOANS ASSOCIATION (VSLA)

A Village Savings and Loans Association (VSLA) is a village-level savings and loans system managed by a Solidarity Group for savings and loans, whose members (15 to 30 people) decide on their own to get organized to save money in the form of members' shares. The savings generated go into a credit fund from which members can obtain loans repayable with interest. VSLA is therefore a form of accumulating savings and loans association; a type of autonomous and self-managed financial institution (managed by the community). A management committee of at least five people is entrusted with the collective management of the fund, but all members have a responsibility for the smooth running of operations. The main purpose of a VSLA is to ensure the accessibility of simple savings and loans schemes within a community that does not have access to formal financial services. Under the PAPAB project, the VSLAs have proven to be reliable sources of funding for PIP farmers.

APPROCHE COMMUNALE DES MARCHÉS AGRICOLES (ACMA)

The Communal Approach to Agricultural Markets, "*Approche Communale des Marchés Agricoles*" (ACMA), combines all actions aimed at providing direct economic players with trainings to enable them to remain competitive in a highly competitive market environment. It also facilitates the creation of partnerships between buyers (processors and traders) and Farmer-based Organizations (FbOs). The objectives of the ACMA approach are to : i) strengthen the economic power of local operators in commercial transactions; ii) increase local supply and sales of agricultural products on local markets; and iii) improve marketing conditions for agricultural products.

IGG

Imigwi yo Gutererana no Gufatana mu nda (IGG), Solidarity and Self-Promotion Group, is a type of association that has been established and promoted by ADISCO. It is a form of social inclusion initiative whereby a group of five to ten farmers voluntarily get together for the purposes of mutual aid and solidarity in various self-development activities. The IGGs have set the stage for the development of social and financial inclusion organizations such as VSLAs, and serve as a basis for the structuring of cooperatives.

INTEGRATED SOIL FERTILITY MANAGEMENT (ISFM)

Integrated Soil Fertility Management (ISFM) is an agricultural development strategy based on the combined and efficient use of a set of techniques to improve the availability and sustainability of water and various soil nutrients that crops need to increase land productivity. While not exhaustive, these techniques include the combined use of chemical fertilizers, organic manure, mineral amendments when needed, good quality seeds, soil protection and erosion control measures, improved farming practices, and various other practices for preserving and improving soil fertility.

UNIVERSAL METHOD OF VALUE ACCESS (UMVA)

Universal Method of Value Access (UMVA) is an electronic platform that offers tools and methods designed to facilitate the creation and management (technical and administrative) of an electronic database relating to financial transactions (opening and administering virtual accounts, orders, money transfers and online payments). The platform also supports community-building among farming households. The UMVA system has been used by PAPAB mainly to facilitate grouped fertilizer orders and to support social and financial inclusion initiatives.

OUTCOMES OF PAPAB

OUTCOMES OF COMPONENT 1 CONSOLIDATING FERTILIZER DISTRIBUTION

Five outcomes are presented below with their main driving factors:

- (i) Financial contribution to PNSEB, the National Fertilizer Subsidy Programme (10,687,152 euros for the agricultural seasons between 2016 and 2020). With the gradual reduction of the subsidy rate from 60% to 30%, this contribution helped improve access to fertilizers for 48% of Burundian farmers (865,666 households in 2018/2019).
- (ii) Technical and financial support to the Multimedia Unit of MINEAGRI. This allowed for the timely and nationwide dissemination of key information relating to agricultural seasons, mainly seasonal fertilizer distribution programmes, prices and terms of payment, fertilizer application rates and methods. Within this framework, farmers were kept informed throughout the agricultural seasons, which helped prevent cheating and reduce fraudulent sales of fertilizers.
- (iii) Facilitation of regular consultation frameworks for PNSEB stakeholders through CTFA meetings. This has made it possible to find timely solutions to problems arising unexpectedly during the agricultural seasons.
- (iv) Organization of regular information meetings and trainings for PNSEB stakeholders and partners. The main topics discussed were related to innovations and new appropriate measures carried out. These meetings allowed for transparent management and the sharing of useful information among PNSEB partners.
- (v) Specific studies carried out to support the implementation of the PNSEB programme. The reports of these studies provide information on the strategic orientations and management of Component 1 (see trials on new fertilizer formulas, feasibility study for a local fertilizer plant, PNSEB evaluation study, audit of PNSEB accounts, etc.).



Beneficiary (above) and input dealer (below) of fertilizers within the framework of PNSEB (September 2017, Bubanza province, Rugazi commune).



INCREASED NUMBER OF HOUSEHOLDS USING MINERAL FERTILIZERS

The use of mineral fertilizers promoted within the framework of the PAN-PNSEB project has produced impressive results. However, under this project, the achievement of expected results was hampered by a number of factors including:

- Farmers' poor awareness of the importance of using fertilizers.
- Difficulties with fertilizer payment due to the sparse network of counters for advance and balance payments.
- Inconsistent fertilizer orders due to poor communication on the agricultural calendar, fertilizer application techniques, and ordering procedures.

With the PAPAB project, context-specific strategies have been defined and set in motion to overcome the constraints listed above. These constraint-alleviating measures have significantly improved the recording of payment requests and fertilizer distribution operations as presented below:

- The highly committed involvement of the Provincial Office for Environment, Agriculture and Livestock (BPEAE) in the collines has boosted farmers' awareness and improved the recording of fertilizer demands. Thanks to PAPAB support to the Multimedia Unit of MINEAGRIE, tailored radio messages were broadcast, relayed and supported by BPEAE agents in their respective communes. This has made it possible to convince many farmers who were still reluctant to use chemical fertilizers, which increased their enrolment in PNSEB.
- The entry of new financial operators leading to the multiplication of payment counters for processing orders of fertilizers and limestone amendments. This was the case with National Federation of Cooperatives in Burundi (FENACOBUR) and its 110 counters distributed throughout the country, which, together with RNP, brings the number of counters to a total of 233. This step has facilitated and improved payment operations which are remunerated by PNSEB at the rate of 3.7% of the amounts collected.
- The introduction of grouped orders thanks to the Social and Financial Inclusion Project⁵ (launched on a pilot basis in 3 out of 17 provinces). This has reduced the long queues in front of the counters, notwithstanding the strong increase in fertilizer demand.

- Computerization of counter services and building capacities of operators under PAPAB through technical assistance from PNSEB. This effort has greatly improved payment and reporting operations.
- Exploration (in 2018) by PAPAB of alternative ways to improve the efficiency of PNSEB ordering and payment collection system. Following a call for applications to recruit an efficient operator to facilitate payments, BANCOBU and VIETEL (mobile telephone companies) were selected based on the assessment of their technical and financial proposals. These companies respectively proposed the use of mobile counters and an adaptation of the remote payment system (Lumicash). These options have been implemented on a pilot basis and at a limited scale, but the results were not conclusive. Despite their presupposed user-friendliness, they could not attract as many households as expected, and BANCOBU eventually gave up. However, VIETEL has persevered and has been authorized to operate in all provinces from the agricultural year 2020.
- Electronic registration introduced (in 2019) and adopted across the country to address the shortcomings and dissatisfactions that have long marked PNSEB registration procedures based on handwritten lists. This novelty was introduced and supported by AUXFIN in consultation with the local administration and the Provincial Offices for Environment, Agriculture and Livestock (BPEAE). The financial institutions involved in payment collection were facing serious problems (omission of names or incorrectly entered names) and consequently were led to register fictitious households that were not included in the PNSEB database. Through the AuxFin UMVA platform, an electronic database has been set up to register the total number of 1,026,595 farming households enrolled in the PNSEB project; i.e., about 68% of farming households according to AuxFin Geo-Structure. However, since this database was finally transmitted on May 6th 2020, the data could not be verified by IFDC in the field.

This clearly shows that the number of households enrolled in the PNSEB project has drastically increased (38% based on data from the manual recording system and 64% based on data from the electronic database).

5 Piloted by Auxfin.

INCREASED VOLUMES OF FERTILIZERS USED BY THE PROJECT BENEFICIARY HOUSEHOLDS

With the rising number of PNSEB farmers, the quantities of fertilizers distributed (all categories combined) increased by 69% and that of dolomite by 112%. This outcome was driven by the awareness-raising activities carried out by the project supported by the conclusive and persuasive effects of fertilizer applications in terms of increased yields on farmers' plots, as part of the project strategy. This shows that with an overall increase in crop yields, fertilizer use increased considerably as farmers were more motivated to invest in their farms.

These data support the conclusions of the PNSEB impact assessment study. The report of this study noted a net increase in the average rates of chemical fertilizer used per household and per crop as an outcome of the PNSEB project at the country level.

TABLE 1. Evolution of the number of households enrolled in PNSEB

MANUAL REGISTRATION	
2015/2016	625,892
2018/2019	865,666
% Increase	38%
ELECTRONIC REGISTRATION (UMVA)	
2019/2020	1,026,557
% Increase (Compared to manual registration 2019/2020)	64%



Farmers register and prepay their fertilizer orders at authorized offices.

FIGURE 3. Evolution of the quantities of fertilizers and dolomite used (tons)

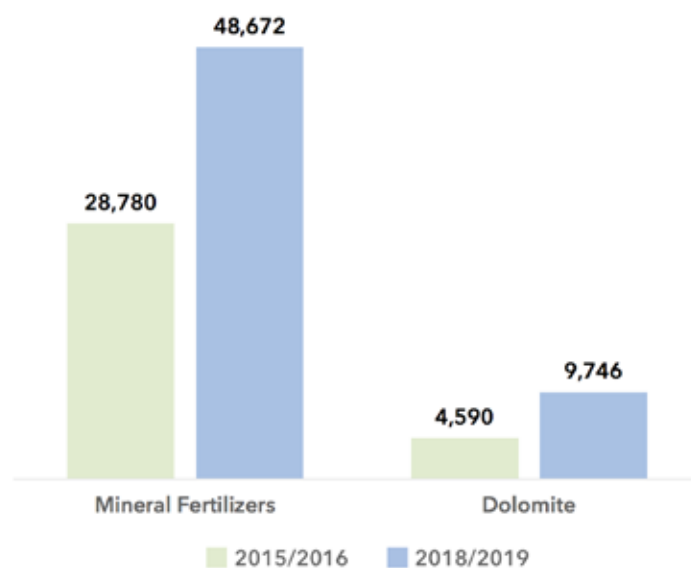
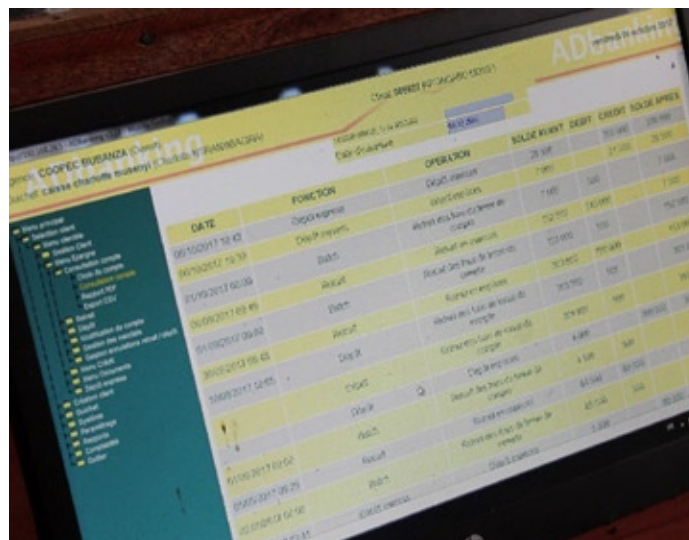


TABLE 2. Comparison of the average quantities (kg) of fertilizers used per household and per crop at national level before and during PNSEB

CROP	2018	Before PNSEB
Rice	15.61 kg	6.95 kg
Maize	29.00 kg	8.97 kg
Bean	17.13 kg	9.33 kg
Potato	12.67 kg	5.37 kg



In exchange, they receive corresponding vouchers (September 2017).

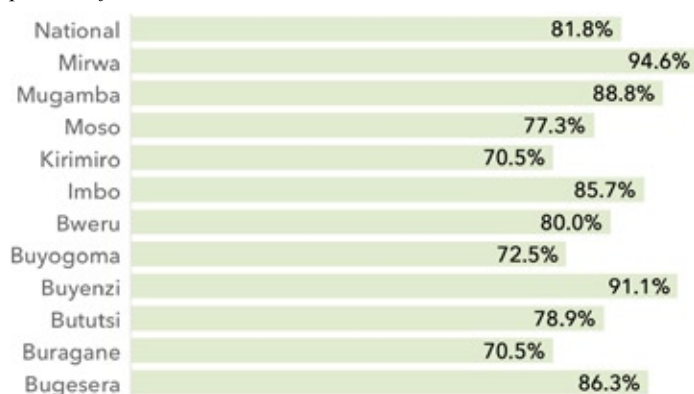


Registration system by COOPEC agents within the framework of PNSEB (September 2017).

INCREASED AGRICULTURAL PRODUCTION

The PNSEB impact assessment study concluded that agricultural production has also increased dramatically as a result of the increase in the number of fertilizer users and in the quantities of fertilizers imported and applied to crops. This study also reported that, while satisfaction levels vary depending on the cropping seasons and the natural regions, 81.8% of respondents stated that their agricultural production had improved compared to the period before PNSEB. The highest satisfaction level was recorded in the Mumirwa region (corresponding to the Congo-Nile Crest, to the east of the Imbo plain).

FIGURE 4. Assessment of agricultural production compared to the period before PNSEB



The increase in number of farmers enrolled and quantities of fertilizers applied is also partly related to the vast awareness-raising and communication campaigns that were systematically launched, with support from IFDC, before the period of balance and advance payments. Relevant press releases were read in churches, broadcasted and posted by BPEAE services. Normally, fertilizer supplying operations follow the logic of orders

placed by zone with the advance payments. However, fertilizer deliveries were delayed on several occasions, often due to the lack of available foreign currency at importers' level, and some shortcomings at the input dealers' level.

PROPOSAL FOR A PROFESSIONALLY-MANAGED FERTILIZER DISTRIBUTION SYSTEM

Based on the weaknesses identified in the fertilizer distribution system, a training and awareness-raising programme was carried out for PNSEB input dealers throughout the country in August 2016. This activity allowed collecting a substantial amount of information on this issue relating to a vital link of the fertilizer subsidy chain. It appeared that input dealers often lack the required skills and resources to effectively perform their functions since they are almost never chosen on the basis of their professionalism. Having assessed the situation, the Technical Committee for Fertilizers and Soil Improvers (CTFA) recommended that competent input dealers be selected following a call for applications and on the basis of specific criteria. The selection of zonal input dealers at the provincial level was carried out with financial and technical support from PAPAB in 2017 and 2018 and their work was expected to begin in the season 2019 A. According to the guidelines established by CTFA, an assessment of distribution performance should be done for each fertilizer importer to gather sufficient elements on the level of service delivery quality to better evaluate candidates during the selection process. However, this process was halted in 2019 due to the suspension of fertilizer imports in an effort to support local production with the coming on stream of a new fertilizer plant FOMI (Fertilizer Organo Minerals Industry). FOMI is now equally in charge of fertilizer distribution at zonal level.

FACILITATION OF FERTILIZER-RELATED OPERATIONS BY SETTING UP A FINANCIAL AND SOCIAL INCLUSION SYSTEM (UMVA AND G50)

In support of PNSEB, IFDC has collaborated with AUXFIN to set up a Social and Financial Inclusion project aimed (through its technology and approaches) at consolidating credit-worthy fertilizer demand. In this context, AUXFIN has developed the G50 approach (organized group of 50 local households) and introduced a new technology (UMVA system) that facilitates farmers' access to various services including financial transactions with MFIs (through individual and collective virtual accounts) and grouped fertilizer orders.

To date, 3,954 G50s grouping 189,591 households are monitored and supervised in the 17 project communes, including three communes in the Kayanza Province (Gatara, Kayanza and Muruta), three communes in the Karusi Province (Nyabikere, Bugenyuzi, Buhiga) and 11 communes in the Gitega Province (the whole province). The 3,954 G50s have access to the ICT infrastructure (tablets and solar panels) to connect to the UMVA platform and perform various operations. The following activities have been carried out to achieve defined objectives and expected outcomes:

- Reorganizing the G50 structure to improve the efficiency of operations and facilitate the registration of farmer groups as associations in their communes.
- Building up group members' capacity to use the UMVA system for their operations (39,100 people including group leaders and some 5 to 10 members per G50 know how to use the platform). All beneficiaries have easy access to basic financial services (trading account and electronic financial ecosystem via UMVA). The 189,591 enrolled farmers have each an individual trading account in UMVA; 30% of G50 members manage their operations (savings, transfers and payments) online via UMVA.
- Strengthening the savings service and extending its scope beyond the context of the PNSEB project by adding savings for seeds, insurance and various services: around 80% (136,008 households) of G50s made grouped payments via the UMVA system; 17,129 individual fertilizer orders were made via the system; 189,591 households have been informed about access to financing and the benefits of being connected to a MFI institution. They also have access to information related to health issues and agricultural insurance schemes

- Preparing G50s to evolve into cooperatives and become autonomous: four pre-cooperatives were set up at the rate of one pre-cooperative per commune where the UMVA centres are located;
- Connecting G50s to MFIs and other institutions: all members of the 3,954 G50s have individual accounts connected to the group account with the MFI;
- Facilitating remote access to information and services requires a minimum of basic infrastructure. Tablets and systems designed to meet the real needs of agricultural operators have been made available to them;
- Introduction of the PIP approach in selected Gitega collines. The adaptability of the G50 approach to any other community-based approach for collective development made it possible to obtain better returns on expected results;
- Re-checking recorded cropping areas. Project beneficiaries have learned to tailor their fertilizer orders to the size of their plots. Knowing the size of their plots allowed farmers to better plan ahead for their input needs.

NEW FERTILIZER FORMULAS AND MEASURES TO CORRECT SOIL ACIDITY ARE TESTED AND VALIDATED

To complement its efforts to promote the use of chemical fertilizers, PAPAB has contributed to an experimental programme on new fertilizer formulas adapted to the current fertility status of Burundian soils. These experiments were carried out within the framework of a partnership between IFDC and the Ministry of Environment, Agriculture and Livestock, especially the National Agricultural Research Institute of Burundi (ISABU) and the Soil Fertility Directorate (DFS). These experiments aimed at providing farmers with complete and more productive fertilizer formulas, incorporating major nutrients (NPK), secondary nutrients (sulphur) and micro-nutrients (zinc, copper and boron) that are deficient in Burundian soils. This initiative was based on the analysis of soil samples carried out in 2013 within the framework of the Project Supporting the New Fertilizer Subsidy Programme of Burundi (PAN-PNSEB). The new soil fertilizer recommendations were not completed at the end of the PAN-PNSEB project, although the soil fertility mapping had been done. This experimental programme continued within the framework of the PAPAB project in order to develop the final recommendations.

A first report produced in 2018 was presented and validated at a meeting held on August 14, 2018. The meeting stressed the importance of adding micro-nutrients to fertilizer formulas, and the benefits of soil liming. Faced with the multiplicity of nutrient sources that are available on the market (sulphates and oxides, NPS fertilizers, AMIDAS, etc.), the meeting recommended to set up trials for an in-depth study on micronutrients incorporation processes (granular method or coating). These trials should be carried out with a sufficient number of replications, since different parameters can influence the efficiency and profitability of the proposed fertilizer formulas. Moreover, the trials should extend over two additional seasons to allow a better assessment of these fertilization options, even if that entails developing, within a short period, formulas that could be adapted based on these parameters. It should be possible to produce the adapted formulas by local fertilizer plants in the region and better meet the requirements of both beneficiary farmers and input dealers. It was also recommended to set up a scientific platform to address issues related to fertilizers and soil improvers. This platform should decide on the experimental protocol for the additional seasons, even if that means speeding up research findings. The proposed platform was set up with the participation of key scientists from ISABU, some universities and IFDC. They met for the first time on August 24, 2018 to agree on the experimental protocol for 2019 A and B. It was then recommended that the platform be officially appointed with a specific mandate to become operational.

Following the additional trials carried out in 2019 and 2020, an updated version of the 2018 report was produced. However, a restitution session does not seem justified at this stage given the change of emphasis on the part of MINEAGRIE and the company FOMI with respect to the production and distribution of three new organo-mineral fertilizer formulas. However, the data from this report remain relevant and useful for the continued improvement of the new formulas, based on the research

outcomes presented below and particularly those relating to additional profits and economic returns (Table 3).

Compared to the current ISABU recommendations, the new fertilizer formulas performed better and provided significant additional profits for potato, maize, rice and climbing bean. However, profit was lower for dwarf bean. For all crops, fertilizer subsidy has reduced production costs and increased profits for farmers.

Overall, the incorporation of micronutrients in fertilizer recommendations has led to considerable increases in yields and profits for farmers. This can be built on to improve organo-mineral recommendations. Successful implementation of this fertilization option would require support from the scientific platform (IFDC-Universities-ISABU-DFS) including the fertilizer company FOMI. Meanwhile, advocacy efforts should be undertaken through the new PAGRIS project to ensure that this platform is formally established with a legal and operational framework.

NUTRIENT OMISSION TRIALS ON CASSAVA

A memorandum of understanding was concluded between IFDC/PAPAB and IITA/CIALCA on August 2018 to implement joint cassava fertilizer trials. The objective of this experimental initiative was to generate a database on cassava yields, yield response to nutrients, and nutrient uptake in different agro-ecological zones. The data collected served to calibrate decision-making tools on the use of fertilizers and soil improvers.

Two institutions were tasked with collecting data:

- IITA for leaf sampling.
- IFDC for soil sampling, measurement of morphological parameters, vulnerability scoring for pests and diseases, harvest data (yield, root quality).

The benefit of such collaboration include the synergy of actions, the pooling of IFDC and IITA expertise, cost and work sharing, efficient use of resources, ease of validation

TABLE 3. Increased production and profits by using the new improved formulas per crop compared to previous recommendations

CROPS	EXISTING FORMULAS	IMPROVED FORMULAS	ADDITIONAL PRODUCTION (KG/HA)	ADDITIONAL PRODUCTION (%)	ADDITIONAL PROFIT (BIF/HA)
	N-P ₂ O ₅ -K ₂ O	N-P ₂ O ₅ -K ₂ O-S-Zn-B-Cu			
Maize	45-60-30	64-37-15-6-0.4-0.25-0.2	1,727	42	1,208,000
Rice	75-30-30	68-35-34-6.3-0.6-0.6-0.3	1,272	29	1,081,000
Climbing bean	18-46-30	22-44-17-7-0.5-0.3-0.25	579	22	579,000
Dwarf bean	18-46-30	15-29-12-5-0.3-0.2-0.17	143	10	143,000
Potato	60-90-60	60-73-59-12-0.8-0.5-0.4	2,415	23	1,932,000

and extension of the outcomes of research carried out by several partners. The Nutrient Omission Trials on Cassava is a region-wide experimental programme implemented in Burundi, Rwanda and South Kivu in the Democratic Republic of Congo. In Burundi, IFDC and IITA partnered to carry out these trials which were installed in November 2018 on 45 sites in the communes of Rugombo, Buganda, Rumonge, Nyanzalac, Makamba and Kayogoro. Harvest has been completed on the experimental sites and result analysis is ongoing.

These trials have been set up again in the 2020 A season on 40 sites in Rumonge, Nyanzalac, Makamba and Kayogoro for the second replication. They will be carried out under the new PAGRIS project, through which the final results will be disseminated.

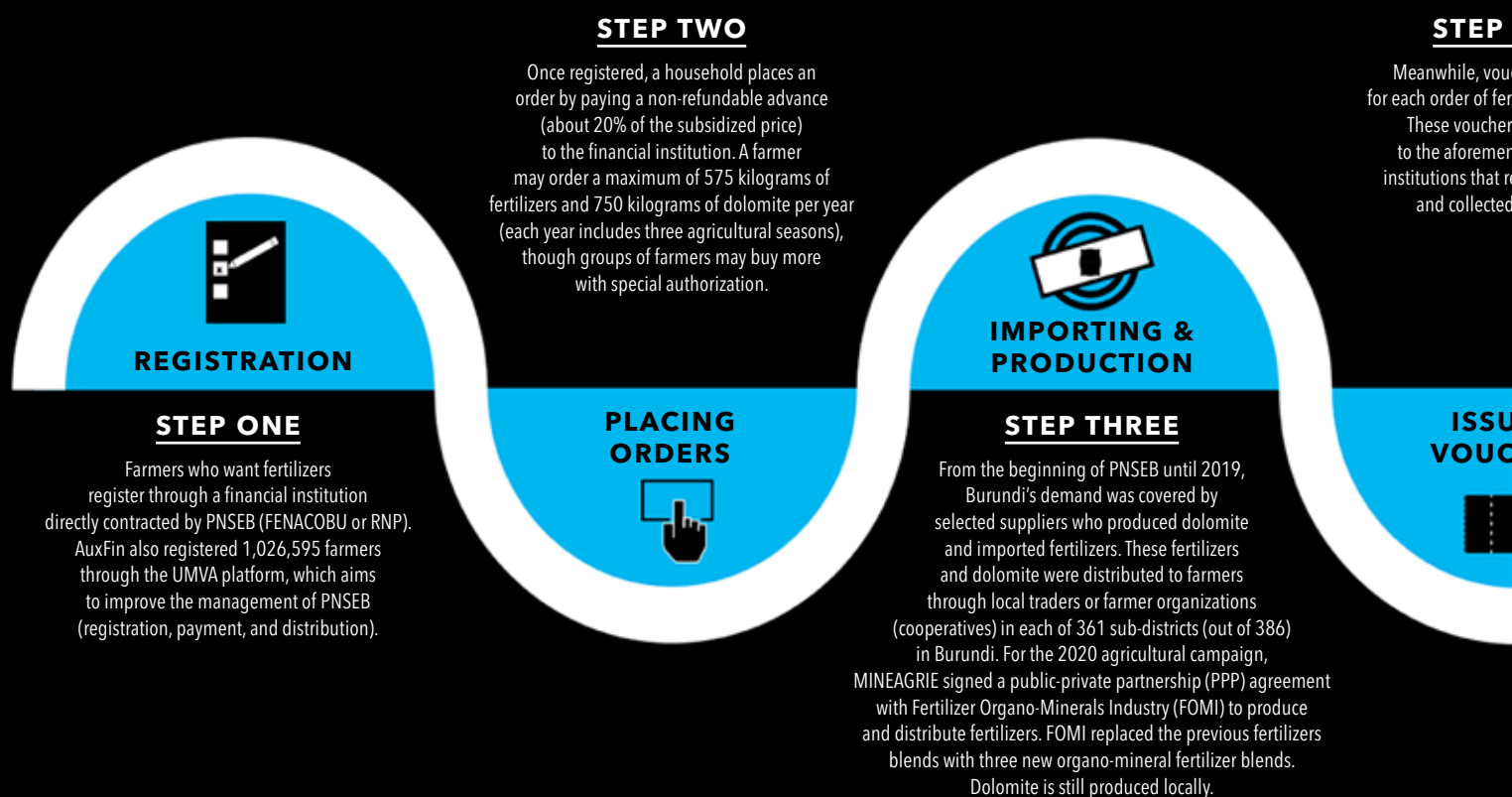
RECOMMENDATIONS FOR SOIL LIMING IN BURUNDI

Trials on the dosage of dolomite based on soil pH levels were carried out in 31 communes with highly acidic soils. These trials, which started in the 2015 B season, were needed to correct soil acidity (around 30% of cultivated soils), increase fertilizer use efficiency while reducing fertilizer acidifying effect, correct soil deficiency in calcium, magnesium, and other exchangeable bases.

In 2018, a database on the results of these trials was developed and submitted for verification and approval by a commission appointed by the Minister of Environment, Agriculture and Livestock. The database was validated and now covers 7,941 farms of 4 acres each. The statistical processing of data was under the scientific responsibility of ISABU which has collaborated with IFDC and the Soil Fertility Directorate (DFS) in the design and implementation of these trials.

The results of data analysis will feed into a report on the recommendations for soil liming in Burundi based on different pH levels.

THE PNSEB PROCESS



IMPROVING THE TECHNICAL AND FINANCIAL MANAGEMENT OF PNSEB

The PAPAB project provided technical support to MINAGRIE accounting unit in preparing for the external audit of the Common Fund for the 2014 and 2015 fiscal years. PAPAB support also included financing the feasibility study for the construction of the fertilizer plant (FOMi) commissioned by CTFA, in order to assess its effectiveness and viability in relation to PNSEB. The final report of the study (carried out in January / February 2017) highlighted the profitability of this fertilizer plant. In compliance with the memorandum of

understanding between IFDC and MINEAGRIE, and a contract concluded on September 26, 2016, relating to the sharing of subsidy repayment to fertilizer dealers, an amount of 10,687,152 euros was earmarked to support PNSEB over four agricultural seasons (2016, 2017, 2018 and 2019). Upon the instructions of the donor (EKN), the remaining 2,400,000 euros will be kept in reserve for the 2021 season.

CONCLUSIONS AND RECOMMENDATIONS

The various activities carried out within the framework of the PAPAB project with a view to consolidating the fertilizer distribution system have boosted the demand and effective use of fertilizers in Burundi. The number of households enrolled in PNSEB has considerably increased. The same applied to the volume of orders for dolomite (112%) and fertilizers (69%), all types combined. Support provided for the technical and financial management of PAPAB was also effective, since the project accounts have been regularly audited and the expected subsidy has been earmarked. Another significant outcome is that, based on the report of the technical feasibility study on FOMi fertilizer plant carried out with support from PAPAB, fertilizers are now

TABLE 4. Contribution of the PAPAB project to PNSEB (Euros)

CROP YEAR	PLANNED	ACHIEVED	RATE OF PROGRESS
2015-2016	2,500,000	0	0%
2016-2017	2,400,000	2,037,092	85%
2017-2018	2,400,000	5,962,588	248%
2018-2019	2,400,000	2,490,204	104%
2019-2020	2,400,000	197,267	8%
2020-2021	-	(2,400,000)	100%
Total	12,100,000	10,687,152 (13,087,152)	88% (108%)

FOUR

chess are printed
fertilizer and dolomite.
s are delivered
tioned financial
received the orders
the advance.

ING HERS



PAYMENT & PICKUP

STEP FIVE

Farmers pay the balance of the order to receive the corresponding vouchers. They present the vouchers to the distribution point near their colline to receive their order.

STEP SIX

Each supplier presents the vouchers to the voucher firm. The firm verifies the vouchers and presents them to the Ministry of Environment, Agriculture, and Livestock, which then reimburses the suppliers.

REIMBURSEMENT OF SUPPLIERS



RESULTS

2018/2019

865,866
farmers were
registered

48,672 tonnes of fertilizer
were distributed

9,746 tonnes of dolomite
were distributed

produced locally, which results in foreign exchange savings and employment opportunities offered by the new plant.

However, despite the subsidy, fertilizer prices have remained relatively high with no signs of slowing down as expected. The subsidy rate also remained at 30% with no signs of declining as initially expected. To boost the adoption and ensure the sustainability of fertilizer use, the State should switch to a degressive subsidy system and adjust, when necessary, to the actual situation in terms of fertilizer needs and farmers' purchasing power.

The current system of farmer registration and the system of fertilizer payment and distribution through PNSEB have revealed a number of flaws as observed during the final project appraisal. This hinders wider adoption and better use of fertilizers and dolomite by farmers to improve agricultural production.

A context-specific strategy of integrated soil fertility management that links soil protection, soil amendment, and plant nutrition, should be further discussed with farmers and agricultural trainers. This strategy should also guide FOMI in the development of suitable fertilizer formulas in the future.

Local fertilizer production has so far been focused on food crops. This opportunity should be extended also to export crops in order to maximize foreign currency savings.

Carrying out trials on the new fertilizer formulas was a time-consuming and energy-intensive process. The FOMI plant should consider these research findings in choosing the types of fertilizers to produce rather than investing in further trials or producing fertilizers without scientifically validated technical references.



PIP farmers from the province of Bujumbura (left) and Bubanza (right).



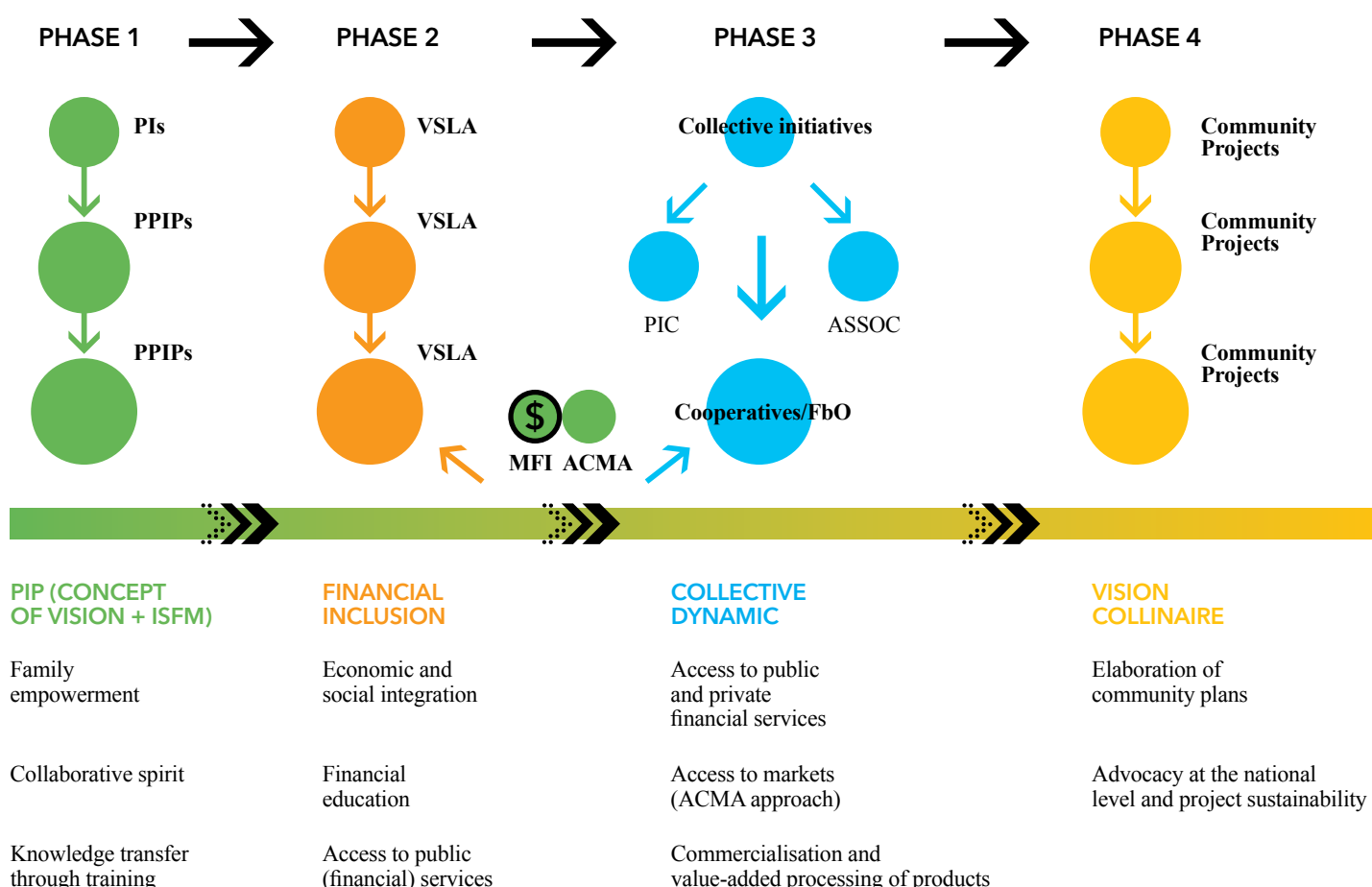
OUTCOMES OF COMPONENT 2 INCREASING AGRICULTURAL PRODUCTION, RESILIENCE, ORGANIZING FARMERS, AND ACCESS TO MARKETS

PAPAB Component 2 addresses challenges resulting from a combination of complex and interrelated factors that place farming households in a vicious circle from which it seems impossible to escape. Aware of this situation, the PAPAB project has chosen not to provide ready made solutions to households and then to communities, but rather to support and accompany them in analysing the challenges faced, identifying individual and collective projects and acquiring the knowledge necessary for

their implementation. The end of the tunnel can only be seen through fundamental changes in mentality, beliefs, ways of doing things, and above all with the household vision for the future. This calls for a judicious allocation of available resources for an inclusive household development in which every member takes part.

Farmers should be convinced that protecting their farms against erosion and applying proven agricultural practices and climate-resilient techniques has proved to be an essential strategy to sustainably restore and improve soil fertility. This exercise requires that the farm vision be extended to the entire watershed to expect significant changes at the community level. Above all, farmers must be convinced that by acting alone they can achieve little, while together they can do better and

FIGURE 5. Presentation diagram of PAPAB Component 2 approaches

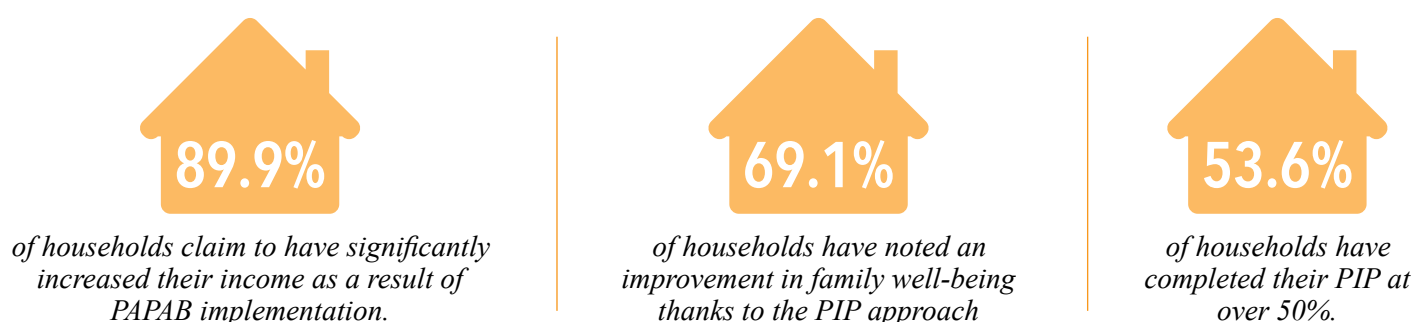


more. Based on these assumptions, the PIP approach was adopted for the implementation of the PAPAB project (Fig. 3). This particularly innovative and empowering approach fits perfectly with other technical approaches such as ISFM; financial inclusion approaches such as VSLA and IGG, the gender approach, the *vision collinaire*, etc. The outcomes of Component 2 were achieved through the reasoned application of these approaches, and provide a strong basis that ensures ownership and sustainability of household and community projects.

This was facilitated by specific structuring strategies supported by targeted communication and advocacy programmes.

In the *collines* implementing the PIP approach, an impact assessment study highlighted, among other results, greater motivation, ownership and resilience among the project beneficiaries (Fig. 6).

FIGURE 6. Assessment of PIP impact on PAPAB project beneficiaries



THE PIP APPROACH AS A DRIVER OF CHANGE AND ISFM AS A PRIORITY MEASURE

The PIP approach has been at the core of the implementation of all activities under the PAPAB project to sustainably strengthen household resilience and improve their well-being. Initiated by the SCAD project in 2013 in Gitega Province, this approach has proven to be a technical instrument for promoting resilient agricultural systems, thereby contributing to sustainable agricultural development. Promoting this approach at community level was one of the flagship activities prior to the implementation of the whole range of activities within the framework of the PAPAB project.

The adoption of the PIP approach induces fundamental changes within individuals, households and communities. PIP farmers become agents of change. They are empowered to invest in their future and take their skills and their knowledge seriously. Therefore, PIP offers a different 'narrative' compared to other similar projects, and fosters motivation for action.

This approach enables to visualize the future through a plan; an achievable plan developed by the family on its own. Ownership and a shared family vision are essential to intrinsically motivate household members to act for change. PIP triggers tangible change as short-term gains are achieved due rapid to the fact that knowledge flows quickly and people are eager to learn from others. The integration and diversification of activities ensure more resilience and sustainability. The approach stimulates collaboration and fosters cohesion within communities, as people are more united, with enhanced social capital (trust, reciprocity, networks) and more willingness to learn from one another. This leads to faster scale-up and stronger participation. At the end, PIP drives stronger commitment and creates a conducive environment for those who take responsibility, including staff and farming families with a new state of mind, until policy makers also become fully engaged in the PIP approach.

Through PIP, PAPAB has imprinted a culture of dialogue and social justice within PIP households. The development of a PIP is based on discussions involving all family members. These discussions focus, among others, on identifying the strengths and weaknesses of the household, opportunities available to the household, priority and realistic activities constituting the household action plan, the action plan implementation timeframe, roles distribution, expenses involved and the origin of resources between husband and wife, etc. This

transparent debate creates a culture of dialogue and equality, particularly with regard to the division of tasks and allocation of resources, etc. This exercise that household members undertake as regularly as possible, helps at the same time to address issues that are the root causes of recurring crises in many households. Women, who are usually overburdened with farm and household activities, can breathe now. The management of the scarce family resources is no longer a taboo subject or the exclusive responsibility of the household head. In short, an atmosphere characterized by peaceful dialogue and mutual understanding prevails within the household.

The impact study carried out towards the end of the PAPAB project confirmed the huge impact of the PIP approach in the PAPAB collines. Based on data collected from 962 farmers spread over 35 collines in five provinces of Burundi, this impact study assessed the effectiveness of the PIP approach in strengthening its basic principles, namely motivation, resilience and accountability. The results of a wide range of rigorous statistical analyses show that PIP farmers are more motivated, more resilient, and have become better stewards of their land compared to farmers who did not participate in the PIP approach. The analyses further show that the food security situation of PIP farmers is less volatile throughout the year (see Figure 2) and that they are more food secure > 20% during the lean season, compared to non-PIP farmers.

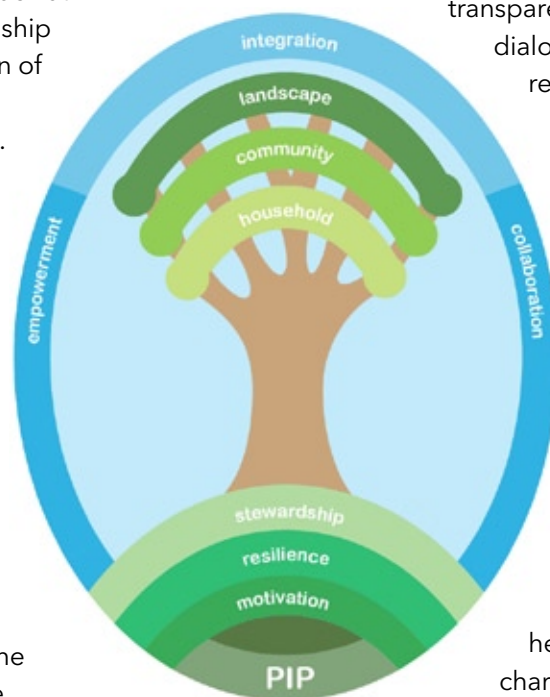


FIGURE 7. Diagram of the PIP approach (Source: WenR)

The impact study also shows that the sequential targeting strategy underlying the PIP approach (whereby farmers of the first PIP generation train farmers of the second PIP generation, etc.) is inclusive and has also reached poorer farmers of later generations. According to this study, the strongest impact was observed among the Innovative Farmers (PIs), followed by second and third generations that were trained afterwards. It is interesting to note that farmers of the fourth PIP generation have seen accelerated changes in terms of motivation and to a lesser extent in responsibility and resilience. These are farmers from the adjacent collines, who became motivated enough to start their own PIPs because they have heard from other farmers that PIP works. This confirms the huge potential of the PIP approach which needs to be further scaled up in the same PAPAB communes, but also in other provinces, with new organizations adopting the approach as their main development strategy.

Overall, this impact study has shown that the PIP approach is very effective in increasing motivation, resilience and accountability. It also recommends that the approach be further expanded wherever possible. This is obviously a great success for the PAPAB project and its partners that have become the advocates of the PIP approach, not for opportunistic reasons or objectives, but rather because they are convinced that this bottom-up approach delivers results. They have actually seen the evidence of its impact: collines totally transformed with more resilient cropping systems, motivated farming households that have become better stewards of their land, and work together for a more sustainable future for their collines and their environment.

The PIP approach fosters the development of a vision towards a desired future and strengthens the capacities of households in all relevant technical areas. Although sustainable farming is at the core of PIP, other types of activities are integrated, including those related to health, training, agricultural products processing, appropriate equipment, improved housing, micro-credits, etc. Emphasis is placed on knowledge transfer through farmer-to-farmer training. In line with this, within the four years of the PAPAB project, 59,575 farming households were trained (in five generations) on the PIP approach and have become “agricultural entrepreneurs” thanks to their PIPs. To this number should be added the 14,045 households trained since 2014 in the 41 collines of Muyinga, Gitega and Makamba provinces initially under the supervision of SCAD, a task eventually taken over by PAPAB. In total 73,620 households have developed and implemented their PIPs.

While PIP was initially limited to the 28 pilot *collines* of the six PAPAB provinces, this approach is currently implemented in 205 collines, some of which fall under the jurisdiction of provinces located outside the project area (case of Rutana and Bururi).

Following the development and implementation of their PIPs, the households involved – in a second step – felt the need to scale up the approach to colline level. Therefore communities in 49 (PAPAB) collines and 14 (SCAD) collines have collectively developed their visions collinaires. Some of the projects included have already been implemented (with the communities’ own resources and / or with PAPAB support) while others are expecting external support to cover costs that are beyond the communities’ means. The projects implemented within



Farmer to farmer training session at Musigati, Bubanza (October 2017).

the framework of the visions collinaires focused on access roads, water supplies, standpipes, culverts, anti-erosion ditches surrounding the watersheds, etc. A number of initiatives were supported by the communication and advocacy efforts invested by the PAPAB project to promote the use of these visions collinaires in order to feed into the Collective Community Development Plans (PCDC). By being integrated in national development policies, the PIP approach and community projects gain in ownership and sustainability, which should ensure their continuity and their extension.

When designing their desired vision and their action plan, PIP households learn to structure their projects primarily around six pillars: (i) Agriculture; (ii) Livestock; (iii) Soil protection and soil fertility restoration; (iv) Income generating activities; (v) Household well-being; and (vi) Training.

Although all these pillars are important and interrelated, the soil protection and soil fertility restoration pillar has been a priority in the technical and direct support provided by PAPAB. The project initially focused on training PIP farmers and other stakeholders (staff member, administrative personnel, BPEAE services, community structures), on the principles of Integrated Soil Fertility Management, and good erosion control practices. These trainings helped PIP farmers to better understand the importance of protecting soils against erosion and restoring their fertility in an integrated manner. In this way, PIP households could access technical and specific information enabling them to define priority actions, and select the best practices relevant to their situation to make their projects more realistic. The objective was to equip PIP's households with the skills required to meet the challenge of a sustainable increase in agricultural production. Raising awareness and training communities were the flagship activities of the PAPAB project.

Based on the nature of the PIPs developed, other technical trainings and experience-sharing visits were organized on request, focusing on two pillars: (i) Agriculture and (ii) Livestock. These trainings reinforced individual and / or collective initiatives undertaken by PIP households. Training areas included agroforestry and fruit tree nurseries which have emerged gradually as

FIGURE 8. Evolution of the number of PPIPs trained by generation

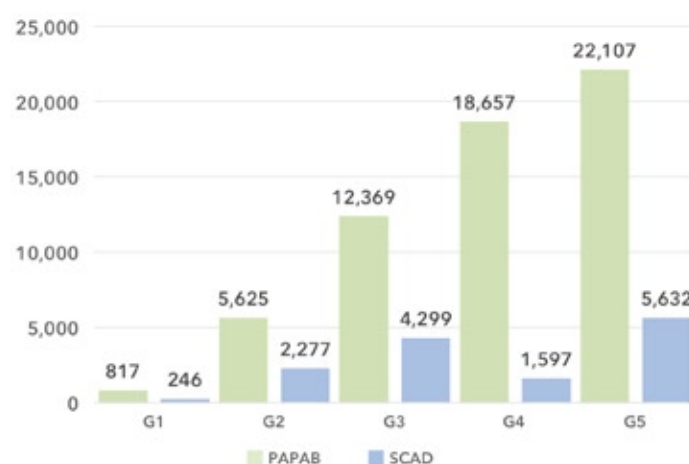


TABLE 5. Mapping of PIP communes and collines under PAPAB

	INITIAL	EXTENDED	TOTAL
Number of communes	14	12	26
Total collines	353	219	572
Collines PIP	183	22	205
Coverage rate	0.52	0.1	0.36
Collines with a "vision collinaire"	49	-	-
Coverage rate	0.14	-	-

the PIP approach was spreading in the collines (grafting techniques, use of crop protection products, nursery maintenance, etc.); but also management techniques for innovative crops (mushrooms, beetroot, ginger, etc.) and livestock (pigs, chickens, beekeeping, etc.).

These initiatives were also supported by the PAPAB project through prize awards during "Graduation day". This event closing the different phases of promotion of the PIP approach from one generation to another, offered formidable opportunities for raising awareness on priority issues and the importance of the PIP approach. It also allowed to boost the promotion of innovative crops through the distribution of awards in the form of improved seeds, inputs for the production of agroforestry trees, small equipment for the installation of anti-erosion devices, etc.

FIGURE 9. Plants produced with the support of PAPAB

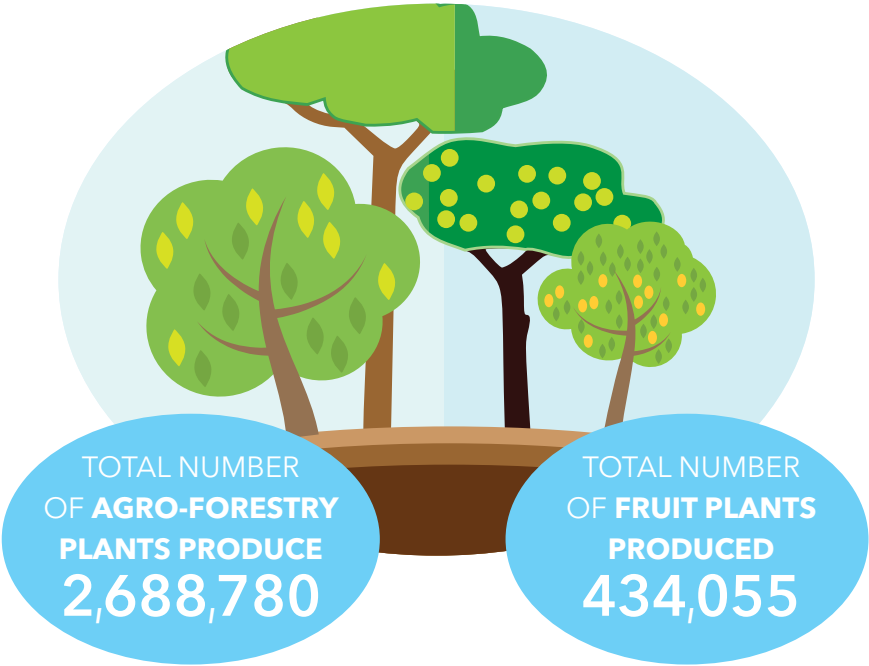


FIGURE 11. The household PIP at colline scale

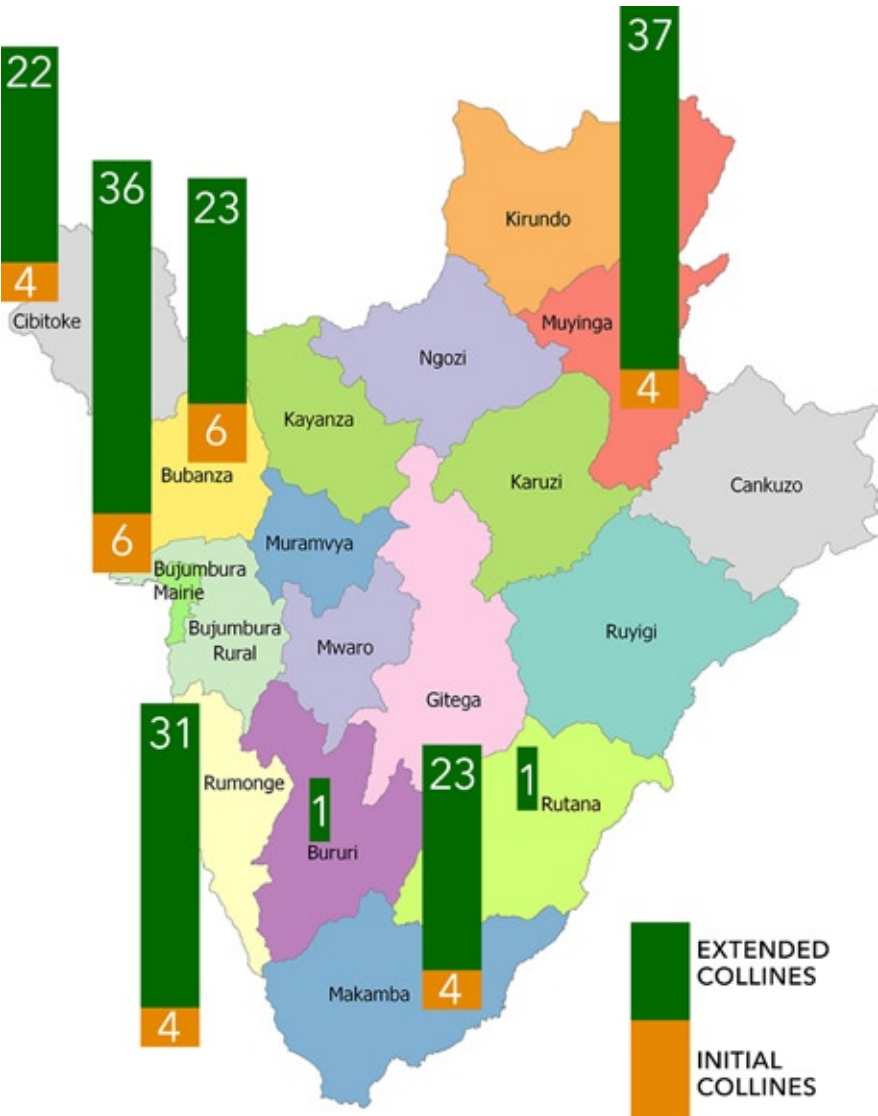


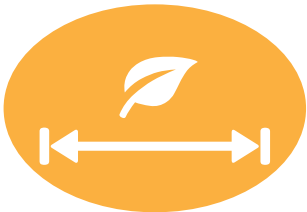
FIGURE 10. Anti-erosion pits built on contour lines



1,900 km
STAKED
LENGTH



1,204 km
EXCAVATED
LENGTH



1,070 km
PLANTED
LENGTH

THE PIP STORY

IN BURUNDI, AGRICULTURE REMAINS A POORLY DEVELOPED AND LOW-VALUE ACTIVITY. FARMERS OFTEN WAIT FOR EXTERNAL SUPPORT AS THE ONLY WAY OUT OF THEIR SITUATION.

TOGETHER, THEY DEVELOP THEIR INTEGRATED FARM PLAN WITH A VISION OF THEIR FARM IN 3 TO 5 YEARS. THIS IS DONE IN THE MAIN ROOM OF THE HOUSE AS AN ENCOURAGEMENT TO IMPROVE THEIR FUTURE.

THE DEVELOPMENT AND IMPLEMENTATION OF THE IPP IS GUIDED BY THE KEY PRINCIPLES OF THE "INTEGRATED SOIL FERTILITY MANAGEMENT" APPROACH. THE FIRST ACTIONS TO IMPLEMENT ARE TO PROTECT PLOTS FROM EROSION.

ONE DAY, THE FAMILY OF THÉOPHILE AND CALINIE (COLLINE NYAMABOKO) DECIDED TO ENGAGE IN THE PIP APPROACH, NOTICING THE CHANGES IN THEIR PIP NEIGHBORS.

MEN AND WOMEN WORK TOGETHER TO IMPLEMENT INNOVATIVE TECHNOLOGIES AND GOOD AGRICULTURAL PRACTICES, BENEFITING FROM THEIR PERSONAL EXPERIENCES AS WELL AS THOSE OF THEIR NEIGHBORS.

THROUGH THE PIP APPROACH, THÉOPHILE AND CALINIE'S FAMILY SEES THE PRODUCTIVITY OF THEIR FARM INCREASE PROGRESSIVELY AND SUSTAINABLY, AND THEY TAKE JUSTIFIABLE PRIDE IN THEIR OWN RESULTS.

N (PIP)
DISPLAYED
MENT TO

MENTATION OF
PRINCIPLES OF THE
MANAGEMENT" (ISFM)
S OF WHICH ARE TO
N.

FAMILY MEMBERS ORGANIZE THEMSELVES
TOGETHER FOR THE IMPLEMENTATION
OF THEIR PIP, IN PARTICULAR BY MAKING
COMMITMENTS ON THE MANAGEMENT OF
FAMILY RESOURCES AND INCOME.



THE INCOME GENERATED IS
INVESTED PRIMARILY IN FOOD,
IMPROVED HOUSING, AND
SCHOOLING FOR CHILDREN.

FAMILIES ENGAGE IN A PROCESS
OF POSITIVE, SUSTAINABLE, AND
INCLUSIVE CHANGE.





A GSEC from Mubimbi (province of Bujumbura) during their ordinary meeting (July 2018).



PIP HOUSEHOLDS ORGANIZE THEMSELVES INTO “SOLIDARITY GROUPS FOR SAVINGS AND LOANS” TO STRENGTHEN THEIR RESILIENCE AND PROMOTE THEIR FINANCIAL INCLUSION

One of the major problems facing PIP households is the lack of resources to finance their PIPs. Organizing themselves in Solidarity Groups for Savings and Loans (GSEC) allows (i) acquiring the basic notions of financial education, (ii) mobilizing savings, (iii) accessing loans for smallholder farmers, (iv) strengthening the economic power of project beneficiaries, (v) financing individual PIPs and (vi) connecting with formal financial services; while further strengthening household resilience. Based on the clear benefits linked to these types of structure, PAPAB has facilitated the creation and supported the development of the GSECs through two main approaches, the *Imigwi yo Gutererana no Gufatana mu nda* (IGGs: Groups for Solidarity and Self-Promotion) and the VSLAs (Village Savings and Loans Associations).

IGG is a step towards VSLA. With a maximum of 10 members, it is structured around mutual aid and solidarity activities. The savings collected aim at directly financing an activity previously agreed upon within the group, benefiting each member of the group in turn. These groups are also organized to jointly carry out mutual aid activities such as “*Ikibiri*” (organization of field work in groups).

The VSLAs are made up of 25 to 30 members, mainly structured around savings and loans issues. These associations operate in line with a well-established process introduced by CARE, a non-governmental organization initiator of that approach based on a 12 month cycle. The VSLAs have already a more structured format, with double-entry book-keeping system (debits and credits); integration of the concept of interest rate recovered at the end of the cycle; and application of operating rules and procedures for group activities and meetings.

This is an important step towards organizing farming households around more structuring activities which form the third line of operations of PAPAB Component 2. With the GSECs, farming households realize the possibilities and benefits of getting organized to develop activities together. In addition to those mentioned below, these activities strengthen social ties within communities by creating spaces where people can meet, exchange, and share. They can also reflect on issues of interest to them and define relevant activities as an essential basis for getting organized to develop community projects.

The GSECs have boosted the self-development dynamics mainly through:

- (a) Access to finance: The VSLA approach has enabled members to access financing for: (i) leasing of farming land; (ii) housing improvement; (iii) loans repayment; (iv) children education; (v) purchasing food; (vi) health care; (vii) raising small livestock; and (viii) improved nutrition.
- (b) Achievement of objectives: The implementation of VSLAs has made it easier to: (i) meet the needs and achieve the objectives of VSLA family members; (ii) increase household development (contribution to covering some family needs); (iii) promote AGRs through the VSLA credit scheme; and (iv) assist PPIP members in implementing their PIPs.
- (c) Economic power: The VSLA approach made it possible to: (i) improve household income thanks to properly constituted savings; (ii) make investments thanks to VSLA credit; (iii) reduce poverty levels in VSLA member households thanks to VSLA credit; and (iv) eliminate the loan-sharking phenomenon (*umurwazo*) in the VSLA member households.
- (d) Access to public and private services: The implementation of VSLAs enabled participating members to: (i) access health insurance card (CAM) thanks to VSLA credit scheme; and (ii) ensure the schooling of their children.

TABLE 6. VSLA/GSEC indicators by the end of the PAPAB project

PROVINCE	N° ACTIVE GSECs	NUMBER OF MEMBERS	SAVINGS GENERATED (FBU)	LOANS GRANTED (FBU)	AVERAGE SAVINGS	AVERAGE LOAN
Cibitoke	337	5,665	249,447,500	297,936,029	43,800	52,132
Makamba	236	5,759	286,476,250	316,781,720	47,690	51,518
Muyinga	236	5,726	267,171,600	292,973,712	46,188	50,829
Rumonge	197	4,896	194,852,000	213,673,150	40,307	43,373
Bubanza	238	5,477	389,066,350	554,867,400	75,021	140,144
Bujumbura	186	4,421	134,676,570	249,025,964	36,258	65,180
Total	1,305	31,944 (with 40% women)	1,545,913,270	2,099,434,475	48,394	65,722

- (e) Financial education: VSLA members confirm that the approach provided them with access to a portal for learning about savings/loans, a culture of savings, and financial education.
- (f) Economic and social integration: The VSLA approach proved to be very relevant as it has contributed to:
- (i) strengthen social cohesion within households;
 - (ii) alleviate, through VSLA loans, the stigmatization of women and poorer households who could not afford to buy uniforms and other school materials for their children; (iii) organize mutual aid; and (iii) access to a productive collective workforce.⁶

At the end of the four years of the project, the outcomes of the GSECs can be summarized as shown in Table 6.

STRUCTURING PIP HOUSEHOLDS INTO PICS AND COOPERATIVES

Within the framework of the PAPAB project, the PIP approach has greatly opened up people's minds. Long hidden ambitions have emerged. There were indeed many farmers who wanted to invest in their activities but their initiatives were blocked as they found themselves trapped in the vicious circle described in the introduction to this chapter. With PIPs and GSECs, they have come to realize that little can be achieved by acting alone. They understand that, by putting together their ideas and resources, they can increase their income and raise sufficient capital to invest while sharing and limiting risks. Thus many joint initiatives have emerged within the communities, with very different forms and various objectives. Some initiatives were intended to respond quickly to a need and at a given time (agroforestry tree nurseries; organization of grouped purchases, etc.), and therefore did not evolve over time. Other initiatives were

intended to develop longer-term activities, and were gradually organized and structured.

The *vision collinaire* also contributed significantly to the development of community projects and the structuring of households for their implementation. Regarding the best forms of organization, it appeared that cooperative organizations and PIPs are favoured by PAPAB beneficiaries. Depending on their dynamism and their specificities, these forms of organization have received technical and direct support from the project, mainly to acquire the necessary knowledge and skills to develop and professionalize their activities. Once formally recognized and functional, the most dynamic cooperatives and corporate structures have also benefited from financial support contributing to the procurement of appropriate equipment and/or infrastructure. These contributions were made according to established principles, always with a view to fostering self-reliance and the empowerment of recipient organizations on a consistent basis.

The vast majority of cooperatives were formed around storage infrastructure built with financial support from the project. Most of them are focused on agricultural produce conservation, marketing and processing. They generally have a large number of enrolled members who have voluntarily subscribed to shares in the share capital of their cooperatives. By contrast, the PICS are small structures with varied activities and whose membership usually varies between 5 and 10. These PICS essentially grew out of the IGGs and VSLAs. They were built around income-generating activities.

Within the framework of the PAPAB project, the PIP approach has greatly opened up people's minds. Long hidden ambitions have emerged. There were indeed many farmers who wanted to invest in their activities but their initiatives were blocked as they found themselves trapped in the vicious circle described in the introduction

6 VSLA G2 maturity assessment, final report, pages 18-19.

to this chapter. With PIPs and GSECs, they have come to realize that little can be achieved by acting alone. They understand that, by putting together their ideas and resources, they can increase their income and raise sufficient capital to invest while sharing and limiting risks. Thus many joint initiatives have emerged within the communities, with very different forms and various objectives. Some initiatives were intended to respond quickly to a need and at a given time (agroforestry tree nurseries; organization of grouped purchases, etc.), and therefore did not evolve over time. Other initiatives were intended to develop longer-term activities, and were gradually organized and structured.

The vision collinaire also contributed significantly to the development of community projects and the structuring of households for their implementation. Regarding the best forms of organization, it appeared that cooperative organizations and PIPs are favoured by PAPAB beneficiaries. Depending on their dynamism and their specificities, these forms of organization have received technical and direct support from the project, mainly to acquire the necessary knowledge and skills to develop and professionalize their activities. Once formally recognized and functional, the most dynamic cooperatives and corporate structures have also benefited from financial support contributing to the procurement of appropriate equipment and / or infrastructure. These contributions were made according to established principles, always with a view to fostering self-reliance and the empowerment of recipient organizations on a consistent basis.

The vast majority of cooperatives were formed around storage infrastructure built with financial support from the project. Most of them are focused on agricultural produce conservation, marketing and processing. They generally have a large number of enrolled members who have voluntarily subscribed to shares in the share capital of their cooperatives. By contrast, the PICs are small structures with varied activities and whose membership usually varies between 5 and 10. These PICs essentially grew out of the IGGs and VSLAs. They were built around income-generating activities:

- Control product supply (timing, volume and quality) and associated production costs.
- Organize themselves to improve their bargaining power and collectively meet commitments to buyers and sell more.
- Ensure better prices and increased income by reducing production costs.

In addition, in collaboration with the MFIs active in PAPAB action areas, trainings on the warehouse receipt system were provided in the six provinces covered. The objective of these trainings was to help FBO members understand the warehouse receipt mechanism which gives farmers the possibility to access agricultural credit to finance their activities and to delay the sale of their harvests while awaiting better market opportunities and more profitable prices. The series of trainings on the promotion of the ACMA approach was completed by the training of PEA members on the establishment of communal consultation frameworks and by the coaching of 40 cooperatives on the development of bankable business plans. This coaching programme allowed representatives of each of these cooperatives to specify their activities and operating mode, their current level of achievements, problems encountered, the objectives and strategies they will implement to position themselves on the market. This helped them prepare for developing their business plans to obtain bank loans, achieve their projects objectives and establish themselves on the local market.

The training was provided to 230 representatives of FBOs and various PEA stakeholders allowing them to have a grasp on:

- The multi-stakeholder approach in the development of Agribusiness clusters (PEA).
- The calculation of production costs, market analysis and marketing strategies.
- The different relationships between PEA stakeholders.
- The need to create horizontal and vertical synergies between PEA stakeholders at the local level.
- The establishment of communal consultation frameworks.



Farmers' Forum and Agricultural Products Fair, 2018 edition, Bujumbura (September).

A COMMUNICATION STRATEGY BASED ON PROJECT TARGETS AND APPROACHES

The PAPAB project achievements are partly related to the communication strategy and tools developed for information dissemination and knowledge transfer within the framework of the project. The preferred knowledge transfer mode was through trainings supplemented and reinforced by experience-sharing visits (testimonies). Since the PAPAB technical package was conveyed through the PIP approach, the adult training technique (farmer-to-farmer) was the main channel for disseminating knowledge. The practical nature of the PIP approach and its relevance to the problems of the rural environment facilitated its adoption by the project staff and target populations. The project also used interactive communication tools, particularly exchange platform such as workshops for the sharing of results. Specific communication tools have been developed, including sketches, slogans, films and videos on project-related topics. An annual newsletter reporting on PAPAB achievements was regularly published. Overall, these tools contributed to increasing awareness of the PAPAB project and, particularly, the PIP approach.

Through these information and communication channels, PAPAB has strengthened project activities relating to strategic thematic areas, namely: soil fertility, self-promotion principles (dialogue, planning, PIP + PIC, etc.), access to inputs (seeds, fertilizers, lime, etc.), developing an agriculture that is integrated, resilient and tolerant to climate change, advancing innovative approaches, community dynamics and the benefits of working in associations / cooperatives, the vision collinaire and women empowerment. PAPAB has fostered a greater awareness of these issues through the organization of

exchange workshops between project stakeholders and beneficiaries at all levels, in collaboration with the different committees established by the stakeholders themselves (vision collinaire committees, cooperative committees, gender monitoring committees, etc.).

Always with a view to supporting self-promotion of farming households, the project has strengthened the capacities of beneficiaries on advocacy and lobbying techniques so that they are able to bring their concerns themselves to influential actors capable of solving problems facing their communities. The project has also facilitated the choice of opportunities or allies who could support farming households in taking their voices to decision makers. This was made possible through their participation in various events such as Farmers' Forum and agricultural fairs (FOPABU), the International Women's Day and the International Day of the Tree.

Communication and advocacy efforts were carried out in tandem. Appropriate communication channels were used to disseminate information and advocacy messages that beneficiaries were able, in turn, to use to reach a general public, and also decision-makers at all levels:

- 63 product messages and technical data sheets were produced during the life of the project, including one in 2016, 12 in 2017, 23 in 2018, 22 in 2019 and 5 in 2020.
- 15 advocacy activities including exchange forums were aimed at influencing stakeholders to apply the PIP approach in their programmes. Through special radio broadcasts, stakeholders were invited to debate and encourage decision-makers to respond to the needs of project beneficiaries in general and women in particular.

- Two major decisions were taken as a result of these advocacy efforts:

1. **First decision:** In the minutes of the 2018 National Agricultural Fair and Forum which took place from 4 to 7 September 2018, it was recommended, among other things, was that each farmer should work with a vision and a planning of household activities. The purpose of PAPAB participation in the National Agricultural Fair and Forum was to influence government and non-government stakeholders to take ownership of the PIP approach and encourage farmers to adopt this approach during the panel debates which made up the largest part of the event programme. Innovative farmers had a golden opportunity to demonstrate and explain the benefits of the PIP approach in supporting sustainable agricultural

development at household level. Participants in the panel debates have shown a keen interest in the Agricultural Fair and Forum and in the PIP approach. The PAPAB stand was very well attended although there were no agricultural products to buy but only PIP drawings and other communication material explaining the PIP approach.

2. **Second decision:** A panel workshop took place in the Bubanza commune on 20 December 2018 bringing together project stakeholders, decision-makers and beneficiaries to promote the implementation of the *visions collinaires* in the Gatura and Mugimbu *collines*. This workshop also aimed at influencing the development of *visions collinaires* in other *collines* outside PAPAB's area of operation.

CONCLUSIONS

Based on the monitoring and evaluation data and the results of the evaluation studies carried out under the Project Supporting Agricultural Productivity in Burundi (PAPAB), it can be stated that the PAPAB project has been largely beneficial for its target population and that its objectives have been largely achieved, as shown in the Monitoring and Evaluation Matrix detailed in Annex 1 of this final report.

Regarding the project overall objective, the outcome indicators established for monitoring and evaluation purposes were: 1) the proportion of beneficiary households attesting that they have increased their agricultural income with the project and 2) the proportion of households attesting that they have increased family well-being by 20% and more compared to the situation before the project. Based on the data recorded, the project achievement levels were 89.9% and 69.1%, respectively.

These high performance levels recorded with the PAPAB project are largely due to the expertise and dynamism of the actors and organizations involved in its implementation, but above all to the originality of the Integrated Farm Planning (PIP) approach that served as the backbone of the PAPAB project.

The logic of self-empowerment and self-promotion integrating the reality of the household from its various angles, as well as the project realistic ambitions, has catalysed a remarkable rhythm to the changes that can be observed in the lives of the beneficiary communities.

The development of integrated farm management activities (soil fertility improvement, erosion control, use of improved seeds, etc.), combined with better access to fertilizers for farmers through PNSEB has significantly contributed to the achievement of spectacular production levels (see the Monitoring and Evaluation Matrix in Annex 1 of this closure report).

Beneficiary farming households having developed their PIPs were faced with the challenge of their implementation. The Village Savings and Loans Associations (VSLAs) provided them with unparalleled support in financing the implementation of their PIPs. These households have come to realize that they can rely on their own resources and on the opportunities existing in their environment to carry out their own projects.

The Integrated Farm Planning (PIP) approach has radically changed the mentality of individuals who have moved from a recurring wait-and-see attitude induced by the gratuities of previous projects to greater awareness

and self-commitment. As a result, PIP households have been the first to take the lead in managing their development themselves as they became aware that any external support would only come as opportunities to complement or support their actions already undertaken. This change in mentality has materialized in concrete actions, in particular those related to integrated land management that have yielded significant increases in agricultural production, and encouraged the grouping of project beneficiaries into various associations / cooperatives (FBO, PIC, VSLA). Within the framework of the PAPAB project, the PIP approach has already proven its worth in terms of sustainable development of farming households and communities.

Beyond the individual initiatives of households, the promotion of the vision collinaire is a fundamental step towards the integral and integrated development of colline communities. In

the collines where it has already been developed and implemented, the vision collinaire has brought to light the great capacities and potential of communities to manage their own development once they are made aware of the challenges with guidance from motivated and enlightened leaders.

An obvious fact is that setting up the foundation for a change in mentality to move forward in the effective implementation of project activities, with intrinsically motivated farmers, is a lengthy process. Moreover, the management of the project by a consortium entails specific requirements such as the need for a common understanding before concrete actions are taken, which weighed heavily on the implementation schedule in the field. However, the benefits derived from this type of management largely offset the time spent in strategic meetings.

The grassroots approach, the credibility of partner organizations and a good grasp of the local and field context played a major role in achieving the project results as recorded in this closure report. The relevance of the message is not sufficient in itself; a trustworthy messenger is crucial. PAPAB has deeply and positively impacted its area of operation, by enhancing intra and inter-household cohesion, increasing awareness,

and fostering a smart planning and management of agricultural activities. All this led to considerable improvements in soil fertility and crop yields.

PAPAB is an innovative project that has dared to invest in new approaches, while adopting and strengthening existing and complementary approaches. This has set the stage for a more coherent overall impact. Indeed, Component 2, as described above, is an interesting combination of several approaches such as PIP, ISFM, GALS, VSLA, the structuring of farmer organizations and the development of visions collinaires. The project has also developed new relational dynamics, including inviting couples to jointly participate in the initial training courses on PIP and ISFM. This has greatly facilitated ownership and commitment by PIP household members, ensuring a real household approach whereby all members are empowered to fully participate in project design and implementation.

PAPAB is a rich project, by the diversity of topics and issues covered, but also by the diversity of actors and stakeholders directly and indirectly involved in the implementation of the project, and who have all contributed their specific expertise.

PAPAB is a relevant project since its objectives are aligned with the needs of its target populations and communities.

Lastly, PAPAB is also an ambitious project. By focusing on a self-promotion approach

that calls for the change of mentality and the intrinsic motivation of farmers, the project itself is part of a long term vision. This is a commendable and ambitious initiative given the current situation of Burundi. However, the dynamics set in motion need to be strengthened in the future through sustained support from other sources. As underlined in the Final Project Evaluation Report in Annex 3 of this final report, additional actions are required to strengthen the dynamics launched in the initial *collines*, while new initiatives should be developed to support the extension of the geographical coverage of the project approach. It is also imperative to foster ownership by other stakeholders and public institutions in an effort to avoid competitive situations, or even incompatibility of approaches in the field, and within the same communities.

OVERALL, PAPAB IS
A PROJECT THAT CAN
BE CHARACTERIZED
AS INNOVATIVE,
RICH, RELEVANT,
AND AMBITIOUS.

ANNEXES

ANNEX 1. MONITORING AND EVALUATION MATRIX OF THE PAPAB PROJECT

INDICATORS	LEVEL OF DISAGGREGATION	UNIT	STARTING VALUE	2016	
				Target	Achieved
OVERALL OBJECTIVE: Contribute to the sustainable increase in food security and household incomes					
1a. Proportion of households attesting to having significantly improved their annual income	Total households	%	-	20	NA
2a. Proportion of households attesting to having significantly improved their living environment	Total households	%	NA	20	NA
3. Average nutritional score	Total households	Score	52	51.5	48
SPECIFIC OBJECTIVE 1: Increase soil fertility through consolidation of the fertilizer and fertilizer supply program					
SO1.1 Yield of (main) crops	Rainfed rice	Year	1,883	1,900	1,099
	Irrigated rice	Year	4,311	4,500	7,000
	Swamp rice	Year	3,037	3,100	3,491
	Maize	Year	823	1,000	752
	Bean	Year	701	900	645
	Cassava	Year	5,641	10,000	5,763
	Potato	Year	5,665	7,000	6,200
	Wheat	Year	638	900	NA
SO1.2 Proportion of households using fertilizers on their crops in an integrated manner (mineral and organic)	Total households	%	-		NA
SO1.3 Annual rate of increase in the volume of imported fertilizers (ton year X / ton X-1)	Total	%	12	20	47.7
Outcome 1.1: Operations related to recordkeeping and payment of advances and balances are under control					
1. Share of beneficiaries' grouped orders (of fertilizers) placed (%)	Total	%	13	20	NA
2. Proportion of financial operators' offices computerized	Total	%	10	50	NA
3. Level of beneficiaries (men / women) satisfaction with the payment process	Total households	%	72	80	NA
4. Level of use of registered vouchers	Total	%		5	NA
5. Proportion of total fertilizer volume distributed through FbOs	Total	%	NA	20	NA
Output 1.2: The increase and consolidation of solvent demand are reinforced (compared to projections)					
1. Number PNSEB partners trained	Total	Number	146	200	NA
2. Microfinance institutions operating within the framework of PNSEB	Total	Number	2	2	2
3. Balance payment rates	Total households	%	70	99	90
Outcome 1.3: The organization of the distribution of fertilizers and other inputs is efficient and its sustainability guaranteed					
1. Farmer satisfaction rate (level of coverage by equipped agrodealers)	Total	%	90	95	NA
2. Level of satisfaction of PNSEB participants (with the overall organization)	Total households	%	72	80	NA
Outcome 1.4: The process of importing fertilizers and other inputs is under control and deliveries are made on time					
1. Fertilizer delivery times (from the date of the order to delivery)	Total	Days	55	60	50
2. Average cost of import and distribution (procurement) of one ton of fertilizer	Total	BIF	500	470	1,776,093

2017		2018		2019		OBSERVATIONS/SOURCES
Target	Achieved	Target	Achieved	Target	Achieved	
40	NA	60	NA	75	89.9	Data provided though the PIP Impact Study (2019).
40	40	60	61.7	75	69.1	Data provided though the reports of the annual Socio-economic study 2016, 2017, 2018, and 2019.
51.5	40	51.5	37.9	51.5		Data provided through the WFP annual Emergency Food Security Assessment (EFSA) reports (2016, 2017 and 2018). There is no data for 2019 as this report is still not available.
1,950	2,373	2,000	1,364	2,000		The ENAB survey which is the data source has not yet published results for 2019.
4,750	7,000	5,000	7,000	5,000		
3,200	4,167	3,400	2,704	3,500		
1,200	739	1,400	728	1,500		
1,150	612	1,350	594	1,500		
15,000	5,837	20,000	5,235	25,000		
9,000	8,375	1,100	8,224	12,000		
1,000	NA	1,100	NA	1,200	NA	Data on wheat yields are missing as they were not provided by the ENAB survey.
	NA		NA		NA	This indicator is similar with the indicator 5, Outcome 2.1.
20	24.6	20	35.6	20	NA	It is not possible to provide data for 2019 since no imports took place during the 2020A season.
27	NA	34	16.9	40	NA	PNSEB operator software is not configured to provide this information.
						The value used for 2018 comes from PNSEB final evaluation which has not been validated by MINEAGRIE.
80	80	90	100	100	100	
90	NA	95	87.9	100	NA	PNSEB impact study did not take place because TDR's not approved by MINEAGRIE.
						The value used for 2018 comes from PNSEB final evaluation which has not been validated by MINEAGRIE.
50	NA	80	NA	100	NA	PNSEB operator software is not configured to provide this information.
50	NA	80	NA	100	NA	Missing data because the list of distributors does not indicate their status (Fbo/ private/etc.). Data provided by MINEAGRIE.
300	NA	386	NA	386	NA	Data not reported by MINAGRIE.
4	2	5	4	6	3	
99	100	99	100	99	70	
98	NA	100	NA	100	NA	PNSEB impact study was not conducted as TORs were not approved by MINEAGRIE.
90	NA	95	NA	100	NA	PNSEB impact study was not conducted as TORs were not approved by MINEAGRIE.
60	45	60	45	60	55	
440	1,824,928	410	1,792,822	380		* It is not possible to provide data for 2019 since no imports took place during the 2020A season. * The target numbers seem to be out of line with reality, either the monetary unit is wrong or the unit of measure for quantity is wrong (i.e., tonne in place of kg).

INDICATORS	LEVEL OF DISAGGREGATION	UNIT	STARTING VALUE	2016	
				Target	Achieved
Outcome 1.5: The management of the fertilizer subsidy system is entirely under the responsibility of MINAGRIE (national ownership)					
1. Share of PNSEB operating costs paid by the FCFA	Total	%	92	93	NA
2. Establishment of a Financial Department responsible for managing the FCFA at the MAE	MAE	VL		No	NA
3. Proportion of refunds to importers regularly made independently and on time by the Finance Department (regular and autonomous refunds/Total)	Total	%	-	-	NA
SPECIFIC OBJECTIVE 2: Increase agricultural productivity and resilience, farmer organization and access to markets					
SO2.1 New validated fertilizer formulas	6 crops	Number	NA	6	NA
SO2.2 Average yields of main crops in households benefiting under Component 2	Rainfed rice/SA	kg/ha	1 883	2,000	-
	Rainfed rice/SB	kg/ha	1 883	2,000	-
	Irrigated rice/SA	kg/ha	4 311	4,500	-
	Irrigated rice/SB	kg/ha	4 311	4,500	-
	Maize/SA	kg/ha	823	1,000	-
	Maize/SB	kg/ha	823	1,000	-
	Bean/SA	kg/ha	701	1,000	-
	Bean/SB	kg/ha	701	1,000	-
	Cassava/SA	kg/ha	5 641	10,000	-
	Cassava/SB	kg/ha	5 641	10,000	-
	Potato/SA	kg/ha	5 665	10,000	-
	Potato/SB	kg/ha	5 665	10,000	-
	Wheat/SA	kg/ha	638	1,000	-
	Wheat/SB	kg/ha	638	1,000	-
SO2.3 Proportion of beneficiaries in project areas declaring to have added value (interest) in joining a group	Total households	%	93	95	34
SO2.4 Proportion of women declaring that the weight of their field work has decreased significantly	Total households	%	NA	20	61
SO2.5 Proportion of households attesting to having sold their agricultural products through community structures	Total households	%	1	5	NA
Outcome 2.1: Farmers' technical capacities in integrated household land management within communities are strengthened					
1. Number of PIPs per generation	Total	Number	-	560	817
	G1	Number	-	560	817
	G2	Number	-	0	0
	G3	Number	-	0	0
	G4	Number		0	0
	G5	Number		0	0
2. Percentage of beneficiary households having implemented at least 50% of their PIPs	Total	%	-	-	4.4
3. Percentage of households with access to a source of mineral fertilizers following project training	Total	%	84.0	90	48.0
4. Percentage of households with access to a source of mineral fertilizers following project training	Total, CM women	%	-	15	16.1
5. Percentage of households managing their farm with a vision of integration and diversification of agricultural activities (ISFM)	Total, CM women	%	17.0	25	21.5
6. Percentage of beneficiary households declaring that an integrated plan has enabled them to improve the socio-economic situation of their households	Total, CM women	%	-	5	59.8
Outcome 2.2: The organization and structuring of the farming sector, farmers' associations and cooperatives and their management					
1. Number of FbOs and other community structures that are functional	Total, FbO, others	Number	147	217	0
2. Functional cooperatives	Total	Number	68	80	0
3. Cooperatives (community structures) supported by the project with an effective business plan. (Target value: 50%)	Total	Number	-	40	0

2017		2018		2019		OBSERVATIONS/SOURCES
Target	Achieved	Target	Achieved	Target	Achieved	
o and institutional development)						
95	NA	98	NA	100	NA	Data not provided by MINEAGRIE.
No	NA	Yes	No	Yes	0	This department was not created by MINEAGRIE (its role is currently played by DFS).
-	NA	75	NA	100	NA	Data not provided by MINEAGRIE.
6	NA	6	6	6	6	
2,200	-	2,400	-	2,500	1,587	
2,200	-	2,400	9,559	2,500	8,141	
5,000	-	5,500	9,235	6,000	8,428	
5,000	-	5,500	9,143	6,000	9,680	
1,500	-	2,000	3,194	2,500	3,744	
1,500	-	2,000	2,227	2,500	2,862	
1,500	-	1,800	1,777	2,000	1,905	
1,500	-	1,800	1,477	2,000	1,776	
15,000	-	25,000	-	30,000	12,919	
15,000	-	25,000	24,224	30,000	19,829	
12,000	-	14,000	8,202	15,000	12,825	
12,000	-	14,000	-	15,000	3,697	
1,200	-	1,400	-	1,500	-	
1,200	-	1,400	5,883	1,500	836	
98	51.7	100	69.4	100	80	Data provided through the annual socio-economic studies 2016, 2017, 2018, and 2019
40	69.2	60	63.9	80	78.6	Data provided through the annual socio-economic studies 2016, 2017, 2018, and 2019
10	NA	15	NA	20		Final data will be provided through the final evaluation of the project.
6,160	13,232	76,160	37,468	81,760	59,575	There are an additional 15,749 PIP households for the SCAD area, for a total of 75,324 PIP households.
560	817	1,120	817	1,120	817	
5,600	5,625	5,600		11,200	5,625	
0	6,790	28,336	5,579	28,336	12,369	
0	0	41,104	18,657	41,104	18,657	
0	0	0	0	0	22,107	
3	18.8	3	34.8	14.0	53.6	
95	54.4	98	64.6	100.0	79.0	
35	38.2	55	76.8	75.0	83.7	
35	41.6	43	43.9	50.0	64.4	
12	92.1	20	96.6	25.0	98.6	
t are improved						
287	152	357	127	427.0	326	
95	0	110	10	118	40	
50	0	50	-	50	25	

INDICATORS	LEVEL OF DISAGGREGATION	UNIT	STARTING VALUE	2016	
				Target	Achieved
Outcome 2.3: Information, training and advocacy services are provided at all levels					
1. Messages and/or technical sheets produced within the framework of the project	Messages, technical sheets	Number	-	52	1
2. Number of "listening groups"	Total	Number	-		
3. Number of advocacy actions performed	Total	Number	-	6	2
4. Effectiveness of decisions following advocacy campaigns	Total	Number	-	3	-
Outcome 2.4: Solidarity Groups for Savings and Credit are created and linked with MFIs					
1. Number of solidarity groups for savings and credit trained/created as part of the project	Total	Number	-	800	228
2. Number of solidarity groups for savings and credit with an account with MFIs	Total	Number	44.0	300	0
3. Percentage of members of solidarity groups for savings and credit benefiting from credit	Total	%	4.8	10	64.2%
4. Amount of savings mobilized by group members in targeted collines	Total	BIF	-	65,000,000	225,671,769
5. Amount of credits granted to beneficiaries in targeted collines	Total	BIF	-	39,000,000	246,489,606
Outcome 2.5: Actions to improve the conservation, storage and sale of surpluses					
1. Number of beneficiary households that store their products in a secure place (e.g., storage warehouses)	Total	Number			0
2. Storage facilities capacity (granary/community hangars)	Total	Tonnes			
3. Total quantity stored in a secure place by beneficiary households	Total	Kg			
4. Proportion des quantités stockées par rapport aux quantités vendues dans le mois qui suit la récolte (au niveau ménage).	Total	%	NA	-	NA
5. Structures communautaires formées sur l'approche ACMA intégrant l'analyse de marché	Total	Number			

ANNEX 2. PAPAB TESTIMONIES FROM PIP FARMERS

ERIC NTIRANYIBAGIRA

"I have a good relationship with my wife, which is reflected by a permanent dialogue and the sharing of activities in the implementation of our PIP. Our agricultural production has significantly increased with the use of the modern agricultural techniques learned with the PIP approach. We have a long-term planning with a vision and a goal to achieve. Now we clearly see where we are going."

"The truth is that in the household, without a good relationship that allows for open dialogue, joint planning, task sharing and good resource management, nothing works. At home, before PIP, there was no dialogue, neither planning nor sharing of household activities. I used to spend my time at the bar with my friends even with no money. To tell the truth, I was a thief in my own house; sometimes I would secretly take part of the harvest and sell it at a ridiculously low price just to have money for drinks. I would sell and buy household goods without first consulting my wife.

For example, one day I sold my bike without telling my wife, to pay off debts related to drinks shared with my

friends. I also very much regret having bought a plot of land without even informing her, and she got to know about it afterwards, through our neighbours. With her advice, I could have found a plot with a richer soil compared to the one I bought which required a lot of money as investment to restore its fertility. Production in our household was low due to the fact that my wife was working alone on the farm, and also due to poor knowledge of agricultural techniques, the use of undeveloped soils, the use of unimproved seeds and the non-use of fertilizers. Disputes that prompted me to even beat my wife were too frequent before I realized that I was the true cause of all these evils.

2017		2018		2019		OBSERVATIONS/SOURCES
Target	Achieved	Target	Achieved	Target	Achieved	
104	13	156	36	180	58	
	12		12		12	Activity report by Oxfam Novib
12	6	18	10	19	15	
6	-	9	2	10	2	
1,650	515	2,500	1209	3,300	1,358	
600	0	850	77	1,000	185	
25	70.9%	40	75.5%	50.0%	82.6%	
	434,501,700	260,000,000	1,284,046,115	325,000,000	1,831,240,336	
97,500,000	469,066,728	156,000,000	1,357,718,798	195,000,000	2,225,706,647	
	219		848		2,003	Data provided from activity results (partner annual reports).
	300		780		1,467	Data provided from activity results (partner annual reports).
	21,300		106,900		136,800	Data provided from activity results (partner annual reports).
-	NA	-	NA	-		No proxy indicator found.
					230	Data provided from activity results (partner annual reports).

In Mparambo II, changes could be observed by everyone in the farms of the first beneficiaries of MBONIYONGANA PIP. We in turn have also attended the trainings provided under the supervision of the PIS of our locality. These trainings have impressed me a lot and I decided to discuss this with my wife. We went step by step until we developed our own PIP. Then, I tried to convince her that the PIP trainings had really changed me and that we could join forces to implement our PIP. Before, my wife was reluctant to join any association but as she saw that I had started participating in farm activities and could give good suggestions for the development of our household, she accepted. Indeed, her acceptance was related to the concrete actions I had carried out and my new improved behaviour.

From there, based on our planning, we identify the monthly, seasonal and weekly priorities to discuss, and we exchange on strategies and means to implement our PIP. Dialogue within our family has become a routine practice, particularly in the evening while waiting for the food to be ready. So, dispute times have been replaced by opportunities for fruitful exchange and joyful family

reunion that make the children feel good and let them voice their opinions. All this was the result of a climate of trust that gradually grew within the family as I was able to fulfil my mission as head of the household.

With the restoration of this climate of trust, people in the neighbourhood began to notice that our household was well organized. This explains the different responsibilities given to my wife and / or to me. For example, my wife is the treasurer in her VSLA group; six households that were experiencing marital conflicts came to us to help them solve their problems. Among them, a couple wanted to divorce but today, they are here with us, they are fine and together they have joined the VSLA savings and credit group.

ESPÉRANCE NIMPAYE

Espérance Nimpaye is a married woman of thirty-eight years, mother of five children, and an innovating farmer of the third generation. She is from the Cibitoke province, Mabayi commune, Gitukura colline. She has benefited from successive trainings on PIP and other related approaches such as VSLA and ISFM. These trainings were provided by Pls of the first generation. Thanks to the knowledge gained through these trainings, she was able to improve the living conditions of her household, which previously could not even meet its basic needs. Espérance also considers herself valued by her husband and her neighbours.

"Any project to be carried out within the household is discussed within the family. I applied for a loan of one hundred thousand francs from the savings and loan group and bought tiles to improve our home. When I applied for this loan in the VSLA, they asked me to bring my husband to make sure that the repayment will be made. My husband was very happy that I took this step. He reimbursed fifty thousand and I repaid the rest. When my husband saw how I was applying what I had learned, he got interested. He also noticed that I had changed completely. Before, there was not any possibility for me to apply for a loan, so he was even more impressed. Then, he decided to learn the PIP approach.

"Now, when my husband earns some money, he comes home and we discuss how the money will be spent.

"My neighbours come to me seeking advice. I make them understand that when a woman does not contribute to the family income, it's the beginning of poor collaboration. When your spouse sees that you contribute to the development of the family, you are valued. So I told them what I've learned with the PIP approach. I explained how the VSLA works and they too decided to go and apply to become VSLA members.

"Following the trainings on the PIP approach, I first started sharing what I had learned with my husband. Then we would sit down together to agree on the working schedule. We managed to transform our traditional agriculture into a modern agriculture. Row planting, contour farming, observing the agricultural calendar, these were the first activities that we initiated. Within our household, we have planned for our future: this includes improving our home, buying a cow and purchasing a



farming plot. When we want to undertake a project, we sit down together and make decisions together. This is because dialogue within the family has improved. For example, we've bought three goats: my husband contributed with an amount of one hundred thousand francs Bu and I gave fifty thousand francs Bu. Within our community two neighbouring women came to me for advice on how to settle disputes with their husbands. I advised them accordingly and today these women can testify that their households are at peace thanks to my advice."



**PAPAB – SUPPORTING AGRICULTURAL
PRODUCTIVITY IN BURUNDI PROJECT**

3 Avenue Bweru, 1995 Bujumbura, Rohero II – BURUNDI
+257 22 257875



P.O. Box 2040 Muscle Shoals
Alabama 35662 USA
+1 (256) 381-6600
www.ifdc.org