Building Resilience and Inclusive Growth of Highland farming systems for rural Transformation (BRIGHT)

INCEPTION AND YEAR 1 ANNUAL REPORT



August 2023

INTERNATIONAL FERTILIZER DEVELOPMENT CENTER
PO BOX 2040 | MUSCLE SHOALS, AL 35662 | USA

Contents

Executive Summary 1
1 Introduction 5
1.1 Background 5
1.2 Objectives 5
1.3 Expected Results 6
1.4 Implementation Strategy 6
2 Inception Phase Activities 9
2.1 Resource Acquisition, Project Staffing 10
2.1.1 Procurement and identification of office premises 10
2.1.2 Staffing 10
2.1.3 Project Kickoff Workshop 10
2.2 Project Sites and Community Selection 11
2.3 Inception Phase Assessments and Strategic Interventions 13
2.3.1 Farming Systems and Household Decision-Making 13
2.3.2 Sustainable Land Use and Crop Production 15
2.3.3 High-Potential Value Chains and Actors 18
2.3.4 Nutrition 20
2.3.5 Financial Inclusion 22
2.3.6 Gender, Youth, and Social Inclusion 22
2.3.7 Cross-Border Trade 23
2.3.8 Post-Harvest Handling 25
2.4 Implementing the PIP: Considerations 26
2.5 Lessons Learned from Previous Projects 27
2.6 Critical Analyses of Findings from the Assessments and Adjustments to Project Strategy 29
2.6.1 Farming Systems Analysis and Household Decision-Making 29
2.6.2 Sustainable Land Management 32
2.6.3 PIP Implementation 35
2.6.4 Nutrition 36
2.6.5 Value Chain Actors 37
2.6.6 Post-Harvest Handling 39
2.6.7 Gender and Youth 39
2.6.8 Financial Inclusion 41
2.6.9 Cross-Border Trade 42
2.6.10 Road Rehabilitation 43
2.7 Typology of Target Households 43
2.8 Partnerships and Collaborations 46
2.9 Road Rehabilitation 51
2.10 Monitoring, Evaluation, Learning, and Sharing 51
2.11 Communication Strategy 54
2.12 Risk and Mitigation 55
3 Activity Progress Year 1 55
3.1 PIP implementation progress to date 55
3.2 Progress per Component 57
3.2.1 Farming Systems and Household Decision-Making 57

3.2.2 Sustainable Land Use and Management 61
3.2.3 Market and Value Chain Development 62
3.2.4 Voices from the Field 63
4 Conclusions 64
5 Annexes 66
Annex 1: Indicators Selected for IATI Reporting 66
Annex 2: Potential Project Risks and Mitigating Measures 68

Figures

Figure 1. BRIGHT PIP implementation plan 7
Figure 2. Illustration of the PIP multiplier effect per village 8
Figure 3. BRIGHT project districts and sub-counties 12
Figure 4. Destination of harvested products for different commodities 16
Figure 5. Major risks reported by farmers in Kigezi, Rwenzori, and Mt. Elgon regions 17
Figure 6. Major commodities traded on the Uganda-DRC border 24
Figure 7. Depiction of Nutrition Champions in the Project Village 36
Figure 8. Action learning cycle using the family tree tool and learning 40
Figure 9. Social inclusion of youth, women, and other poor farmer groups using the cooperative model 41
Figure 10. Expected target per intervention 43
Figure 11. Critical economic and social issues identified during the awareness meetings 56
Figure 12. Critical environmental issues identified during the awareness meetings 56
Figure 13. Drawing of map by project village committee leaders 60
Figure 14. Map of the current status and future vision of Kiriba village, Rubanda district 60
Figure 15. Community maps of the current status (left) and future vision (right) of Nyakitokoli project village in Kabarole district 61
Figure 16. Agriterra's process of supporting cooperatives and SACCOs 63
Figure 17. Residents of Busamba project village clearing their water source 64

Tables

Table 1. Pillars of resilience of the BRIGHT project 9
Table 2. Geographic locations selected for the BRIGHT project 12
Table 3. Homogeneous farm types inventoried in the BRIGHT project target regions 14
Table 4. Physical and chemical characteristics of soils in the project target regions 18
Table 5. Export trends for main agricultural commodities traded across the borders of Rwanda and Uganda 23
Table 6. Interventions in response to issues related to different value chains 38
Table 7. Percentage of households selling the main food crop 44
Table 8. Interventions per farmer typology 45
Table 9. Potential partners for the BRIGHT project 47

Table 10. Areas of collaboration discussed and agreed between BRIGHT and CASCADE 49
Table 11. Cross-cutting issues identified and proposed corrective measures 58

Acronyms

AID	Albertine Intervention for Development
A2N	Africa 2000 Network
BRIGHT	Building Resilience and Inclusive Growth of Highland farming systems for rural Transformation
CARD	Agribusiness and Rural Development Solutions
CASCADE	Catalyzing Strengthened Policy Action for Healthy Diets and Resilience
CSA	Climate-Smart Agriculture
CSO	Civil Society Organization
DGIS	Directorate-General for International Cooperation
DIETS	Driving Nutrition Impact through Implementing National Policies
DLG	District Local Government
DRC	Democratic Republic of Congo
EAC	East African Community
EKN	Embassy of the Kingdom of the Netherlands
FI	Farmer Innovator
FSP	Financial Service Provider
G1	First Generation
G2	Second Generation
G3	Third Generation
GALS	Gender Action Learning System
GAIN	Global Alliance for Improved Nutrition
GAP	Good Agricultural Practice
GDP	Gross Domestic Product
HortiMAP	Horticulture Market Acceleration Program
IFDC	International Fertilizer Development Center
IFP	Integrated Farm Planning
IPP	Integrated Plot Plan
ISDAP	Integrated Smallholder Dairy Programme
ISFM	Integrated Soil Fertility Management
JESE	Joint Effort to Save the Environment
LSB	Local Seed Business
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MSC	Microfinance Support Center
MWARES	Manafwa Watershed Restoration and Stewardship
MELS	Monitoring, Evaluation, Learning, and Sharing
NARO	National Agricultural Research Organization
PIP	Plan Intégré du Paysan (Integrated Farm Plan)
PLA	Participatory Learning and Action
PLAR	Participatory Learning Action and Research
REACH	Resilient Efficient Agribusiness Chains
REBDA	Reign Business Development Agency
RF	Results Framework
SACCO	Savings and Credit Cooperative Organization
TOC	Theory of Change
UDBL	Uganda Development Bank Limited
ULN	Uganda Landcare Network

UWA	Uganda Wildlife Authority
VSLA	Village Savings and Loan Association
WASH	Water, Sanitation, and Hygiene

Executive Summary

Introduction

The Building Resilience and Inclusive Growth of Highland farming systems for rural Transformation (BRIGHT) project, is a four-year program, funded by the Embassy of the Kingdom of the Netherlands (EKN) through the Dutch Ministry of Foreign Affairs under Dutch development policy. The project is being implemented by the International Fertilizer Development Center (IFDC), in collaboration with Agriterra, the Uganda Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), the National Agricultural Research Organization (NARO), district local governments, and private sector actors. The BRIGHT project aims to build the resilience of 106,560 highland farm households in Kigezi, Mt. Elgon, and Rwenzori regions by supporting Uganda to recover from external shocks in an ever-changing context. This document has been prepared to report the Year 1 activity of the BRIGHT project, which included a six-month inception phase.

Baseline and Complementary Assessments

Central to the implementation of the BRIGHT project is the *Plan Intégré du Paysan (PIP)* or Integrated Farm Planning (IFP) approach, which builds on behavior change of motivated farmer land stewards. During. the inception phase, various analyses were undertaken, including the farming systems and household decision-making assessment, analysis of high-potential value chains, value chain actor analysis, nutrition analysis, gender, youth, and social inclusion assessment, cross-border trade study, and inherent soil fertility assessment at sites of BRIGHT implementation. Findings from these studies have helped refine or reorient project activities as follows.

Community Selection

The project is to be implemented in nine districts, 27 sub-counties, and 138 project villages in the three regions of Kigezi, Mt. Elgon, and Rwenzori. These geographical areas were selected based on criteria that fit BRIGHT's implementation strategy and approaches, in consultation with the District Local Government (DLG) officials at the different administrative levels.

Integrated Farm Planning

The PIP approach will be used to empower the community and farm households to develop actionable development visions, based on their internal aspirations, strength, available opportunities, and resources, and households will be guided in strengthening inclusive decision-making. The entry point for the BRIGHT project is the village. However, implementation of the PIP activities will follow a non-civic village, referred to as the "project village." Each project village will have an average of 775 farming households with 25 Farmer Innovators (FIs). Using the ratio of 1:10:2, the project will be implemented in 231 project villages from 27 sub-counties in nine program districts. BRIGHT will follow a four-phase approach to implement PIP activities in the communities. Based on the visions developed, other pillars for building resilience, such as food and nutrition security, financial inclusion, and market access, will be implemented under the second and third phases of the PIP approach (PIP creation and PIP scaling up in each community).

Initially, BRIGHT had planned for light PIP where households were the entry level. However, based on the findings from the assessments, it was observed that for impact to be realized, especially on sustainable land management, all households had be engaged from upstream to downstream hence the village level approach. With this approach, six (6) awareness meetings are conducted with the selected

project villages to create buy in and intrinsically motivate communities to identify challenges and possible solutions before embarking on the nine (9) sessions of PIP creation at household level.
In preparation for implementation of the PIP approach, the capacity of BRIGHT project staff was enhanced through two virtual training sessions and two exposure learning visits on PIP, organized internally by IFDC's Burundi office. Training was conducted for frontline staff of the BRIGHT project and the local implementing partners to ensure effective implementation of the PIP approach. Collaboration between the CommonGround and BRIGHT projects will continue throughout project period and is already evidenced by one introductory PIP session, convened by Aad Kessler for BRIGHT staff, and a five-day residential workshop on PIP attended by four staff members, the project's PIP experts.
There will be periodic monitoring and support of the trained PIP farmer innovators and communities as they implement visions and action plans. Additionally, reflection meetings will be held at community levels to determine progress and provide technical backstopping. By engaging the Local Government structures, BRIGHT will support the participating communities to lobby local governments to support some of their prioritized actions.

Sustainable land use and crop production
Soil degradation and erosion, including gullies, mudslides, and landslides, are major issues preventing optimal agricultural productivity in the target regions of the BRIGHT project. Difficult access to land forces farmers to cultivate on fragile steep-sloped lands, which contributes to environmental degradation. Using the PIP approach, the BRIGHT project will intervene at (i) household to promote integrated soil fertility and land management at plot scale through participatory learning and action and (ii) landscape/watershed level to promote collective management of fragile steep lands to limit soil degradation and protect the land while maintaining agricultural productivity.

Markets and value Chain development
Challenges preventing the development of value chains include adulterated seed and chemicals in the market, long distances to chemicals and seed shops, expensive seeds (especially seed potato and fertilizers), poor roads that increase transport costs on the farmer side to reach the markets, and pests and diseases. To help alleviate these challenges, the project will intervene in different ways for each of the four value chains – beans, maize, coffee, and potato – at both input and output levels while addressing access to market needs. Partnerships with agro-input suppliers to popularize affordable quality inputs and improve access, especially in rural areas on a cost-sharing basis will be undertaken. The supply side of the value chains will also be enhanced by encouraging improved, affordable, and replicable post-harvest handling practices, and establishing output market linkages. The planned interventions will target all the categories of BRIGHT's highland farmers i.e. subsistence, market-oriented farmers, and entrepreneurial farmers.

Food and nutrition security
Findings from the nutrition assessment highlight variations in household dietary diversity across the regions, all linked to food access. Consequently, planned interventions include building the capacity of farmers on practices that improve their dietary diversity, conducting family dialogues, collaborating with existing community structures, and exploring synergies in nutrition activities with Care International's Catalyzing Strengthened Policy Action for Healthy Diets and Resilience (CASCADE) project.

Gender, youth and social inclusion

The Agriterra assessment of farmer cooperatives found that most entrepreneurial and market-oriented farmers are organized in cooperatives and Savings and Credit Cooperative Organization (SACCOs), but the small-scale farmers within the cooperatives have limited decision-making power compared to the large-scale farmers, which results in power imbalances, even within the same cooperative. In addressing these issues, BRIGHT will use three pathways: (i) working within the PIP process to identify the most vulnerable households; (ii) linking with other BRIGHT project interventions to document the emerging needs, priorities, and opportunities; and (iii) promoting collaboration with other organizations targeting the poor for interventions beyond the BRIGHT mandate.

Financial Inclusion

The main bottlenecks to access to finance include: (i) high cost of financial services; (ii) limited awareness of available financial services and products for smallholder farmers; (iii) ack of brick-and-mortar branches for financial institutions in the project areas; (iv) collateral requirements, which hamper access to financial services by village savings and loan associations (VSLAs), farmer groups, women, and youths; (v) limited availability of funds with VSLAs for lending at the beginning of the new cycle; and (vi) credit products and services not tailored to the needs of smallholder farmers.

To achieve the financial inclusion expected outcomes, BRIGHT will:

- Strengthen existing VSLAs and farmer savings groups through provision of training in financial literacy and business plan development.
- Link VSLAs and farmer groups/cooperatives to formal financial service providers (FSPs) and facilitate access to low-interest loans for onward lending.
- Support the SACCOs to digitalize their services and open branches in the project areas. They will be linked to financial institutions, such as Uganda Development bank Limited (UDBL) and other banks with low interest rates.
- Facilitate community dialogues between the FSPs and VSLAs/farmer groups.

Cross-Border Trade

There is a high demand for fruits in the border regions and prospects for increasing demand. Issues preventing optimal functioning of cross-border trade include border insecurity and instability, unpredictable price structure, fluctuating rates of currency conversion, and poor sanitary conditions in border environments. Considering these challenges, the BRIGHT will:

- Strengthen cross-border traders' cooperatives to deliver the required services to its membership, including timely information and awareness/sensitization.
- Introduce the cross-border cooperative model (with the two-country joint membership) to organize production and trade in border communities.
- Support smallholder farmers to establish a traceability system.

Partnerships and Collaborations

Partners with different expertise were identified to help in the implementation of the BRIGHT project. They included not-for-profit organizations, non-governmental organizations (NGOs), public and private sector actors, including the MAAIF and NARO, and local governments. Their roles in project implementation and modalities of partnership were clarified.

Activity Progress Year 1

Implementation of the PIP Process

Thus far, the Project has engaged 33 project villages spanning seven districts across the three regions, conducting six awareness-raising sessions under module one. During these sessions, 1,960 community members (1,050 males and 945 females) engaged in reflective discussions to identify critical issues impacting their communities in environmental, economic, and social aspects. They proceeded to draft situational maps and propose potential solutions, indicating responsible parties such as the community, local government structures, or the BRIGHT Project. Furthermore, the communities chose 893 Farmer Innovators (FIs) who will play a pivotal role in the upcoming PIP engagements, disseminating essential skills and practices within their communities. Project Village Vision Committees were also selected to provide support and ensure the effective implementation of their respective village plans.

All 33 project villages have successfully created village vison maps and have formulated corresponding workplans to steer the realization of their community's aspirations.

Sustainable Land Management

At the watershed/landscape level, the project is actively engaging with district natural resource officers, community members, and local leaders in the identification of degraded hotspots. This process involves prioritizing these areas and developing comprehensive strategies for their restoration. In the reporting period, the project conducted transect walks and organized community awareness and reflection meetings, which proved instrumental in pinpointing watershed and land degradation hotspots that require collective action.

Regarding value chain development, the project entered into an agreement with Agriterra to strengthen the cooperatives and SACCOs participating in project activities. Before engagements, these organizations were scoped, assessed, and contracted depending on their capacity gaps and requirements. To date, four out of the nine contracted organizations, have received training in organizational governance and leadership.

Conclusions

The baseline and complementary assessments have been resourceful in establishing adaptive mechanisms and strategies to enhance the resilience of farming households to ably adapt to and/or mitigate economic and climatic shocks and stresses. These studies confirm our Theory of Change and Results Framework. The PIP approach will be instrumental, as it offers the opportunity to holistically address the constraints observed from the studies at the grassroots level of the highland farming communities. Strategic value chains and value chain actors that contribute to the production and productivity of rural households within the agroecological zones have been identified and characterized. Design sessions with local and other strategic partners have been conducted to establish areas of collaboration that are tailored toward enhancing livelihood-building opportunities, access to input and output markets, access to assets, social networks, and adaptive household governance capacity. With insights provided by the inception phase studies and analyses, the BRIGHT project team is now set to efficiently execute the planned interventions to achieve the expected impact for 106,560 highland farming households.

BRIGHT Inception and Year 1 Annual Report

1 Introduction

1.1 Background

The Ugandan society in general, and the country's rural communities in particular, are vulnerable to external shocks, including those related to the economy and the COVID-19 pandemic. As an illustration, the closure of the Uganda-Rwanda border from 2019 to 2022 led to a marked reduction in the cross-border trade of agricultural commodities, including potato, which caused a steep reduction in market prices for potato in Kigezi, as markets were flooded with a surplus. The nationwide lockdown also reduced the availability of agricultural inputs, which increased their cost, resulting in a reduction in use in rural communities. Consequently, 42% of farmers in Mt. Elgon were unable to produce potatoes in the first quarter of 2020 (PNSP, 2021). Market-oriented farmers able to produce agricultural commodities had to contend with low production and thin margins, and both market-oriented and subsistence-oriented farmers faced food scarcity. At a macro-economic level, the COVID-19 pandemic led to a slowing in the growth of Uganda's gross domestic product (GDP). The negative economic outlook is compounded by increased pressure on Ugandan national resources, as Ugandan citizens shifted in significant numbers to agriculture in response to the pandemic. The shift exacerbated ecological vulnerabilities in a country where forest cover declines by 2.6% annually. The cost of subsequent soil erosion and land degradation was estimated at 17% and 27% of the GDP, respectively. With this background, building the resilience of smallholder farmers becomes a prerequisite to their attaining food security and improved livelihoods.

Building Resilience and Inclusive Growth of Highland farming systems for rural Transformation (BRIGHT) is a four-year project, funded by the Embassy of the Kingdom of the Netherlands (EKN) through the Dutch Ministry of Foreign Affairs under Dutch development policy. The project is being implemented by IFDC, in collaboration with Agriterra, the Uganda Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), the National Agricultural Research Organization (NARO), district local governments, and private sector actors.

The vision of the BRIGHT project is to promote inclusive economic growth and rural transformation through equitable integration into value chains. BRIGHT aims to build the resilience of 106,560 highland farm households in Kigezi, Mt. Elgon, and Rwenzori regions by supporting Uganda to recover from external shocks in an ever-changing context through absorption, adaptation, and transformation. In so doing, the project will improve the food and nutrition security and incomes of farmers, transition subsistence-oriented farm households to more of a market orientation by supporting them in integrated farm planning and inclusive decision-making, introducing appropriate climate-smart agriculture (CSA) technologies to strengthen local farming systems, ensuring natural resource conservation, and developing strategic value chains.

1.2 Objectives

The BRIGHT project aims to increase the resilience of farming households – their ability to adapt to and/or mitigate economic and climatic shocks and stresses – by achieving the following main impacts: (i) improved food and nutrition security among farmer households, (ii) increased farmer

income from sale of increased volumes of produce of good quality, and (iii) sustainable farmland use and management.

The BRIGHT project will focus on the following four specific objectives:

- Farm households practice joint decision-making.
- Farm households increase their on-farm productivity and profitability.
- Farm households have a more diverse, adequate diet.
- Farm households have improved access to input and/or output markets.

1.3 Expected Results

BRIGHT aims to build the resilience of 106,560 highland farm households in Kigezi, Mt. Elgon, and Rwenzori regions by supporting Uganda to recover from external shocks in an ever-changing context through absorption, adaptation, and transformation. In so doing, the project will improve the food and nutrition security and incomes of farmers, transition subsistence-oriented farm households to more market-oriented ones by supporting them in integrated farm planning and inclusive decision making, introducing appropriate CSA technologies to strengthen local farming systems, ensuring natural resource conservation, and developing strategic value chains.

1.4 Implementation Strategy

Central to the implementation of the BRIGHT project is the *Plan Intégré du Paysan (PIP)*, or Integrated Farm Plan (IFP), approach. The PIP approach will be used to empower community and farm households to develop actionable development visions, based on the community and household internal aspirations, strength, available opportunities, and resources and guides households in strengthening inclusive decision-making. This approach builds a foundation of motivation, stewardship, and resilience that brings about sustainable change within households and communities. Building resilience of farm households in Uganda to absorb, adapt, and transform in the face of these shocks is critical.

BRIGHT will follow a four-phase approach to implement PIP activities in the communities: (i) community awareness raising; (ii) PIP creation with Farmer Innovators (FIs); (iii) PIP scaling up in each community; and (d) PIP scaling in the adjacent villages.

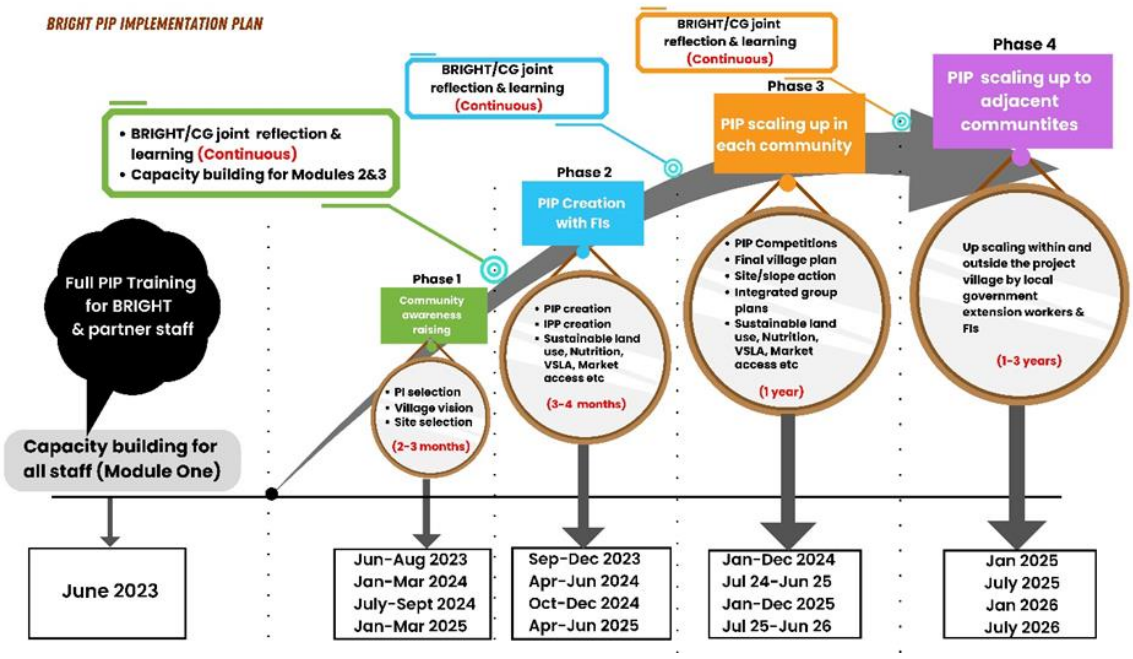


Figure 1. BRIGHT PIP implementation plan

For the project staff to master the approach, the first step was to build the capacity of 46 IFDC-BRIGHT project and local partner staff in implementing the PIP approach. The trainings were facilitated by the Soil Fertility Stewardship Project (PAGRIS) project team and Aad Kessler, PIP expert. The trained staff then cascaded the trainings to the project villages.

Village Entry

The entry point for the BRIGHT project is the village. However, implementation of the PIP activities will follow the non-civic village, referred to as the project village. Each project village will have an average of 300 farming households, with 25 Farmer Innovators. Using the ratio of 1:10:2, the project will be implemented in 231 project villages.

Community Awareness-Raising

At the project village level, awareness creation is the first step toward changing behavior and leveling community expectations. Community awareness-raising meetings focusing on the PIP approach, FI selection (based on criteria developed together with the community), and development and validation of integrated village and watershed vision maps and action plans will be conducted. For each project village/watershed, six community awareness-raising meetings will be held. A village committee of 11 people will be formed to lead the project village visioning and implementation. The project village visions will integrate aspects of soil health management, food and nutrition security, financial inclusion, and input and output markets. The community awareness phase will take two to three months to complete.

A total of 231 project villages will be supported to develop integrated village visions and action plans during the life of the BRIGHT project. The visioning approach is intended to enable households at farm, village, or landscape level to appreciate their current situation in terms of the constraints, opportunities, and resources at their disposal to reach the desired situation.

Household visioning will be introduced following a 1:10:2 strategy, as illustrated in Figure 2. At each project village, 25 Farmer Innovators, who are selected and validated in village meetings, will be trained by the BRIGHT project and local partner staff on farm visioning, and these FIs will in turn enroll and train 250 first generation (G1) farmer households. The G1s will then cascade the skills and practices to 500 second generation (G2) households. By the end of four years, 5,760 FIs will be trained and, in turn, will train 43,200 GIs and 57,600 G2 households, for a total of 106,560 households.

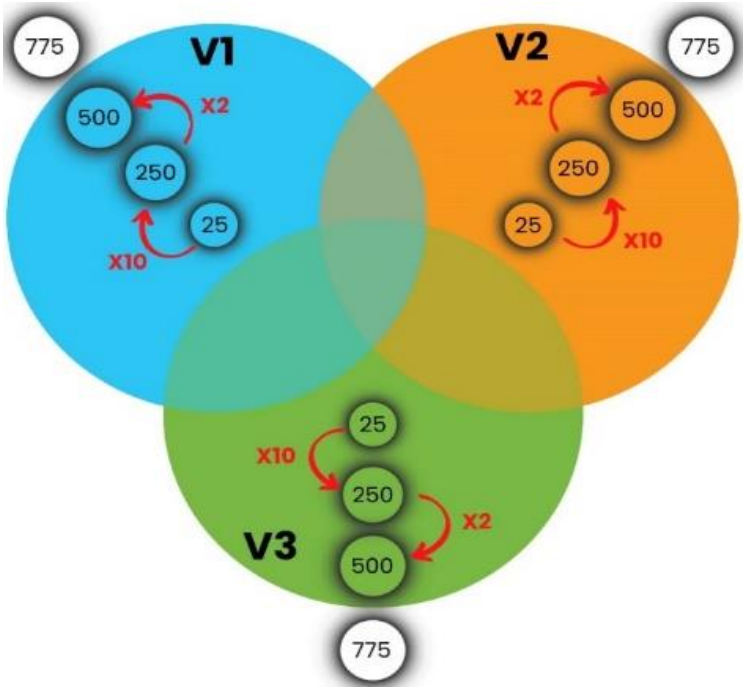


Figure 2. Illustration of the PIP multiplier effect per village

The selected Farmer Innovators will be trained using a nine-session module on PIP creation. Training materials from the PIP toolbox will be printed and used during the FI training. The FIs shall be supported to develop an actionable vision of household development, based on internal household aspirations and available opportunities, to guide household coping strategies and inclusive decision-making. The household farm plans will be aligned to the village plan. Additionally, the 25 FIs in each project village will be encouraged to develop a group Integrated Plot Plan (IPP) with best practices that will be implemented using the Farmer Field School model, integrating project resilience pillar activities, such as good agricultural practices (GAPs), CSA, and integrated soil fertility management (ISFM); post-harvest handling and storage; livestock management; agroforestry; natural resource conservation; household-level nutrition; and VSLA. This will enable households and villages to envision and integrate aspects of food and nutrition security, financial inclusion, and input and output markets. The training is aimed at strengthening the capacities of FIs to be able to effectively pass on the knowledge to other generational farm households. This phase will take a period of six to 12 months.

Financial inclusion and market access will be addressed under the third phase of the PIP approach (PIP scaling up in each community). Implementation will start with training of the G1 households by FIs. This phase will begin after six months of implementing PIP activities by FIs in their households. Each of the FIs will scale up the PIP approach to 10 farm households in the project village. In each project

village, 250 households will be reached by 25 FIs. PIP competitions and graduation days will be organized at project village level at the end of six months of implementation by G1s.

Pillars of Resilience

As stated in our proposal and related Theory of Change, BRIGHT will use the PIP approach to lay the foundation for the project while integrating components of five resilience pillars that are necessary to effectively build the resilience of farm households. The outcomes include improved decision-making, improved food and nutrition security, increased farmers' incomes and livelihood building from reduced yield gap, sales of increased volumes of produce, and conversion of farmland through sustainable land use stewardship, hence enhancing the highland farming systems. To achieve each of these outcomes, implementation of the pillars of resilience will be component focused, as indicated in Table 1.

Table 1. Pillars of resilience of the BRIGHT project

No.	Pillar	Component
1	Adaptive Capacity, Including Intra-Household Governance Capacity	Farming Systems and Household Decision-Making
		Food and Nutrition security
		Gender, Youth, and Social Inclusion
2	Income-Earning/Livelihood-Building Opportunities (on-farm/ off-farm)	Sustainable Land Use and Crop Production
3	Access to Natural Assets (Owned/Internal and Common Goods/External Natural Resources)	
4	Access to Social Networks/Communal and Other Social Safety Nets)	Financial Inclusion
5	Access to Markets (for Both Inputs and Services and for Farm Produce)	Market Access and Value Chain Development

Inception phase baseline and other assessments were conducted to inform the streamlining of planned strategies and the implementation approaches to contribute to the resilience of targeted highland farming households. Decision-making cuts across all the pillars of resilience and will be streamlined through all the interventions during implementation.

2 Inception Phase Activities

This section presents the activities, outputs, and outcomes achieved by the BRIGHT project during the inception phase. Several important milestones have been reached. The baseline and complementary assessments have been completed, which informed refinement of the overall project strategy and will serve as a benchmark for comparison through periodic assessments, with the purpose of learning about the project's results and validating the Theory of Change. The complementary assessments included the (i) Farming Systems and Household Decision-Making Assessment, (2) Inherent Soil Fertility Assessment in the Target Regions, (iii) Analysis of High-Potential Value Chains, (iv) Value Chain Actor Analysis, (v) Nutrition Analysis, (vi) Gender, Youth, and Social Inclusion Assessment, (vii) Financial Inclusion Assessment, and (viii) Cross-Border Trade Study. Using the findings from

these assessments, BRIGHT has identified key interventions to undertake as well as the key stakeholders to collaborate with as the project builds the resilience of farming households. The detailed reports are submitted as annexes. Other accomplishments during the inception phase include community selection, mobilization of collaborating partners, selection of project target communities, and a project kickoff meeting.

2.1 Resource Acquisition, Project Staffing

2.1.1 Procurement and identification of office premises

The BRIGHT project follows IFDC's procurement policies and procedures, which provide for ensuring that quality goods and services are received in a timely, ethical, and professional manner; that organization assets are protected; and proper control over expenses, accurately reflecting the organization's forward commitments and receipts is executed. A procurement plan for the BRIGHT project is in place to guide execution as per the plan. Major procurement activities undertaken during the reporting period include acquisition of three project offices in Kabale, Mbale, and Fort Portal, with Fort Portal being the project's headquarters; purchase of three field vehicles and five motorcycles; servicing of six existing motorcycles (that had been used in previous IFDC projects), and purchase of office furniture, office equipment, computers, and information technology (IT) equipment. The setup of all the three project offices has been completed, and all project assets are fully insured. Procurement activities currently underway include the purchase of three multipurpose printers/photocopiers, purchase of one generator for the project headquarters office, repair of the Kabale office generator, and purchase of three cameras to capture project milestones and activities. Other supplies and consumables will be procured on an as-needed basis following established procedure.

2.1.2 Staffing

The Bright project proposed to place implementing staff close to the beneficiary highland farming households in each office. Job openings were advertised in late September 2022. Upon EKN's award of the project on October 2, 2022, recruitment started and is now complete, except for two positions, the Financial Administrative Assistant and the Farming Systems and Farmer Household Officer for Elgon). A total of 31 staff members have been hired to provide hands-on support toward sustainable land use management, food and nutrition security, gender and social inclusion, market access and value chain development, and financial inclusion, as well as other specialty knowledge and skills areas.

2.1.3 Project Kickoff Workshop

A five-day project kick-off workshop was held March 6-10, 2023, at Mbale Courts View Hotel in Mbale City. This meeting was attended by all BRIGHT project staff and a few partner staff from Agriterra and Africa 2000 Network (A2N). The participants gained a deeper understanding of the BRIGHT project, expectations, implementation strategy, and Theory of Change. Presentations were given on IFDC, the BRIGHT project and components, the Theory of Change and Results Framework, the IFDC organogram, and the human resource strategy at national and global levels. The team was also trained on finance protocols and utilization of established IFDC systems, such as NetSuite, Xodo, and SharePoint, which facilitate effective and efficient implementation of project activities. A2N, a landing partner to Wageningen University and Research on the PIP/IFP approach, facilitated a one-day training on PIP/IFP approach for onboarded BRIGHT project staff. A learning visit to Bududa District was organized; the team had the opportunity to interact with the farmers who appreciated the practicality of the PIP approach.

2.2 Project Sites and Community Selection

The BRIGHT project conducted a community selection process to identify project operation areas, create awareness about the project in the different locations, and attain buy-in from the stakeholders, especially the district and sub-county local government officials.

The BRIGHT project is operational in the Ugandan highland areas of Mt. Elgon, Kigezi, and Rwenzori, as agreed upon with EKN. The project engaged CommonGround, another EKN-funded project, as well as public officials in the area, to better target the districts, sub-counties, parishes, and villages, create awareness, and attain the buy-in of identified stakeholders.

A participatory approach was used to select the project locations. Discussions were held with various districts technical and administrative officials, including the district production and marketing officers, district agricultural officers, community development officers, district planners, and chief administrative officers. Representatives of zonal agricultural research and development institutes (Buginyanya, Kachwekano, and Rwebitaba) in the three regions were also consulted.

Criteria for selection of project locations focused on: (i) highland potato-based farming system areas; (ii) areas with high levels of land degradation and land fragmentation; (iii) areas that can be easily connected via watersheds and contiguous landscapes; (iv) areas where IFDC had worked before and cost-shared the establishment structures (screenhouses, diffused light and ambient stores) during previous EKN-funded projects; and (v) the willingness of the local leaders and other key stakeholders to support and participate in project activities.

Three regional, seven district, and 21 sub-county level engagement meetings were conducted with key local leaders and other stakeholders to discuss the target locations based on the criteria and findings from the baseline and complementary assessments conducted by the BRIGHT project. In line with observations made by district authorities, the community selection engagements cascaded to the lower administrative structures, and through sub-county pre-entry meetings, parishes and villages were identified and the number of households per village was set using the established criteria. Local leaders at the village level were also engaged as the project teams conducted preliminary meetings for the PIP awareness engagements and transect walks in the identified villages to identify the different features within those villages and the contiguity of the civic villages and for informed decision-making, while clustering civic villages to make project villages.

In total, nine districts, 27 sub-counties, and 231 project villages were selected in the three regions of Kigezi, Mt. Elgon, and Rwenzori. The map below shows the selected districts and sub-counties for BRIGHT project implementation per region.

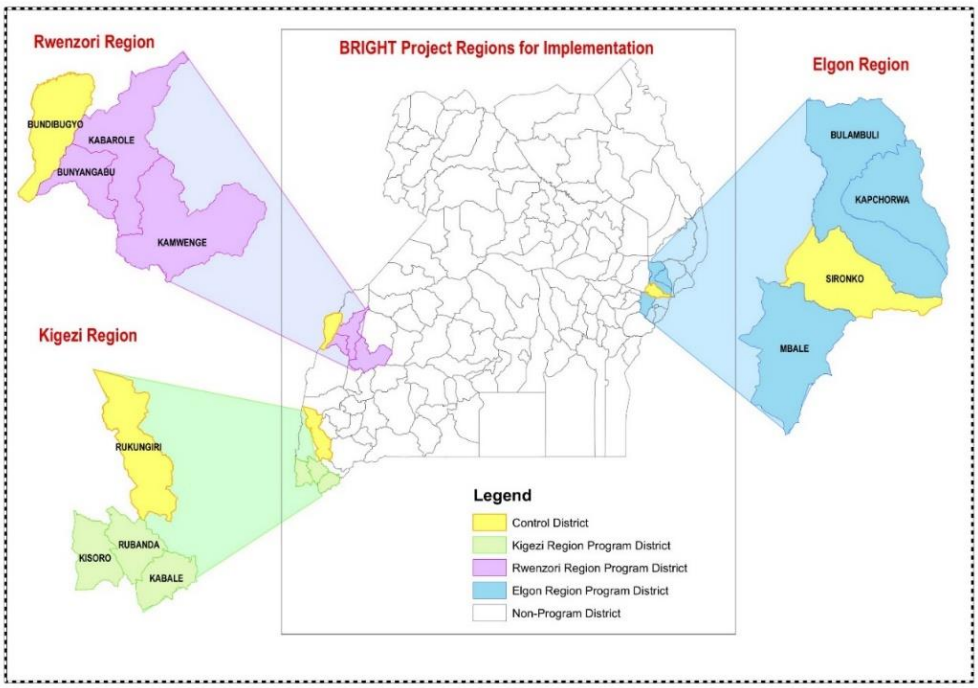


Figure 3. BRIGHT project districts and sub-counties

Project Village Structure

A BRIGHT project village will bring together three to eight civic villages, depending on the number of actual household residents in each civic village. A civic village is the lowest administrative unit of a country, an average of 80-90 households. Instead of civic villages, BRIGHT considers the project villages as entry points for the PIP approach, where 25 FIs will be selected from one project village and capacitated to cascade skills and practices to 250 G1 farmers, who will in turn build the capacity of the 500 generation two (G2) households using the 1:10:2 implementation strategy. This will give a total of 775 households trained per project village. Since 775 is too large for a civic village, three to eight civic villages will be combined to achieve our target of 775 households per project village. Therefore, to achieve the target of 106,560, BRIGHT project's planned activities will be implemented in 231 project villages. CommonGround will be engaged to harmonize and ensure that a common terminology of "project village" is used between the two projects.

Using the same criteria of BRIGHT project geographic locations, two sub-counties were selected in each of the three control districts of Sironko in Mt. Elgon, Rukungiri in Kigezi, and Bundibugyo in Rwenzori. Farmers in the control locations will be excluded from BRIGHT project interventions but will receive capacity building on group dynamics, leadership, and governance.
Table 2 shows the selected districts and sub-counties for BRIGHT project implementation per region.

Table 2. Geographic locations selected for the BRIGHT project

Region	District	Sub-County	Region	District	Sub-County	Region	District	Sub-County
Mt. Elgon	Kapchorwa	Chema	Kigezi	Kabale	Butanda	Rwenzori	Kabarole	Harugongo
		Eastern Division			Kamuganguzi			Karangura
		Western Division			Rubaya			Kichwamba

Region	District	Sub-County	Region	District	Sub-County	Region	District	Sub-County
	Mbale	Budwale		Rubanda	Muko (shared with CommonGround)		Kamwenge	Biguli
					Hamurwa			Busiriba
		Wanale			Ikumba			Bwiizi
					Nshanjare		Bunyangabu	Kabonero
	Bulambuli	Bumugibole		Kisoro	Bukumbiri			Kateebwa (shared with CommonGround)
		Masira			Muramba			Kisomoro
					Nyaruzisiza			Rwimi
Control	Sironko	Masaba	Control	Rukungiri	Nyarushanje	Control	Bundibugyo	Kasitu
		Gombe			Nyakyishenyi			Bukwanga

2.3 Inception Phase Assessments and Strategic Interventions

This section contains key insights and highlights of the assessments that were conducted during the inception phase. These assessments were conducted across the three regions of Mt. Elgon, Rwenzori, and Kigezi by the BRIGHT project team, with the objective of informing the project Theory of Change and interventions. Additionally, findings from the assessments will provide a benchmark for the indicators as per the Results Framework. Detailed reports of all the assessment are annexed in this report. In addition, key observations were made during the PIP awareness-raising meetings, the majority of which confirmed the findings from the studies. The insights highlighted in the individual components have informed the refinement of the planned interventions and strategies elaborated in this section.

2.3.1 Farming Systems and Household Decision-Making

Description of the Farming Systems

Farming systems involve a combination of different agricultural activities, such as crops, animals, fisheries, and forestry. This strategic approach aims to optimize resource utilization and enhance the economic stability of farmers. Notable farming systems in the Mt. Elgon, Rwenzori, and Kigezi regions include:

- ***Perennial farming systems***: These systems comprise mostly a coffee-banana cropping system, complemented by legumes, cereals, and trees. This system is common in Rwenzori and parts of Mt. Elgon regions. In these communities, the population is high, with land holdings of approximately 1 hectare (ha) per household. Soil fertility is declining, and households cope by intensive land utilization although they receive a low return on their labor. Coffee and bananas are of high value, with promising markets.
- ***Annual farming systems***: This system is characterized by households engaged mostly in annual crops/seasonal cropping. Crops grown include potato, beans, maize, sorghum, barley, and horticultural crops. Farmers practice crop rotation and intercropping. The byproducts of one enterprise serve as inputs for another enterprise.
- ***Mixed farming (cropping-livestock) systems***: In this system, households are engaged mostly in both annual/seasonal and perennial crops and livestock, especially zero-grazing of a few dairy cows. This is the predominant farming system in the Mt. Elgon, Kigezi and Rwenzori highlands. Crop

rotation and intercropping are practiced. The byproducts of one enterprise serve as inputs for another enterprise. For example, crop residues are used as animal fodder, while manure from the animals is used as organic fertilizer for crops.

- ***Farming enterprises***: The major crops grown in the three regions include: Elgon – horticultural crops (onions, cabbage), maize, banana, potato, beans, coffee, and barley; Kigezi – horticultural crops (onions, cabbage), maize, potato, beans, sorghum, and barley; and Rwenzori – maize, banana, potato, beans, coffee, sorghum, tea, and barley. Livestock, especially dairy cattle, are intensively kept by zero-grazing in the three regions. Other animals kept include chicken, goats, sheep, and rabbits. Donkeys are kept mainly in Mt. Elgon for transporting farm inputs and products. Farm labor is mostly manual family labor by subsistence farmers, but laborers are also hired during picking activity, especially during weeding and harvesting of coffee and potato. There is limited mechanization of farm activities due to the topography. Ox-plow and the use of tractor is limited to some parts of Mt. Elgon.

During the assessment of farming systems, respondents from different regions were grouped into homogeneous farm types (FTs), with a specific value chain focus (Table 3).

Table 3. Homogeneous farm types inventoried in the BRIGHT project target regions

Region	Farm Type	Percentage of Households	Characteristics
Kigezi	FT1	27%	Market-oriented, entrepreneurial potato farmers
	FT2	15%	Resource-poor bean farmers
	FT3	58%	Resource-rich farmers with mixed crops
Mt. Elgon	FT1	31%	Maize farmers
	FT2	40%	Potato farmers
	FT3	29%	Coffee farmers
Rwenzori	FT1	22%	Banana farmers
	FT2	58%	Potato farmers
	FT3	20%	Coffee farmers

Market-Oriented Farmers

The most enterprising households, characterized by their willingness to take risks and their capacity to implement productivity- and sustainability-enhancing practices, were primarily engaged in potato production. Specifically, these households were identified as Kigezi's FT1, Mt. Elgon's FT2, and Rwenzori's FT2. Notably, these households achieved an average sales rate of over 60% of their produced goods. Furthermore, their production strategy involved a heavier reliance on purchased and hired land. This risk-taking inclination was evident in their tendency to favor monocropping over intercropping, showcasing a pragmatic approach. While they were less inclined to adopt agroecological soil fertility management practices, they showed a greater inclination to employ either conventional practices or integrate conventional methods with agroecological ones.

Prioritizing Food Self-Sufficiency and Risk Aversion

Another key category included Kigezi region's FT3, Mt. Elgon's FT1, and Mt. Rwenzori's FT1. These farm types displayed a prioritization of food self-sufficiency and exhibited a tendency toward risk

aversion, as indicated by the higher-than-expected presence of intercropped fields. They pursued a mixed crop approach, aiming for both subsistence and revenue generation, without a specific preference for major regional crops. These households were found to rely more on inherited land and were inclined to utilize agroecological soil fertility management practices, albeit with a lower likelihood of integrating them with conventional methods. Despite the frequent utilization of agroecological practices, particularly in Kigezi region (82%), they were reported to be less effective.

Resource-Poor Subsistence Farmers
A third category encompassed Kigezi's FT2, Mt. Elgon's FT3, and Rwenzori's FT3. These households represented resource-poor subsistence farmers who sought support through farmer groups and savings and credit groups to mitigate the shortfalls in their limited resources.

Strategies
For risk-taking farmers capable of adopting practices aimed at boosting productivity and sustainability, suitable crop varieties with preferred market attributes adaptable to local conditions will be identified within each region's monocropping systems. These efforts will supplement the market and value chain development initiatives outlined in other sections, facilitating access to quality inputs and competitive prices.

Innovative Approaches
Innovations that demonstrably enhance resource efficiency in achieving household food and income goals, without significantly jeopardizing livelihood strategies, may resonate with risk-averse farmers. A stepwise intensification approach will be employed to test and scale innovations for the prioritized target groups in their respective regions.

2.3.2 Sustainable Land Use and Crop Production

Boosting and diversifying crop production and farm household income-generating activities, based on the ambitions and endowments of farm households, is central to the project. Farm households in the Ugandan highlands are heavily dependent upon a single sector for their livelihoods and income: agricultural production. Highland farming systems, however, are characterized by low productivity, low quality of production, and an overreliance on a limited selection of crops: in short, low levels of resilience and a limited operationalization of adaptation strategies, such as diversification.

The sustainable utilization of land and effective crop production play pivotal roles in addressing poverty, food security, and nutritional well-being in agricultural communities. This section delves into the initial assumptions concerning soil-related factors that impact Kigezi, Mt. Elgon, and Rwenzori regions. These assumptions shed light on the constraints rooted in soil health, conservation practices, and land tenure systems that hinder optimal land utilization and crop productivity. The findings from these studies have informed the strategic approaches need to enhance sustainable land use and crop production, ultimately fostering improved livelihoods and resilience in these regions.

Initial Assumptions
Within Kigezi, Mt. Elgon, and Rwenzori regions, the interplay of soil-related factors significantly contributes to prevalent issues, such as poverty, food insecurity, and nutritional deficiencies. These factors include fertility degradation, erosion-prone land topography, inadequate soil and water conservation practices, and land tenure systems that do not incentivize investments in sustainable soil preservation methods. By addressing these challenges, BRIGHT aims to pave the way for enhanced

agricultural productivity, increased food security, and improved economic outcomes for local communities.

Key Findings

Major Crops Grown by Farmers

From the baseline assessment, the major crops grown in the three regions were found to be maize, banana, potato, beans, sorghum, and barley. Almost all farmer households grow more than one crop, with 48% growing more than three crops purposely for income generation. The diversified crops are potatoes, coffee, beans, maize, cooking bananas, and cassava. Decision-making regarding crops produced by households is majorly based on the returns expected from the crop, the amount of money/capital available, food security needs, performance of the previous crop grown, crop rotation objectives, amount of labor required to produce a particular crop, and crops grown by neighbors.

Productivity and Profitability

The main crops that are highly considered for income generation and food security in the three regions are potato (24%), beans (19%), cooking banana (11%), maize (11%), and coffee (8%). Findings from farming systems analysis and baseline assessment show that the main crops identified are grown both for sale and household consumption. Little of what is produced is saved for seed. Figure 4 shows how farmer households utilize the main crops produced.

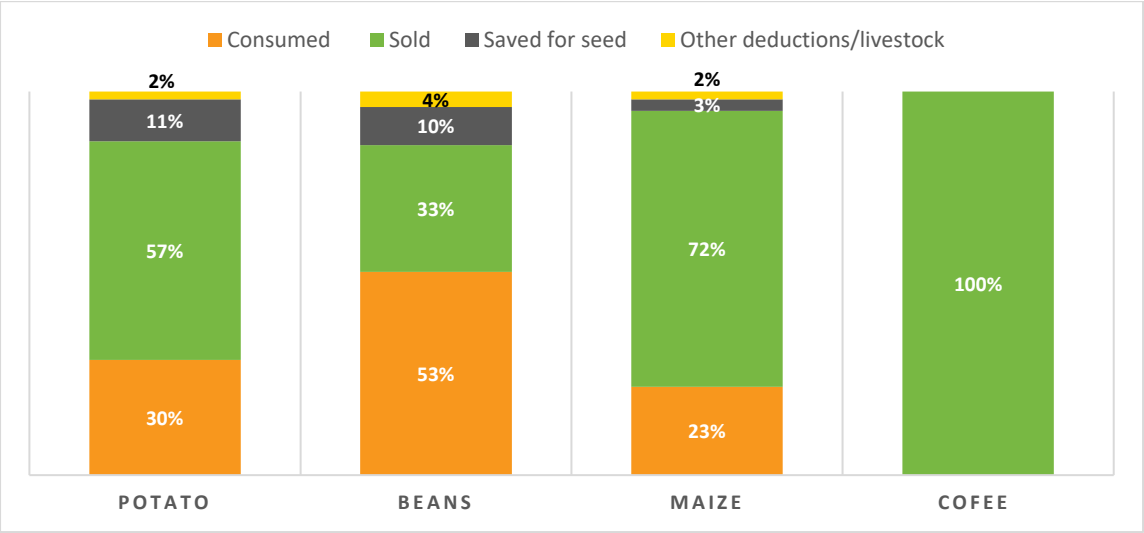


Figure 4. Destination of harvested products for different commodities

Risks/Constraints to Crop Production

Based on the baseline findings, it was observed that each region had its specific crop production constraints. The major constraints in crop production faced by farmers in Mt. Elgon include counterfeit agro-inputs (75%), expensive agro-inputs (67%), lack of extension services (75%), and poor road infrastructure (64%). In Kigezi, farmers commonly face challenges related to acquisition of good quality seed (48%), excessive loss of soil fertility (48%), and excessive soil erosion (40%). Prolonged dry spells (72%), land fragmentation (71%), a lack of markets (41%), and pests and diseases were common constraints noted among households sampled in Rwenzori.

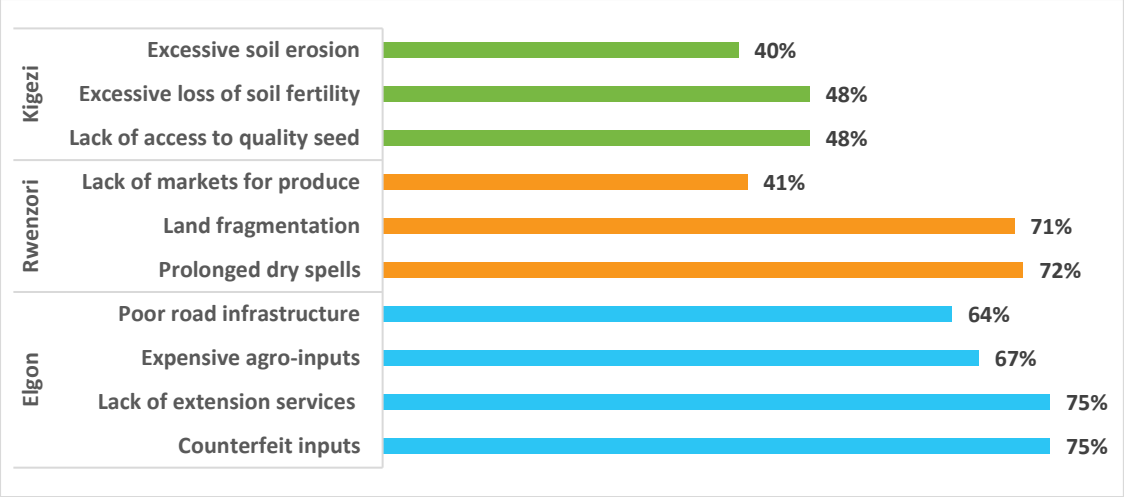


Figure 5. Major risks reported by farmers in Kigezi, Rwenzori, and Mt. Elgon regions

This section delves into the complex challenges of sustainable land use and crop production in Kigezi, Mt. Elgon, and Rwenzori regions, garnered from findings of the baseline, farming systems assessments and PIP awareness-raising meetings, which underscore the urgent need for strategic actions. These findings include:

- *High levels of soil erosion, mudslides, and landslides* result in gullies. This is attributed to the low adoption of soil and water conservation practices by farmers due to the labor-intensive nature of establishing protective structures. Additional challenges are related to land access, including renting and mortgaging, alongside other practices, such as open grazing, damage the protective grass bunds undermining farmers' motivation, and ability and capacity to adopt and invest in sustainable land management practices. Farmers renting land for production are never willing to invest in long-term and costly sustainable land management structures.
- *Steep slopes* cultivated due to population pressure and limited land availability pose a grave concern across the three regions. Current cropping practices, notably with horticultural crops such as onions, cabbage, and potato grown on steep slopes and open fields with fine seed beds, leave the soil susceptible to erosion.
- *Declining soil fertility* is attributed to limited access to and underutilization of quality agro-inputs, soil erosion, and limited crop rotation. The scarcity of authentic agro-input traders within highland communities further compounds the issue. Cropping practices, such as the harvest-and-carry method seen in crops such as bush beans and cooking bananas, promote nutrient depletion.
- *Low adoption of good agricultural practices* leads to low crop yields. Reportedly, this low adoption is due to the high cost of and limited access to quality improved seeds, other agro-inputs, and extension services.

Adding to the challenges, the cultivation of eucalyptus trees in highland communities indirectly exacerbates erosion and land degradation. These trees, often grown for income and firewood purposes, are swiftly felled when required. In addition, eucalyptus trees possess shallow, wide-spreading roots that inadequately anchor soil particles. Furthermore, their canopy fails to fully shield the ground, hence exacerbating erosion processes.

Inherent Soil Fertility Indices

Biophysical analysis of selected soil samples from the target regions showed that:

- Soil pH values varied from strongly acidic (4.85 and 4.9) from selected samples in the Elgon and Kigezi regions to moderately acidic (5.1) and near neutral (6.9). Soils from Rwenzori had a less acidic reaction, with mean pH of 6.0.
- Soils from Rwenzori had a better soil fertility index (less acidity and higher nutrient content).
- Olsen P values of most soil samples were >10 parts per million, which suggests that the soils have sufficient available P to support plant growth.
- Organic matter content of the soils was average in Elgon and Kigezi and high in many communities from Rwenzori.

Table 4. Physical and chemical characteristics of soils in the project target regions

Districts	pH water	OM (%)	N %	Olsen P (ppm)	Ca (cmol (+)/kg)	Mg (cmo (+) l/kg)	K (cmol (+)/kg)	Textural class
Elgon								
Sironko	5.6	3.86	0.20	11.2	7.8	5.0	1.7	Sandy clay loam
Mbale	4.85	3.60	0.20	11.86	5.10	3.59	0.55	Clay
Bulambuli	5.41	3.68	0.20	6.82	6.28	4.36	0.87	Sandy clay loam
Kween	5.54	3.75	0.20	9.75	7.50	5.34	0.72	Sandy clay loam
Bukwo	6.10	4.21	0.21	13.54	12.12	8.54	1.83	Sandy clay loam
Kigezi								
Kisoro	5.6	4.36	0.21	11.54	5.43	2.43	0.26	Clay
Kanungu	4.9	3.63	0.19	13.92	4.11	1.86	0.16	Clay
Rubanda	5.4	4.01	0.20	14.23	5.08	2.23	0.23	Clay
Rukungiri	5.7	4.22	0.20	13.45	5.62	2.51	0.34	Clay
Rwenzori								
Bunyangabu	6.35	5.33	0.25	13.89	11.74	5.71	1.17	Clay
Kasese	5.96	4.81	0.23	11.38	9.84	9.84	0.81	Sandy clay loam
Kyenjojo	5.84	4.17	0.21	6.45	8.82	8.82	0.56	Sandy clay
Kabarole	6.04	5.53	0.26	13.11	11.08	11.08	0.99	Clay loam
Ntoroko	5.88	5.53	0.28	20.76	11.03	11.03	0.95	Sandy clay loam

2.3.3 High-Potential Value Chains and Actors

The comprehensive study across Kigezi, Rwenzori, and Mt. Elgon regions has unveiled high-potential value chains that resonate with both the aspirations of local communities and the overarching goals of the BRIGHT project. In Kigezi, we have identified the promising niche of potato, dairy, maize, and beans. In Rwenzori, maize, potato, beans, and arabica coffee were identified as niche value chains. Similarly, in Mt. Elgon, the niche value chains identified were potato, maize, dairy, and arabica coffee. These selections hold the potential to significantly elevate household incomes, bolster food security, and enhance nutrition in these areas. The common thread binding these value chains is the farmer, who is the driving force of agricultural progress, closely followed by farmer groups, cooperatives, traders, and consumers, all playing pivotal roles. This discovery not only highlights promising avenues for agricultural growth but also underscores the indispensable contribution of local farmers to the project's success.

The principal actors within these chosen value chains encompass input dealers, seed producers, farmer groups, traders, middlemen, aggregators, processors, and consumers. The study confirmed the pivotal role of smallholder farmers as the linchpin within these preferred value chains. They are the most

influential actors, with farmer groups and cooperatives, traders, and consumers following suit. The NARO plays a significant role by providing early generation seeds for key crops such as maize, beans, potato, and coffee. Agro-input dealers supply various inputs to farmers, mainly situated in urban areas. Coffee cooperatives in Rwenzori and Mt. Elgon distribute seedlings and fertilizers to their members and negotiate prices on their behalf. Processors in the maize and coffee value chains also function as traders and aggregators. The consumption patterns of these value chain products vary, driven by shifts in demand and supply dynamics. Predominantly, products find their way to local informal markets, typically within a 4-kilometer radius. Approximately 50% of the produce is sold at local markets, with 35% channeled through middlemen. Home consumption claims a notable share: banana (54%), maize (23%), and potato (30%). To nurture dedicated value chain offtake and elevate productivity, strategies are being forged for the preferred value chains of potato, dairy, beans, and coffee. Additionally, vegetables are recognized for their dual role in enhancing nutrition and stimulating local markets. *However, actors across the value chains face several challenges, including*:

- Poor road infrastructure.
- Prevalence of adulterated inputs.
- Limited access to quality inputs.
- Weak farmer groups and cooperatives.
- Trust deficits between farmers and traders/middlemen.
- Constrained access to credit services.
- High post-harvest losses.
- Restricted access to seed inspection and certification services.

The major factors that hinder improvement of access to inputs are:

- High economic costs of acquiring inputs deter many farmers. Agro-input shops are primarily located in urban areas, and the inadequate infrastructure, especially poorly maintained roads, leads to exorbitant transportation costs for inputs to remote regions. Consequently, agro-dealers struggle to establish shops in rural areas. The presence of adulterated inputs, particularly seeds for beans, maize, potato, and fertilizers, further discourages their utilization.
- Market failures and restricted access to finance, where high interest rates and a lack of collateral hinder farmers from unlocking the economic potential of agricultural inputs.
- Imperfect competition prevails in some input markets, notably seed potato, where early generation seed producers levy exorbitant prices to maximize profits.
- The specter of climate change amplifies the risk of crop failure, making investments in agricultural inputs appear increasingly precarious. The most vulnerable smallholder farmers face substantial challenges absorbing the costs and shocks of such failed investments.
- Mistrust among farmers, largely stemming from poor governance, results in weak cooperative and market-oriented groups, diminishing their capacity to capitalize on collective actions – be it negotiating prices for inputs and outputs or accessing market information.
- Access to quality agro-inputs, particularly seed potato, continues to pose a formidable hurdle for smallholder farmers. According to the majority (75%), the inputs available on the market are of suboptimal quality and often adulterated. Baseline assessment findings reveal that only 25% planted improved crop varieties in the past year, with nearly half (49%) citing the prohibitive cost of these varieties as the primary reason for abstaining.

Nevertheless, the chosen value chains do exhibit strengths. The presence of screenhouse owners, certified coffee nursery operators, and maize seed multipliers provides robust support to the seed

system. These value chains already function within the communities, and existing farmer groups offer the potential to strengthen collective actions, thereby reaping the associated benefits.

Furthermore, promising opportunities lie ahead for fostering the development of these selected value chains:

- Favorable ecological zones conducive to the cultivation of these crops.
- Heightened demand for the selected commodities at national, regional, and international levels.
- Untapped potential for value addition.
- The presence of institutions such as NARO, which supply first generation seeds for these value chains.
- Thriving integrated seed businesses and local seed enterprises that bolster seed multiplication and dissemination.
- The existence of quality control mechanisms, exemplified by the Uganda National Bureau of Standards.
- A shared market for East and Southern African trade.

Access to Markets

Findings from the baseline assessment prove the initial proposal assumption that access to markets for agricultural products by households is challenging. Only 39% of the households interviewed during the baseline study reportedly have access to the market. Moreover, these households travel on average more than 4 kilometers to access the nearest available market for their agricultural products.

Proportion Sold and Farmer Typology

Findings from the baseline assessment conducted during the inception phase prove that most households fall along a spectrum of more subsistence orientation to more market orientation. The proportion of produce used for home consumption was found to be the highest for beans (53%), followed by potato (30%) and maize (23%); coffee is mainly grown to be sold in all regions. Of all the farmer households interviewed, none produced for only home consumption, which aligns well with the assumption made in the proposal that defined a subsistence farmer as one who cultivates crops predominantly for their own consumption but saves some volume for the market. Over 40% of all farmer households sell at least 50% of their produce, 8% of households sell over 90% of their produce, and very few farmer households (2%) sell less than 20% of their produce.

This cuts across all main crops, including potato, beans, maize, and banana. In some households, some crops are grown purely for their own consumption and others mainly for sale. For maize, 21% of households use it for only their own consumption; the percentage is 25% for beans, 10% for potato, and 34% for banana. This, however, does not mean that these households are purely subsistence, as they grow many other crops to sell. For example, in Mt. Elgon, coffee is grown for sale by 100% of farmers. Almost all farmer households (99%) plant at least two crops, and 48% produce at least three crops, mainly for income diversification.

2.3.4 Nutrition

Initial Assumptions

Ugandan diets lack quality and diversity due to lack of food availability and economic access to nutritious products (UDHS, 2016). As a result, 29% of Ugandan children ages 6-59 months are stunted, 4% are wasted, 11% are underweight, and 4% are overweight. Ugandan children are not fed diverse

diets and/or are not meeting the minimum meal frequency in the first 1,000 days (from pregnancy to a child's second birthday).

Additionally, it was noted that Ugandan society is defined by high levels of household food and nutrition insecurity and poverty due to significant vulnerability to shocks, including climate and economic shocks. The high levels of poverty and food and nutritional insecurity in Kigezi, Mt. Elgon, and Rwenzori derive from low levels of farm household and farming system resilience to shocks and stresses. At the farm household level, key issues that continue to encumber adaptive capacity based on inclusive decision-making include entrenched, harmful norms and economic conditions as well as low skill levels related to visioning and strategic decision-making. These issues lead to inadequate participation of women and youth in decision-making activities, low household incomes, negative nutritional practices, and limited access to support networks.

Key Findings

Food insecurity varied from 21% (Mt. Elgon) to 53% (Kigezi) and reflected the low dietary diversity observed across regions. Variations in household dietary diversity levels were all linked to food access. Foods commonly eaten were representative of most food groups, featuring cereals (millet, sorghum, rice, maize), tubers (potato, yam, cassava), oils, sugars, bananas, cabbages, and staples. The less consumed food groups were fruits (oranges, lemons, carrots), vegetables, spices (condiments), and meat and fish. Farmers tended to concentrate on more rewarding cash crops such as coffee, banana, potato, beans, and maize, without necessarily considering the nutritional benefits for their households.

Nutrition-related challenges observed during the nutrition analysis and baseline study were confirmed during the PIP community awareness-raising sessions, all contributing to diminished feeding and nutrition outcomes. These included limited access to clean and safe water and poor nutrition practices such as reduced diversity in food intake, often because of seasonality.

Overall, baseline results show that only 14.8% of the households across the regions had sufficient food throughout the year, while most of the households (85.2%) experienced times in the year when they had less food. During awareness-raising meetings, it was observed that in seasons where there is plenty of food, households tended to consume more of that food only, and in seasons of scarcity, households had less food to consume. In Rubanda and Kabale districts, the communities experience heavy runoff from rainwater that destroys their crops, leaving them food-insecure. In addition to this, the women who mainly are concerned with food production have limited access and ownership of land, while the men tend to sell off most of the food produced.

During the PIP awareness-raising meetings, most households in Mt. Elgon, Kigezi and Rwenzori regions were noted to have limited access to storage facilities, while the few who try to store experience challenges with food theft in the community. Others consume what they produce too fast for fear of spoilage and pest infestation during storage.

Other indirect but nutrition-related problems identified in the community include poor hygiene and sanitation practices, such as inadequate pit latrines, improper disposal of domestic refuse, limited access to clean and safe water, and unsafe hand washing.

2.3.5 Financial Inclusion

Initial Assumptions

The project recognizes that VSLAs are an important coping mechanism for rural highland households that they can fall back on to cover basic household needs, such as food and health, in times of crisis.

Key Findings

- Both formal and informal financial service providers are found in the three regions, including savings groups (VSLAs, merry-go-rounds), SACCOs, banks, government programs, money lenders, and civil society organizations (CSOs), as well as development and social funders. Their penetration in local communities is poor.
- The main bottlenecks to access to finance include: (i) high cost of financial services due to high interest rates that range from 22% to 120% per annum, VSLAs having the highest rate; (ii) limited awareness of available financial services and products by smallholder farmers; (iii) lack of brick-and-mortar branches for financial institutions in the project areas; (vi) collateral requirements, which hamper access to financial services by VSLAs/farmer groups and women/youth; (v) sharing of all saved funds at the end of the cycle (12 months) by VSLAs, which limits the availability of funds for lending at the beginning of the new cycle; and (vi) credit products and services offered by FSPs are not tailored to the needs of smallholder farmers.

2.3.6 Gender, Youth, and Social Inclusion

Initial Assumptions

Inadequate participation of women and youth in decision-making is a result of entrenched social and gender harmful norms, which leads to low household incomes, negative nutritional practices, and limited access to support networks. Women's vulnerability is essentially due to unequal power relations and unequal social status with men, which makes women have less access to and control over assets and resources, and less rights to participate in decision making at household and community levels.

Key Findings

- Gender, age, and disability are key factors contributing to household poverty across all three regions. Of the women interviewed, 80% said they face gender-specific constraints in asset ownership and decision-making on land, access to inputs, technologies, and services and have higher time commitments in gathering wood and water and providing childcare. These factors were attributed to lower productivity levels and food insecurity in the household. Because of their age, most youth who are not yet married were found to face challenges with having no land of their own and providing unpaid labor. They also have very limited opportunities to access finance.
- Households headed by widows, people living with disabilities, single women, and old people who are taking care of orphaned children are more vulnerable and have fewer household assets.
- The pre-PIP transect walks showed that poor and vulnerable subsistence farmers have very small fragmented pieces of land and visible evidence of poorly managed gardens, particularly banana gardens in Rwenzori.
- Through the PIP awareness-raising sessions, gender-based violence emerged as a critical societal issue, and through discussions, farmers attributed its increase to high levels of alcoholism. Based on the complicated nature of gender-based violence, referrals will be made to other more suitable stakeholders. BRIGHT will use the PIP implementation process as a more holistic behavior change approach.
- The scoping studies done by Agriterra across all regions show that the representation of women and youth in senior cooperative decision-making positions is very limited. Of the 15 cooperatives

assessed, only one had a female in senior leadership position and none had a youth. The studies also revealed that very few youth farmers are members of a cooperative because there are no incentives to attract young farmers. Agrittera plans to establish women and youth councils to promote inclusive governance and decision-making.

2.3.7 Cross-Border Trade

The cross-border trade assessment was conducted to build on the outputs of the value chain and actor analysis. The study analyzed the transboundary trade between Uganda and its two cross-border neighboring countries, Democratic Republic of Congo (DRC) and Rwanda, focusing on agricultural commodities. The objectives were to:

- Identify which agricultural products contribute or have the potential to contribute to transboundary trade in an inclusive and sustainable manner.
- Determine the present and potential demand (qualitative and quantitative) for agricultural products from Uganda and neighboring countries (Rwanda and DRC) and how this demand is distributed geographically (urban/rural, upland/plain, border/inland areas etc.).
- Define key areas that affect transboundary trade and what support is needed to enhance inclusive trade.
- Understand how cross-border trade impacts small-scale traders and smallholder farmers and their organizations in the three countries and develop/elaborate relevant enhancement measures.
- Understand the importance and size of cross-border labor on the different value chains and how cross-border labor is affected by border challenges.

Key Findings

The major agricultural commodities traded at the at the border points of Uganda-Rwanda include:

- Uganda to Rwanda (Katuna border): beans, maize, sorghum, potato, soybean, oranges, and groundnuts.
- Rwanda to Uganda (Gatuna Border): maize bran, coffee, onion, and climbing beans.

Table 5. Export trends for main agricultural commodities traded across the borders of Rwanda and Uganda

Years	Formal cross-border trade values (USD) for the key crops imported by Rwanda from Uganda					
	2017	2018	2019	2020	2021	2022
	2,663,812	5,721,581	533,551	-	-	3,315,888
	10,336,913	18,987,920	3,154,196	-	-	8,093,876
	2,935,247	2,864,225	200,572	-	-	1,179,801
	3,901,675	4,811,872	914,485	-	-	101
	244,862	976,527	5,758	-	-	4,159,731
	698,408	559,352	156,726	-	-	114,479
	3,398,676	4,204,059	719,246	9,033	-	1,849,028
	160,079	1,997,595	753,939	-	-	2,445,062
	1,577,192	578,845	15,616	-	-	12,718

Source: National Institute of Statistics Rwanda (NISR), 2022

The major commodities traded on the Uganda-DRC border include beans, potato, tomato, citrus, plantain, palm oil, and cocoa, as indicated in Figure 6.

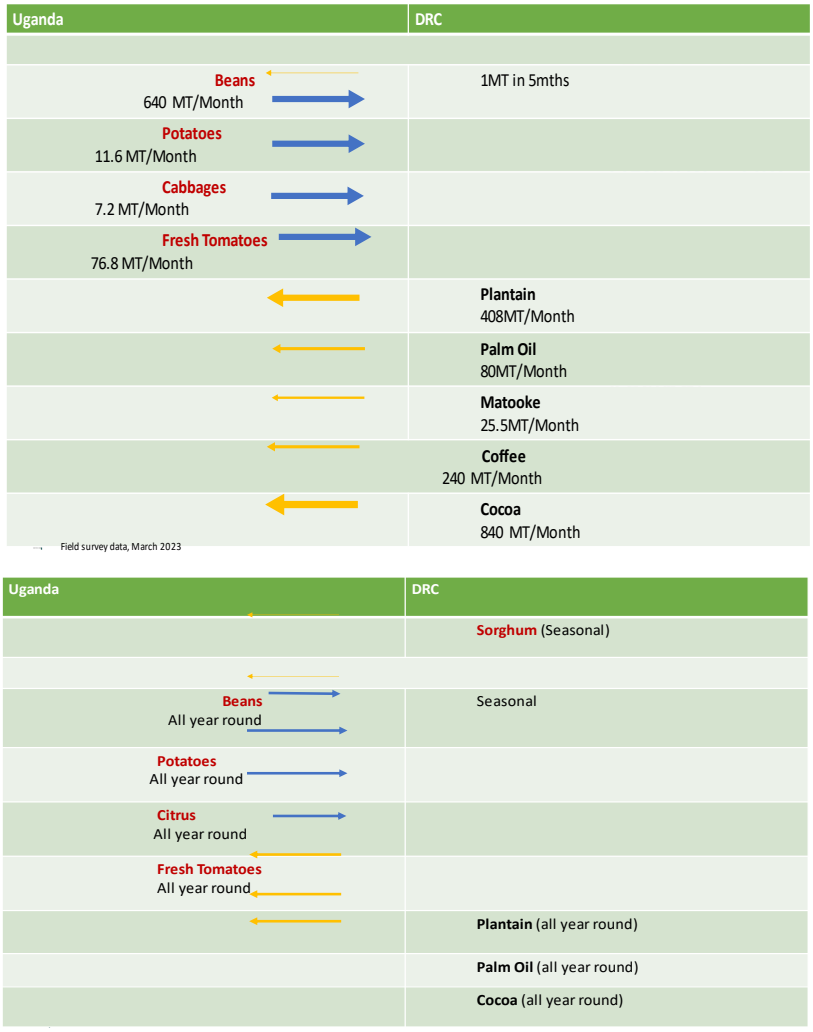


Figure 6. Major commodities traded on the Uganda-DRC border

The study established the demand for agricultural products from Uganda and the neighboring countries (Rwanda and DRC) and these include:

- Beans, potato, and maize are staple foods in the three countries.
- The demand for fruits, including avocado, pineapple, mango, and apple, is high due to the increased awareness across the three countries of the nutritious value these provide.
- Uganda is a supply base for established fruit markets (international and regional).

The drivers of potential demand for agricultural products from Uganda and the neighboring countries (Rwanda and DRC) include:

- Increase in the urbanization rates in the region: Uganda (25%), DRC (45%), and Rwanda (18%).
- The growing population in Uganda, Rwanda, and DRC at 3.2%, 2.4%, and 3.2%, respectively.
- Instability in eastern DRC denies the local communities the opportunity to produce food sustainably and affects the East African Community (EAC) food systems. There are continual incidences of internal displacement and insecurity that create a population in refugee settlements dependent on food aid.

- The enabling trade environment at all levels: Continental Free Trade Area, Common Market for East and Southern Africa (COMESA), EAC's call for increased inter-regional trade, and food markets have been identified among the fastest growing due to population increase and urbanization.
- Ongoing discussions between Uganda and DRC leaders to open access roads in eastern DRC to facilitate trade. There are three road projects, including Kasindi to Beni (80 km), the Beni-Butebo axis (54 km), and Bunagana through Rutshuru to Goma (89 km).

Key areas that affect transboundary trade include:

- The Bunagana/Bunagana and Mpondwe/Kasindi borders have remained unstable and not favorable for cross-border trade. Loss of lives and livelihoods, criminality, and uncertainty are some of the political issues that continue to affect transboundary trade at these borders.
- The closure of Rwanda-Uganda border in 2019 was associated with a political dispute that also affected livelihoods of small-scale farmers in the border areas. It also affected supply flows. The commodity structure has changed since the border reopened in February 2022, with increased cross-border trade in maize (71%), sorghum (18%), and groundnut (13%), compared to vegetables and dry beans prior to closure period.
- Price fluctuations, currency conversions, and the loss of market were associated with the border closures, and very unstable and unpredictable price structure for the agriculture commodities are the economic aspects affecting transboundary trade.
- On the side of environmental issues in trade policy, there is increased control in trading for some commodities, especially environmental goods, as evident in Mpondwe.

The impact of cross-border trade on small-scale traders and smallholder farmers and their organizations in the three countries has been both positive and negative:

Positive Effects

- A ready market and good farm-gate prices.
- Access to improved/superior agro-inputs, including seeds, as evidenced by the potato seed imports and livestock destined for Rwanda from Uganda.
- Inclusive trade where the majority of the participants in cross-border trade are women and youth, affirmed by a National Institute of Statistics Rwanda (NISR) report that 70% of informal cross-border traders are women and that 85% of these rely on cross-border trade as their sole source of income, which empowers women and improves their livelihoods.
- Access to cheap farm labor from Rwanda into Uganda during the planting and harvesting seasons.

Negative Impacts

- Disease incidences attributed to transboundary movements of people and animals, e.g., COVID-19, Ebola, and foot and mouth disease; social influx; and increased incidence of criminality.

2.3.8 Post-Harvest Handling

Initial Assumption

Post-harvest losses added to low agricultural productivity contribute to food insecurity and malnutrition. Addressing post-harvest issues is necessary to improve nutrition and livelihood of households in the project regions.

Key Results

- The majority (89%) of the farmers are still experiencing losses during the harvest and post-harvest periods. Food losses and wastage arise mainly due to poor post-harvest handling practices and absence of adequate food infrastructure in harvest and post-harvest systems and inappropriate usage of agro-inputs. Farmers lack skills in managing the storage records of produce from different members, which creates mistrust, with farmers fearful of using group storage facilities.
- Limited knowledge on the appropriate time for harvesting and post-harvest practices and a lack of skilled labor to construct newly introduced improved structures, such as ambient stores, contribute to low adoption of improved post-harvest technologies.
- Security of the storage facilities owned at group level remains a challenge.

2.4 Implementing the PIP: Considerations

The central implementation approach to the BRIGHT project is the PIP. The approach empowers farm households to develop actionable visions of household development, based on internal household aspirations, strength, opportunities available resources, and guide the household in inclusive decision-making. This approach builds a foundation of motivation, stewardship, and resilience that brings about sustainable change within households and communities. BRIGHT project farm visioning will follow a 1:10:2 strategy. This means farmer innovators will be selected in village meetings and trained by project staff and local partners on farm visioning. The FIs in turn will train 10 G1 households, who will train two second Generation (G2) households. Selected tools of the Gender Action Learning System (GALS) methodology (vision and the family tree) will be adapted for inclusive visions and aspirations of all members of the household and the family tree for gendered household planning and negotiations on division of labor, asset ownership and use, and expenditure. The entry point will be the village, and visioning of the village will be done, followed by household visioning, to enable the households to understand the project approach, the available resources, and safety nets in the village that can be tapped to support implementation of household farm plans and align household plans with the village plan. Visioning will be done at three levels: household, village, and landscape. This is intended to enable households at farm, village, or landscape level understand their current situation in terms of the challenges that affect them, the opportunities, and resources at their disposal to address the challenges to reach the desired situation. Implementation of household plans will contribute to attainment of the village plans. The landscape visioning follows the same principles as the village visioning, where individual households and the collective actions of different villages are required to sustainably manage the land plots on the landscape.

Follow-up on implementation of village vision and household plans will involve the following:

- Follow-up meetings will be held with project villages to discuss issues raised in the village/ community vision maps. Different technologies or options to the issues raised will be analyzed by the community members, and context-specific choices linked to different components of the BRIGHT project will be selected. Their choices will be added to the village visions.
- Communities/project villages will be encouraged to develop and implement short-term action plans (six to 12 months) within interventions areas. The action plans will stipulate roles and responsibilities for different actors, progress indicators, and the time frame. The village vision maps, and action plans will be presented to the village assembly for enrichment and ownership. The village vision committee will coordinate the implementation of activities and mobilization of financial resources.
- Biannual reflection meetings will be conducted. This will support collective reflection on what is working and what is not working, community action implementation progress, and generation of

lessons. The reflection meetings will be attended by community members, village vision committees, district and sub-county local government leadership, Uganda Wildlife Authority (UWA), and development partners. The village vision committees and local village authorities will have their capacity built in governance, transformative leadership, lobbying, and advocacy.

- Where the road network is a prioritized issue in the village maps, meetings will be held with local government authorities to discuss co-funding toward the activity. Roles and responsibilities will be streamlined; communities may provide in-kind labor, districts will provide machinery and expertise, and BRIGHT will provide fuel, monitoring, and supervisory services. For access to improved technologies, such as seed, the project will provide seed and communities will provide land, labor, and security. The multiplied technologies/seed will be shared within the community. For community nurseries, an entrepreneur will be identified in the community and supported by BRIGHT to establish tree nurseries to supply farmers with the seedlings.
- BRIGHT will identify research institutions and academia with technologies that are not resident in the community. These will require experimentation before they can be adopted by farmers.
- Routine monitoring and technical backstopping will be conducted, and the trained PIP Farmer Innovators will be supported to implement village and household visions and action plans.
- BRIGHT will build capacity of the village committees in governance, lobbying, and advocacy for them to receive support from different organizations to facilitate the implementation of some actions in the village plans.
- Each project village shall have a cluster of 25 Farmer Innovators who will be trained on PIP creation, soil and water conservation, ISFM, CSA, and dietary diversity. This will be done using the Farmer Field School approach to enhance practical and collective learning. They will also be facilitated to form VSLAs as one way of generating internal capital and enhancing cohesion.
- The Monitoring and Evaluation (M&E) specialist will develop a participatory monitoring tool for reporting progress on the agreed-upon activities from the action plans. Using the tracer methodology, a sample will be selected, depending on the number of Farmer Innovators, project villages, and watersheds, and progress indicators will be monitored biannually to understand the socio-economic and environmental impact of BRIGHT interventions.

2.5 Lessons Learned from Previous Projects

Building on lessons learned through the Resilient Efficient Agribusiness Chains (REACH) in Uganda, HortiMAP, CRAFT, and TIDE projects, this new project has shifted from a market-led approach to a farmer-centric one. Previous attempts at using a market-led approach, which engages companies and larger-scale farmers, did not always bring sufficient benefits to smallholder subsistence farmers. In this project, a market-*oriented* approach must begin with the farm household's realities – their vulnerabilities, ambitions, strengths, and opportunities. This distinction, between market-oriented and subsistence-oriented food production systems is intended to ensure meaningful inclusion of subsistence-oriented farmers in project activities to build resilience. The key lesson learned from REACH, fundamental to BRIGHT's design, is that while potato is a priority crop in highland areas, a farming systems perspective that integrates complementary crops and livestock can significantly increase household and community resilience and adaptation to shocks. To be successful, the farming systems approach must be designed with the smallholder farmer's perspective – needs, knowledge, goals, and strengths – at its core.

Leveraging REACH's Lessons, Results, and Challenges to Illuminate Continuity and Implementation Enhancement

The REACH project targeted mainly smallholder and commercial farmers through market-based actors, but less so the inclusion of vulnerable farmers who cannot or will not engage with markets. This group of extremely poor farmers can still benefit from market activities but may also require other specific support that the REACH project was not designed to provide. As such, BRIGHT, using its holistic approach and a mantra of "leave no one behind," is focusing more on the risks inherent to the vulnerable livelihoods and the different coping mechanisms needed by vulnerable groups. Such strategies include smart subsidy for quality inputs, including seed, agrochemicals, and post-harvest handling equipment.

Drawing from the insights gained in the REACH project, it became clear that diversifying crops is crucial for making farmers stronger in the face of challenges. While smallholder farmers initially saw it as a way to secure food, diversification also improves soil health and income. This approach recognizes that numerous types of crops help families mitigate and recover from unexpected challenges and shocks.

As we move forward with the BRIGHT project, we smoothly combine the important lessons from REACH, guided by a smart farming systems approach. This approach not only upholds the learnings gained from REACH, but also harnesses it to shape our implementation strategy. By bringing together these insights with the goals of the BRIGHT project, we are all set to create a plan that makes farmer communities more resilient and promotes inclusive growth. This steadfast approach ensures that the lessons drawn from REACH – that diversified crops are essential for farmer resilience – evolve from theory into action within the BRIGHT project. Just as we recognized in REACH that varied crops provide a safety net, we now apply this insight to shape the introduction of climate-smart farming methods and technologies. This synergy of experience and innovation forms the bedrock for transformative change, advancing our mission to enhance prosperity and resilience among highland farm households in Uganda. The BRIGHT project widens our perspective, not only encompassing diverse crops, but also integrating livestock, labor, and risk reduction, promising a holistic upliftment of the whole farming system resilience.

Access to Finance

VSLAs was one of the pathways REACH explored to increase access to finance for smallholder farmers. VSLAs are useful instruments to institutionalize a habit of savings, which certainly contributes to a household's well-being, as it means financial reserves can be accessed when needed, especially in case of shock. However, it was noted that a key financial need of smallholders is the prefinancing of the agricultural cycle. As much as VSLAs could offer minimal support to this, the amounts saved were never sufficient, as VSLA members usually distribute savings among themselves at the end of each year. BRIGHT will implement strategies that encourage multi-annual savings for VSLAs to enhance functionality, efficiency, and availability of funds for smallholder farmers to buy agricultural inputs and contribute to other pre-season financial needs. Another pathway for REACH was working through project financial partner Microfinance Support Center (MSC) to avail loans to smallholder farmers. However, the number of farmers reached in this manner was modest. This was partly because the MSC procedures were not well-aligned with the agricultural cycle, so most loans would end up being disbursed too late. BRIGHT is exploring partnerships with financial institutions with better suited products for smallholder farmers.

Private Sector and Product Commercialization

One crucial lesson from REACH is that commercialization of crop production in Uganda can be led by private sector investment that is sustainable and business focused. REACH's ability to attract partners, both large and small, with an investment ratio of more than 3 to 1, showcases commitment and

resilience. Even during challenging times, such as the COVID-19 pandemic, these partners remained steadfast and contributed to increased turnover through the years. This achievement signals the strength of the partnership approach. BRIGHT will harness private sector investment in a strategic and sustainable manner, building on the success and lessons from REACH. BRIGHT will carefully facilitate partnerships and collaborate with motivated stakeholders, echoing the effective strategies employed by REACH, while also looking at the weak areas for improvement. This continuity in approach ensures that our efforts are not just grounded in theory, but firmly rooted in tangible actions that drive systemic growth and prosperity for Uganda's farming landscape.

Lessons from PAGRIS regarding implementation of the PIP

For successful implementation of the PIP, the following principles need to be observed at the onset of the project:

- Ensure a participative process from the households.
- Households are at the center of decision-making and planning of farming activities.
- The project must support households and communities to design a realistic and relevant farming plan, review farming plans with farmers, builds capacities, coach (participatory and learning process), facilitate networking with relevant stakeholders (market system), and support advocacy and policy making (coordination).

In presenting the PIP activity to communities, the following points are important:

- Engage in stimulating discussions with the main stakeholders (communities, extension services, local authorities) on problems and how to solve them in a sustainable way (strategies, starting points), ensuring communities and stakeholders are fully implicated in the process.
- Start the PIP activity with the involvement of the entire community and ensure the knowledge transfer strategy (including the PIP) is part of the community/village plan. The farmer-to-farmer strategy (criterium of the Farmer Innovators; plan of training based on G1, G2, G3; schedule of training, etc.) needs to be developed by the community.
- Begin with a mapping of already existing technologies/strategies (knowledge transfer system, social dynamic, market system, existing good practices, existing materials, etc.).
- Start the household approach together with community-based approach.
- Focus first on the solid foundation of mentality change prior to beginning technical support activities.

A collective approach in managing communal steep lands offers a greater probability of achieving sustainable change at a landscape level. This collective steep land management is implemented alongside plot-level land management.

2.6 Critical Analyses of Findings from the Assessments and Adjustments to Project Strategy

2.6.1 Farming Systems Analysis and Household Decision-Making

Highland farming systems display distinctive traits, marked by insufficient productivity, low product quality, limited crop variety, and susceptibility to climate change. Farmers with these systems grapple with restricted access to agricultural resources and extension services, leading to substantial post-harvest losses. The inclusion of women and youth in household decisions concerning farming activities remains inadequate.

Critical findings from the baseline and farming systems assessments include:

- ***Land fragmentation and soil fertility decline***: Fragmented land ownership and declining soil fertility are impacting agricultural productivity. The majority of farmers lease land annually, except in Mt. Elgon, where land mortgaging is practiced. The assessment revealed that farmers owned an average of 2.4 acres in Kigezi, 3.3 acres in Mt. Elgon, and 4.8 acres in Rwenzori.
- ***Challenges in access to quality agro-inputs***: Access to quality agro-inputs and services remains a significant challenge for smallholder farmers. About 75% of inputs available on the market are of poor quality and adulterated. This discourages investment in agro-inputs, leading to a cycle of low productivity, as farmers resort to using saved seed.
- ***Impact of climate change***: Unpredictable weather patterns due to climate change are affecting crop and livestock productivity. Prolonged dry spells, erratic rains, increased erosion, landslides, and new pests and diseases were observed. Climate change impacts include reduced crop yields in Kigezi (51%) and Mt. Elgon (43%) and prolonged drought in Rwenzori (78%), leading to consistent crop failure.
- ***Gender and youth engagement gap***: Women and youth involvement in leadership roles within the community, churches, or groups remains below average at 41.2%. Women's exclusion from decision-making processes limits their contributions to beneficial decisions. Household decision-making is primarily led by men, particularly concerning land use, marketing, and income allocation.
- ***Low production and productivity challenges***: The assessed households exhibited low production and productivity in both crops and livestock. Limited access to quality agro-inputs and financial services hindered agricultural investment and income diversification.
- ***Market access limitations***: Market access proves challenging due to inadequate road infrastructure and insufficient storage facilities. Only 39% of households across regions reported having access to markets. On average, households travel more than 4 kilometers to reach the nearest available agricultural market.
- ***Soil fertility management practices***: Soil fertility management practices vary among regions. While Mt. Elgon favors conventional practices, Kigezi (82%) and Rwenzori (86%) heavily adopt agroecological/organic approaches. Interestingly, agroecological practices were rated less effective for crop growth and vigor, with the least-used conventional practices in Kigezi (5%) and Rwenzori (10%) rated highly effective. In Mt. Elgon, agroecological practices (26.6%) are least used, mainly among coffee growers targeting specialized international markets.

Critical Analysis and Intervention Areas regarding Farming Systems and Household Decision-Making

Common to the three regions is the issue of access to agricultural land, partly as a result of population growth. The anthropogenic pressure on land encourages encroachment upon natural reserves and fragile ecosystems as steep lands. It is evident that, to prevent ecosystem degradation, one would need to improve productivity per unit area through appropriate soil conservation and fertility management. This can be achieved through sound farmer-centered integrated soil fertility management. The PIP approach being used in the BRIGHT project offers an opportunity for adapting such ISFM practices to farmers' realities.

The farming systems encountered in the three regions include perennial, annual, mixed farming involving livestock, and farming enterprises focusing on cash crops. Livestock integration with crops offers an opportunity for improving soil fertility and agricultural productivity under proper management. In all other cropping systems, adequate selection of species in rotation or intercropping

can be reviewed and improved if possible. In all systems, because of the fragile nature of the lands, tillage of the soils should be minimized to avoid further degradation of the soils.

The project strategy for the following issues will be:

- ***Limited land and declining soil fertility***: Utilizing the PIP approach, our initiative aims to empower households with the tools to craft integrated farming plans tailored to their specific lands. These plans encompass effective agricultural practices and ISFM options, drawn from a context-adapted list of proven alternatives. The core concept underpinning ISFM involves synergizing organic and mineral inputs to enhance soil fertility. In regions prone to soil erosion, these strategies will be supplemented by soil conservation measures. As deemed suitable, the ISFM package will comprise optimal choices for crop rotation, intercropping, and the selection of complementary agricultural enterprises.
- ***Collaboration for enhanced conservation***: BRIGHT will collaborate closely with district and sub-county local governments to develop and, where needed, enforce collective management regulations for community land resources. Farmer Innovators will establish clusters, each consisting of 25 members, within project villages. Demonstration plots in each village will serve as educational hubs for learning and adopting integrated crop and livestock best practices. Our initiative will promote the adoption of suitable practices as appropriate to each context.
- ***In-depth soil fertility analysis***: BRIGHT will conduct comprehensive soil fertility assessments across the three regions, aiming to identify the most critical limiting nutrients, including micronutrients. This data will serve as the foundation for formulating more effective crop-specific fertilizers. *This activity will be implemented under Pillars 1 and 2 – Income-earning/livelihood-building opportunities (on-farm/off-farm) and Access to social networks (communal and other social safety nets)*.
- ***Poor access to agro-inputs****:* The BRIGHT project will employ a strategic approach to alleviate the challenge of poor agro-input access. Beginning with a comprehensive mapping process, the initiative will identify and connect registered local agro-input dealers, agents, and local seed businesses (LSBs) within the farming communities. These connections will extend to reliable input suppliers. Collaborative partnerships will be forged with agro-input companies to bolster sales, enhancing the last-mile distribution to smallholder subsistence farmers. The promotion of these efforts will occur through various channels, such as open days, demonstration plots, awareness-raising campaigns, and farmer education, highlighting the importance of quality agro-inputs.
- ***Strengthening regulatory frameworks***: BRIGHT will work in concert with the MAAIF and DLGs to educate agro-dealers and enforce regulations to curtail the sale of adulterated agro-inputs. This collaboration aims to ensure that farmers have access to genuine and effective inputs, fostering improved agricultural outcomes.
- ***Empowering seed multipliers and infrastructure enhancement***: In collaboration with Kilimo Kisasa, existing seed multipliers for chosen crops will receive assessment, refresher training, and support to multiply enhanced local seeds for community distribution. The project will offer selective infrastructure improvements, particularly in irrigation systems, based on identified needs. To minimize runoff and encourage micro-irrigation during the off-season, water harvesting will be promoted at the household level. The project will provide technologies such as dam liners and other low-cost solutions, targeting households on a cost-sharing basis, with the project contributing 70% and beneficiaries 30%.
- ***Regional tailoring for enhanced impact***: For Rwenzori, a tailored strategy will identify potential seed multipliers within major value chains. Selected multipliers will receive assessment, training, and financial support to establish necessary infrastructure like screen houses and diffuse light stores

for high-quality early generation seed crop production. *This activity will fall under Pillar 5 of the project – Access to markets (for both inputs/services and for farm produce)*.

- ***Limited availability of extension services***: To overcome the challenge of limited extension services, the BRIGHT project will empower local communities to harness existing expertise within their own ranks. This strategy entails identifying skilled individuals and equipping community members with the necessary skills to effectively transfer this knowledge through targeted training. Selected Farmer Innovators will undergo training, becoming conduits to disseminate this expertise. Each Farmer Innovators will then cascade the training to 10 other households within the community. Subsequently, each of these households will train two more households, leading to comprehensive extension services coverage across the entire selected community.
- ***Drawing from successful models***: BRIGHT will draw inspiration from successful models, such as the PAGRIS project in Burundi, where participating farmers in the community extension service model reported a 69% improvement in household well-being. The project will also incorporate additional extension approaches, including Farmer Field Schools, peer-to-peer learning, and lead farmer initiatives.
- ***Fostering sustainability***: To ensure sustainability, Farmer Innovators will organize regular meetings with support from local governments, including village and sub-county leadership. Outputs from these meetings will contribute to farmer-managed committees at the parish, sub-county, and district levels. Technical support will be provided by BRIGHT and partner field teams throughout the project's duration.
- ***Empowering farmer clusters***: Furthermore, each of the 25 Farmer Innovator clusters per project village will have the opportunity to establish a VSLA. The project will enhance their capacity in VSLA management, as these associations are known to bolster community cohesion and resilience. *This activity falls under Pillars 1 and 2 of the project 2 Income-earning/livelihood-building opportunities (on-farm/off-farm) and Access to social networks (communal and other social safety nets)*.
- ***Climate change mitigation***: The BRIGHT project will guide farmers in selecting crop combinations that underscore both crop and livestock diversity, effectively mitigating risks. Among these compatible combinations are coffee-banana intercrops, maize-bean intercrops, and rotational practices involving potato and horticultural crops. Through this approach, farmers will be equipped to access authentic agricultural inputs and undergo training in climate-smart agricultural practices (GAPs) that help counter the adverse impacts of climate change. By enhancing their knowledge and skills, farmers will boost their household resilience against erratic weather patterns.
- ***Collaborative research and climate-smart varieties***: To further fortify climate adaptation efforts, BRIGHT will collaborate closely with esteemed researchers, particularly the NARO, and other seed producers. This collaboration aims to identify climate-smart seed varieties tailored to the specific conditions of the farmers. These varieties encompass traits such as drought tolerance, shorter time to reach maturity, resistance to pests and diseases, and the inclusion of manageable chicken breeds. Through these integrated approaches, BRIGHT aims to equip farmers with the tools needed to enhance their resilience, enabling them to thrive despite the challenges posed by a changing climate. *This activity falls under Pillars 2, 3, and 4 of the project.*

2.6.2 Sustainable Land Management

High levels of soil erosion, land degradation, declining soil fertility, and encroachment upon fragile steep slopes lands for agriculture are challenges confronting farming households in the project target regions. An assessment of the indigenous fertility of selected soils in the target regions showed that soils had a near neutral to strongly acidic reaction. It should be noted that soil pH below 5.5 points to

the risk of aluminum (Al) toxicity to plants, because exchangeable aluminum becomes significant in the soil solution at a pH below that value. This acidic soil pH might also prevent phosphate availability to plants and could also affect the available of other nutrients, especially macronutrients, but also some micronutrients, such as molybdenum and boron. In these instances, acidity correction through appropriate application of liming materials appears to be a prerequisite to effective soil fertility management. These soil fertility and land management issues are well addressed with the PIP approach using participatory learning and action research. The project will consider interventions at two distinct levels: household level (addressing soil fertility degradation constraints) and landscape level (addressing communal steep slope and degraded sub-watershed management).

- ***At household level: Addressing soil fertility and land degradation constraints***

The project will adopt the Farmer Field School approach and Integrated Plot Plans (IPPs) to promote soil and water conservation, CSA practices, and ISFM. In each project village, the project will identify Farmer Innovators to install learning plots on soil fertility restoration practices.

The BRIGHT Sustainable Land Use Officers will work with the selected Farmer Innovators in each community and share with them an inventory of proven soil management technologies, including indigenous practices that are available, and will discuss the constraints and benefits of each technology. The set of technologies includes but is not limited to:

- Crop rotation.
- Cover crops.
- Conservation tillage.
- Reduced tillage.
- Plant residues (incorporation).
- Perimeter runoff control (tree, shrubs, ground cover, grass margins).
- Contour plowing/manual trenching, check dams, gabions, and diversion ditches.
- Application of compost/soil organisms.
- Mineralization by adding crushed rock or other mineral soil supplements.
- Agroforestry and natural succession of species.
- Circular use of nutrients (domestic sources, livestock sources, crop residues).
- Organic and mineral fertilizer application.
- Correction of soil acidity through liming or other indigenous practices, such as wood ashes.

Setup of Learning Plots by Farmer Innovators

Under the supervision and facilitation of the BRIGHT Sustainable Land Use Officers, the Farmer Innovators choose from the available combination of technologies to be tested on a small plot on their farms (about 0.1 ha). In line with the PIP approach, the farmer maps the actual and future situation of the plot and creates a multi-annual Integrated Plot plan (IPP). This plan is validated in a meeting with the other Farmer Innovators of the other project villages.

Follow-Up Meetings

Periodic follow-up meetings organized with Farmer Innovators from the different communities to share experiences on the demonstration and performance of technologies, especially the effect of integrated land management practices on their plots under close monitoring of the BRIGHT Sustainable Land Use Officers, who will collect data on soil quality and production increase and farmer's income as a result of the ISFM practices throughout the life of the project.

Field days will be organized every year per region for farmers to learn from the (best) ISFM and land management practices and experiences of the lead farmers. Participating farmers will be guided by both the Farmer Innovators and the BRIGHT Sustainable Land Use Officers to reproduce the best soil management practices on their lands.

Through these participatory learning and action activities with the lead farmers and the continuous exchange of knowledge and experiences with other farmers, all of them will continuously learn and, as such, become better stewards of their lands.

At watershed/landscape level: Collective slope management

A collective land management strategy will be promoted in the context of the PIP. A soil sensitivity and erosion susceptibility analysis will be conducted for selected prioritized sub-watersheds with steep slopes prone to soil erosion. This involves mapping of degraded sub-watersheds and key stakeholders and prioritization of actions. The analysis will guide the design and implementation of soil and water conservation practices to be promoted based on elevation. BRIGHT will utilize participatory learning and action to both generate lessons and apply best practices on how to organize farmers to implement sustainable land management practices together and monitor the physical effects of such organized interventions at the landscape level.

In each project village, the community members, district natural resources officers, sub-county agricultural officers, the UWA, and local leaders will be engaged in identification and prioritization of two degraded sub-watershed hotspots. Such a site could be a micro-watershed or any steep slope covering an average of 5 ha. The identified hotspots will be verified through biophysical mapping, and detailed vulnerability analysis and generation of collective action plans will be conducted. The detailed analysis process will involve village vision committees, district natural resource officers, sub-county agricultural officers, UWA where applicable, development partners in targeted communities, and community leaders. This will also involve participatory development of desired future watershed maps and collective actions.

Farmers with fields within the selected degraded watershed/slope (about 30-50 farmers per slope) will agree to collaborate with the other owners to develop an integrated land use plan for the site and a stewardship agreement that guides the implementation of all necessary practices to restore soil fertility and reduce land degradation on the slope. The BRIGHT Sustainable Land Use Officers discuss with all the owners the range of possible integrated land use practices. The (well-informed) households will assess (based on a jointly conducted slope analysis) the optimal uses for their slope and decide on practices to counter erosion and restore soil fertility. Activities can include the ISFM practices referred to in the plot-level strategy, with an emphasis on reforestation through judicious agroforestry, including appropriate tree crops and woodlots.

Importance of Trees in Managing Steep Lands

Reforestation using the existing experiences with tree nurseries in the project villages is a key element of the integrated land use plans at slope level. These land use plans will exclude certain plots from farming and create strategic implementation of woodlots. The project will promote multipurpose tree and shrubs species, including fruit trees such as avocado, guava, and apple for food and income; multipurpose shrubs and grasses such as Calliandra, coffee, banana, and Napier grass. In addition, based on lessons learned from the Manafwa Watershed Restoration and Stewardship (MWARES) project, BRIGHT will also promote trees species with high tensile and shear strength, especially in the hotspots

prone to mudslides and landslides. These species include *Albizia coriaria*, *Grevillia robusta* and *Markhamia lutea* bamboos, in addition to other species the farming communities recommend based on multipurpose attributes. The project will identify an entrepreneur, particularly a youth within the community, interested in the tree nursery business. The project will subsidize inputs and provide training on tree nursery bed management. A watershed management committee will work closely with tree nursery hosts and village vision committee to ensure that tree seedlings are raised and planted as agreed upon by the community. A watershed management committee will be established and will be responsible for monitoring the implementation of agreed-upon collective multi-year action plans.

To ensure follow-up on the implementation of village vision action plans, biannual stakeholder reflection meetings will be conducted to identify what is working and what is not working, community action implementation progress and generation of lessons. In addition, the project will facilitate joint M&E field visits to appreciate implementation progress of watershed action plans.

Field days will be organized annually for each project village, during which other households in the same village can visit the collectively managed slope and learn from the applied land use practices and results. Once sites of 5 ha are successfully managed, the BRIGHT Sustainable Land Use Officers will facilitate a possible upscaling to a larger area (up to 10 ha), aiming to manage whole micro-watersheds, to provide an example of integrated natural resource management, based on a solid foundation of resilience-based stewardship by the local landowners.

The participatory learning and action research component is crucial in this activity block, not only for the farmers, but also for the project and its scientists from different disciplines. Various physical measurements will be taken to monitor and assess the impact of the integrated landscape-level interventions implemented by the farmers and show by means of (scientific) data and evidence of the potential and added value of integrated practices on a slope level. Best practices and evidence of the success of collective integrated land management will be documented by the BRIGHT Sustainable Land Use Officers, in collaboration with experts from NARO and IFDC, and used in scaling up the best land management practices through videos and technical bulletins.

2.6.3 PIP Implementation

Experience in Implementing the Initial PIP

During PIP implementation, critical issues, categorized as environmental, social and economic to guide the implementation approach, are identified by the communities.

- Communities contribute to identifying, analyzing, and prioritizing their own problems and come up with possible solutions that can be implemented by the communities with support from the project.
- The PIP also helps the project identify and map key food crops within the farming systems, which may be different from the mainstream value chains.
- The process also facilitates in identification of different community social dynamics and how the different gender categories are affected, but also understanding why these problems have persisted.
- For example, farmers have been trained in GAPs by different implementing partners and the government, but farm yields are still low. With the PIP approach, collective issues that affect the majority of the farmers are identified and actions are prioritized. During the PIP meetings, communities verify issues raised in study assessments conducted in the various components, such farming systems, nutrition, gender, and value chains.
- Although the PIP approach provides an opportunity for inclusive participation of smallholder farmers, including the vulnerable, both at village and household levels, the most vulnerable,

especially the landless, elderly, and people with disabilities, rarely participate in the village planning sessions. Based on the above, there is need for deliberate mapping of these categories of households to appreciate their interests and how the project can support them.

- The critical issues/problems being raised in PIP awareness-raising meetings are not uniform; hence, blanket approaches are not applicable. PIP is informing the project on the realignment of implementation strategies. Proposed intervention areas include soil erosion, declining soil fertility, access to quality seed, fluctuating prices, dietary diversity, and a lack of inclusiveness in decision-making.

Change to a Full PIP

With a full PIP, the community entry level for BRIGHT is now at project village level, as opposed to the initial proposed plan of household level. This implies 15 training sessions (an additional six awareness-raising meetings per project village, added to the initial nine sessions) for Farmer Innovators.

With a full PIP, BRIGHT is using the revised PIP training curriculum with a wider scope of coverage, which requires additional resources. The revised PIP integrates other components, including nutrition, watershed restoration, and access to markets, leading to improved food and nutrition security and income. There is a need for follow-up to the implementation of the village vision and action plan.

2.6.4 Nutrition

Considering the key findings of the nutrition study, significant adjustments have been made to our nutrition implementation plan. Initially, our strategy revolved around utilizing Farmer Innovators (FIs) as the cornerstone of our nutrition-related interventions. However, recognizing the need to deepen the impact of nutrition interventions and implement a more targeted and community-driven approach, we have shifted our focus to synergize with Nutrition Champions. The new approach centers on the peer-to-peer methodology, whereby Nutrition Champions, with a deliberate emphasis on ensuring at least 50% representation by women, will be identified based on specific criteria. These champions will then undergo comprehensive training in fundamental nutrition principles. Equipped as trainers, each Nutrition Champion will be responsible for regularly engaging with approximately 20 assigned households. Their roles will encompass delivering vital training sessions and closely monitoring nutrition-related activities at the household level.

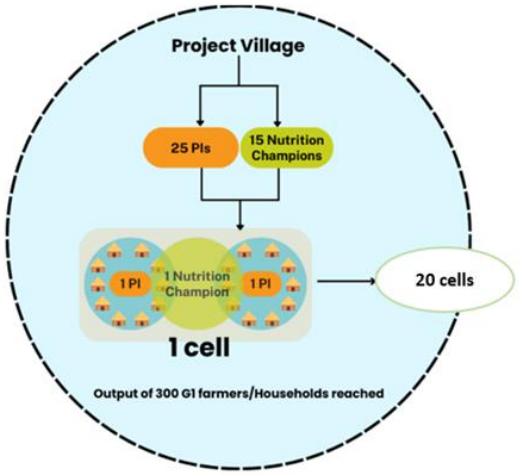


Figure 7. Depiction of Nutrition Champions in the Project Village

Within each project village, we will work with 15 Nutrition Champions selected by the community members. Their capacity will be built in basic nutrition practices, with a focus on local vegetable production and preparation/cooking of healthy and nutrient-dense foods for adolescents, older people, pregnant and lactating mothers, and children under five years of age. These adept Nutrition Champions will each subsequently cascade their newfound knowledge and practices to a group of 20 neighboring households, as illustrated in Figure 7. By implementing this community-driven approach, we aim to contribute significantly to positive nutrition outcomes within the farming communities.

Lessons Drawn from Previous Projects that Will Add Value to BRIGHT

Previously, under the Promotion of Nutrition-Sensitive Potato Value Chains (PNSP) in East Africa project, partnerships were established with the private sector to link households to nutrition services in the community. An example was in Mt. Elgon, where communities were linked to the Endev and Up energy projects by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to have access to energy-saving stoves. The partners attended all PNSP outreach activities and utilized IFDC Farmer Field Business School groups for community mobilization to sell the low-cost items. In the same manner, BRIGHT will leverage partnerships in the community, both local and national, for nutrition and Water, Sanitation, and Hygiene (WASH) issues to bring about positive nutrition practices in the community.

2.6.5 Value Chain Actors

Critical Analysis and Intervention Areas

The initial assumptions guiding the value chain and value chain actors development still stand, as the baseline survey and value chain and actors analysis results show that potato, beans, and maize are the major sources of income in the three regions. Coffee is grown as a niche crop in Rwenzori and Mt. Elgon. Revalidation with the farmers in the PIP awareness meeting confirmed these value chains. The same challenges in the proposal and value chain actors analysis at the production node are appearing in the PIP awareness meetings: adulterated seed and chemicals on the market; long distances to agrochemical and seed shops; expensive seeds, especially seed potato, and fertilizers; poor roads that increase transport costs on the farmer side to reach the markets; and pests and diseases.

At the traders' node, the quality of the produce sold by farmers is challenging in terms of moisture content and color. Product traceability is a challenge because of the lack of labeling and branding. This is more so for seed, especially potato.

During revalidation of the value chains, new value chains such sorghum have emerged in Kigezi. Sorghum is a food crop that is a good source of carbohydrates, sold for cash, and has a socio-cultural attachment for the people of Kigezi. In Mt. Elgon, onions are another emerging value chain, but the EKN-funded HortiMAP project is already working on this.

The BRIGHT project will intervene differently in each of the four value chains – beans, maize, coffee and potato – as indicated in Table 6.

Table 6. Interventions in response to issues related to different value chains

Identified critical issues	Critical intervention areas/points by BRIGHT
Potato value chain	
- Inadequate access to quality seed of preferred varieties; in Rwenzori, seed is sourced from Kigezi - Adulteration of seed - Fluctuating prices/unstructured markets for ware potatoes	- Partner with NARO and MAAIF to streamline early generation seed potato production. - Establish screenhouses (on a cost-share basis) in Rwenzori region to improve seed access in the region. - Support screenhouse owners and LSBs to produce quality seed. - Support registration and certification of early generation seed producers. - Promote aggregation for collective marketing at cooperative and group level. - Promote low-cost ambient storage facilities to accommodate and buffer ware potato during bumper harvests. - Facilitate formation of digital market platforms to improve farmers' access to market information. - Popularize the ware potato standards through demonstrations of packing, labeling and branding.
Maize and bean value chains	
- Inadequate access to preferred seed varieties - Poor quality of beans and maize grains for sale (commonly used maize shelling technology is hand shelling or beating maize with sticks, whether in sacks or on the ground; poor storage and drying are major causes of poor quality)	- Link LSBs to research institutions to access and multiply preferred seed varieties within the community. - Promote aggregation and collective marketing at cooperative and farmer group levels. - Promote maize shelling technologies as a business to reduce the percentage of broken maize grain. - Promote the use of recommended storage technologies (hermetic bags, silos, etc.). - Promote proper drying of beans and maize.
Coffee value chain	
- Inadequate access to coffee seedlings - Poor quality green coffee beans	- Link farmers to certified coffee nursery operators. - Link farmers to quality organic fertilizers suppliers. - Facilitate access and use to coffee pulpers as a business.
All value chains	
- Poor road that limits access to markets - Limited access and improper use of quality agro-inputs, especially chemicals	- Partner with districts to rehabilitate the roads. - Popularize the use and application of chemicals through demonstration. - Partner with genuine agrochemical suppliers to establish sales points/agro-input shops in the rural areas for last-mile distribution.

Access to the Output Market of the Proposed Value Chains

The interventions will focus on supporting smallholder farmers to diversify the market for the outputs and tap into the cross-border trade and address the challenge of fluctuating prices. This will be achieved by:

- Strengthening existing cooperatives in the regions while encouraging smallholder farmers to join cooperatives and market-oriented groups such as cooperatives and SACCOs.

- Supporting collective action and aggregation at farmer group and cooperative levels to access the Rwanda and DRC markets and attract big buyers.
- Promoting cost-effective storage facilities.
- Linking cooperatives and producer farmer groups to Batuma Holdings Ltd. (a broker for Hollanda Fair Foods in Rwanda) to offtake quality potatoes produced by market-oriented farmers in Kigezi.
- Initiating contractual agreements between the producer groups/cooperatives and offtakers, such as Hollanda Fair Foods.

2.6.6 Post-Harvest Handling

Critical Interventions Areas

BRIGHT will facilitate linkages between farmers and private actors, such as Hanse AgroStore International, that are promoting low-cost appropriate storage facilities for potato and other crops, as well as linkages with agro-input dealers who promote post-harvest technologies, such as pulping machines, maize shellers, silos, hermetic bags, and tarpaulins.

Low-cost multi-purpose storage technologies that are within the capacities of the different farmer categories (subsistence, market-oriented, and offtakers) will be promoted at household level or aggregated at farmer group level. Awareness of households will be raised on available options, and a critical analysis of the technology-related benefits and constraints will be made available for farmers to select which technologies to try out.

Experience from the REACH project showed that, even though a technology might be effective, the high cost prevents its adoption by farmers. IFDC successfully piloted a cost-effective household storage model for ware potato, which helped increase the selling price of potato in eastern Ugandan markets by up to 60%. This technology can be adapted to other highland crops.

2.6.7 Gender and Youth

Critical Analysis and Intervention Areas

The proposal assumptions still apply. To address deep-rooted social norms, the PIP, with its family tree as a tool for gender analysis and action planning at household level, will be the main tool. Information generated from the family tree will be core for stakeholder learning and sharing. Experience from other projects has shown that the family tree is a nonconfrontational but transformative tool for gender relations across all ages.

The assumption that PIP alone will facilitate the reaching and empowering of the poor and vulnerable is not enough. Farmer Innovators choose households based on their own motivations. And so, the extremely poor might deliberately not be targeted. There is a need deliberately create awareness to overcome the stigma and belief that the poor are slow and cannot produce results. From conversations with Farmer Innovators in Burundi, it was clear that it took some farmers over a year to understand the PIP approach.

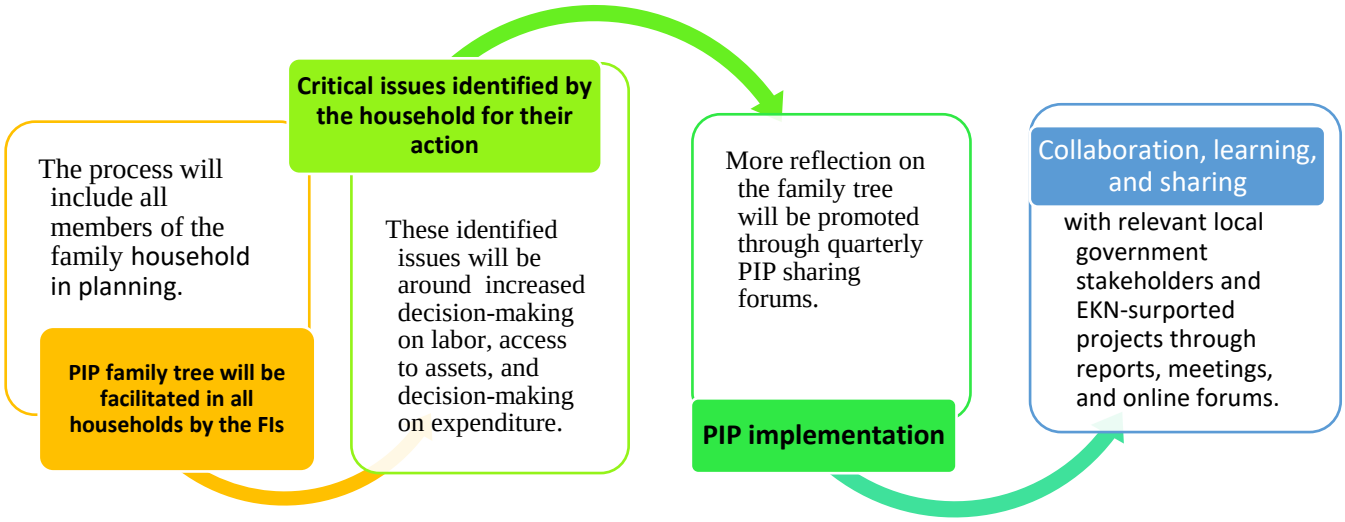


Figure 8. Action learning cycle using the family tree tool and learning

Lessons from the PAPAB project in Burundi show that lasting behavior change was achieved by using a PIP, and this removed social and gender-based barriers, enabling effective and equitable decision-making at household level, even when the project did not take deliberate actions on gender equality. However, lessons from Burundi also showed that because of not being deliberate on gender and social inclusion, there was less empowerment of women in terms of participation and voice.

Based on the findings, BRIGHT will use a three-pathway strategy:

Working within the PIP

- Identify and profile very vulnerable households based on an agreed-upon criteria with the community leadership in each village.
- Deliberately create awareness among Farmer Innovators and the PIP village committees to target vulnerable households. Each FI will be encouraged to target at least one household in their PIP implementation.

Linking with Other BRIGHT Project Interventions

- Document the emerging needs, priorities, opportunities, and visions emerging from the PIP implementation process of the targeting poor and vulnerable households to inform the deliberate action of other BRIGHT project interventions. (Interventions will be based on households' aspirations.)
- Start by focusing on identified prioritized needs but put more effort on the household food and nutrition through appropriate food crop diversification.

Promoting Collaboration

- With other organizations to target the poor for interventions beyond the BRIGHT mandate.
- With the local government to address the other identified needs for consideration for inclusion purposes.

In addition, the Gender Youth and Social Inclusion Manager will:

- Strengthen the voice of women and youth through the formation of women councils, build the capacity of the cooperative leadership in inclusive governance, and influence cooperatives to establish products that attract youth farmers.
- Provide gender technical support in building the capacity of the cooperative board, staff, youth, and women councils.

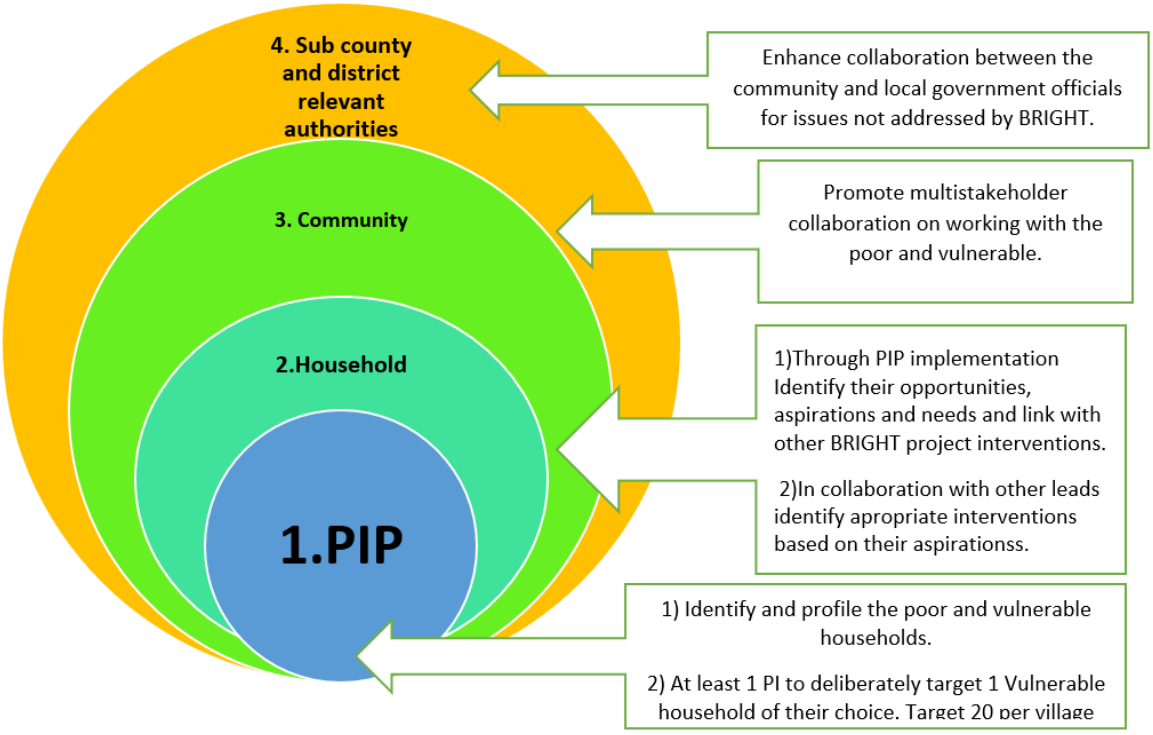


Figure 9. Social inclusion of youth, women, and other poor farmer groups using the cooperative model

2.6.8 Financial Inclusion

Initial Assumption

The project recognizes that VSLAs are an important coping mechanism for rural highland households that they can fall back on to cover basic household needs, such as food and health, in times of crisis.

The findings validated the proposal assumptions, with additional information concerning high interest rates and weak internal capitalization/liquidity of SACCOs and VSLAs to serve the members of the targeted communities by the project.

During the PIP awareness-raising meeting, it was confirmed that VSLAs/savings groups exist in almost every civic village and serve as the main source of credit for smallholder farmers. It was further found that they charge an interest rate of 5-15% per month on loans and the loan period does not exceed 12 weeks (three months). This was attributed to limited awareness of other available financing opportunities, as most VSLAs started as enterprise farmer groups and more than 50% have not had formal training in financial literacy.

To achieve the expected financial inclusion outcomes, BRIGHT will implement a few interventions to address the bottlenecks identified by the study:

- Strengthening existing VSLAs and farmer savings groups through provision of training in financial literacy and business plan development, as well as other gaps identified during the needs assessment.
- Within the community, in-house expertise (trained trainers) will also be identified during the awareness-raising meetings and their capacity will be built on financial literacy.
- VSLAs will be sensitized on the importance of retaining part of the savings at the end of the saving cycle (action audit) and will be supported to incorporate the retention percentage of 15-20% of the amount saved.
- New VSLAs will be created and strengthened in the villages where they do not exist, and special attention will be given to youth and women engaged in the BRIGHT selected value chains.
- VSLAs and farmer groups/cooperatives will be linked to formal financial service providers such as SACCOs, MSC, and banks (DFCU, PostBank, Equity Bank, Uganda Development Bank Limited [UDBL]) to access low interest loans for onward lending. This will result in the VSLAs increasing their liquidity that will lead to the interest rates decreasing from 5-20% per month to lower than 5% per month.
- Subsistence and vulnerable farmers will be sensitized by the trained trainers to join VSLAs and access credit for investment, while market-oriented and entrepreneurial farmers will be linked to SACCOs and banks to access low interest rate loans since their financial need is above the capacity of VSLAs.
- All the SACCOs will be supported to digitalize their services and open branches in the project areas. They will be linked to financial institutions, such as UDBL and other banks with low interest rates. The project will support SACCOs to become bankable through improving documentation, compliance with legal requirements, and financial management.
- Financial literacy awareness creation campaigns through mainstream media channels (radio and TV talk shows, spot messages, DJ mentions, advertisements) will be conducted.
- Community dialogues between the FSPs and VSLAs/farmer groups will be organized to share information on the available products and services. In addition, matchmaking events that bring together all key stakeholders (financial institutions, VSLAs, input dealers, LSBs, market-oriented and entrepreneurial farmers) will be organized to share information on the available financial services and products.
- A quarterly review and feedback meetings involving the trained trainers, SACCO management, and cooperative management will be organized to share experience, challenges, lessons learned, and plans for the next quarter.

Lessons from Other Projects

Under REACH, one-quarter of the VSLAs opened savings accounts with microfinance institutions or SACCOs. In 2021, 31% of farmers had access to loans from financial institutions, compared to 16% in 2016. The improvement shows the value of VSLAs as a stepping stone to more formal financing mechanisms. Based on this, BRIGHT will make it intentional to ensure that subsistence farmers' capacity is built to make them bankable right way, from VSLAs to SACCOs and commercial banks.

2.6.9 Cross-Border Trade

Key Findings

There is a high demand for fruits in the border regions and prospects for increasing demands. Issues preventing optimal functioning of cross-border trade activities include border insecurity and instability,

unpredictable price structure, fluctuating rates of currency conversion fluctuations, and poor sanitary conditions in border environments.

New Activities
Based on these results, BRIGHT will implement the following enhancement measures:

- Strengthen cross-border trader cooperatives to deliver the required services to their members, including timely information, and awareness/sensitization.
- Introduce the cross-border cooperative model (with the two-country joint membership) to organize production and trade in border communities.
- Support smallholder farmers to establish a traceability system.

2.6.10 Road Rehabilitation

The project had initially proposed 80 km to be rehabilitated through engagement with local government structures. However, with the approach of identifying strategic feeder roads through project village engagements, we foresee this distance increasing, which will require additional resources.

2.7 Typology of Target Households

The BRIGHT project goal is to reach and impact 106,560 households through identified pathways, as illustrated in Figure 10. BRIGHT will use a holistic approach, integrating five pillars of resilience to deliver the interventions. Overlaps between the intervention categories and instances of double counting the households reached will be eliminated by capturing each participating household in a project management information system with a unique identifier.

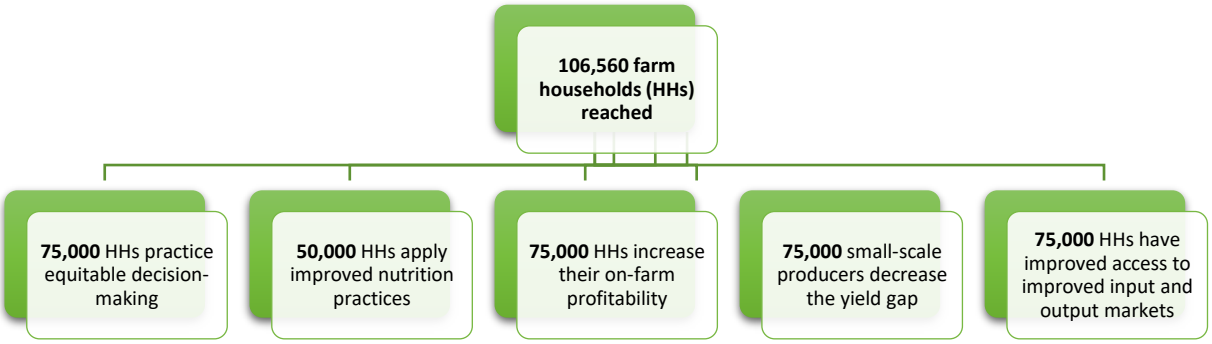


Figure 10. Expected target per intervention

As noted in the BRIGHT proposal, households in the highland areas of Uganda are faced with unique challenges and opportunities. Findings from the baseline assessments conducted during the inception phase proved that most households fall along a spectrum of more subsistence orientation to more market orientation. The proportion of produce used for home consumption was found to be the highest for beans (53%), followed by potato (30%) and maize (23%), as coffee is mainly grown to be sold in all regions. Of all the farmer households interviewed, none produced for only home consumption, which aligns well with the assumption made in the proposal that defined a subsistence farmer as one who cultivates crops predominantly for their own consumption but saves some volume for the market. From the baseline findings, over 40% of all farmer households sell at least 50% of their produce, 8% of households sell over 90% of their produce, and very few farmer households (2%) sell less than 20% of their produce.

This cuts across all main crops, including potato, beans, maize, and banana. In some households, some crops are grown purely for their own consumption and others mainly for sale. For maize, 21% of households use it for only their own consumption; the percentage is 25% for beans, 10% for potato, and 34% for banana. This, however, does not mean that these households are purely subsistence, as they grow many other crops to sell. For example, in Mt. Elgon, coffee is grown for sale by 100% of farmers. Almost all farmer households (99%) plant at least two crops and 48% produce at least three crops, mainly for income diversification.

Table 7. Percentage of households selling the main food crop

Proportion Sold	Maize	Beans	Potato	Banana	Overall
0%	21%	25%	10%	34%	23%
Less than 20%	1%	4%	1%	3%	2%
20-50%	18%	32%	27%	23%	25%
51-90%	43%	35%	54%	36%	42%
Above 90%	17%	4%	8%	4%	8%

BRIGHT interventions will target not only subsistence farmers, but also market-oriented farmers, who are defined as emerging farmers in the process of scaling up production from subsistence to market-oriented. This is especially so for those growing potatoes mainly for commercial purposes (57% is sold across all regions). These market-oriented farmers will be linked to local businesses and other market actors along the agricultural values chain.

BRIGHT will also target farmers categorized as entrepreneurial (commercial) farmers. This category of farmers includes seed multipliers as well as local seed businesses that produce seed/seedlings, distribute agricultural inputs, or act as aggregators or processors of agricultural commodities. These will partner with the project to improve the availability of and access to seed and other agricultural inputs and dedicated offtaking for smallholder farmers who are the primary beneficiaries of BRIGHT interventions.

Subsistence farmer households will make up the biggest proportion of the BRIGHT project participants (up to 60%). This is because BRIGHT interventions will be targeting poor communities in degraded highland areas. The baseline and other studies confirm that highland subsistence farmer household production is characterized by low volumes and quality and does not generate enough savings or cash surplus to continually reinvest in agriculture.

Vulnerable Households

The pre-PIP transect walks showed that poor and vulnerable subsistence farmers have very small fragmented pieces of land and visible evidence of poorly managed gardens, particularly banana gardens in Rwenzori. Most of these households do not have a direct source of income, while others serve as labor on the farms of the subsistence and market-oriented farmers. To effectively engage them, the project will identify, and profile very vulnerable households based on criteria agreed upon with the community leadership in each village. The project will also deliberately create awareness among Farmer Innovators and the PIP village committees to target these households. Each FI will be encouraged to target one vulnerable household in their PIP implementation.

Using the PIP approach, we will build participating communities on sustainable land use, GAPs, and crop management practices, such as cover cropping, stabilizing soils with agroforestry and pasture shrubs from community nurseries, setup of soil and water management structures, intercropping, improved access to and use of quality agro-inputs, and sustainable land use management practices, leading to optimum productivity and profitability and increased income for farmer households.

About 40% of the project's primary participants will fall in the market-oriented farmer category (with different needs). These too will be linked to input and output markets for seed and other inputs and dedicated produce offtaking, and access to both pre- and trade finance will be facilitated.

Table 8. Interventions per farmer typology

Farmer Typology	Description	Resilience	Input-Side Interventions	Output-Side Interventions
Subsistence farmers	Produce mainly for own consumption. Produce a variety of crops, some of which are for income generation but with smaller volumes. Lower surpluses or cash from sale of produce. Input use on a much lower scale.	Train subsistence farmers on VSLAs. Provide training on inclusive decision-making, farm household visioning, and conflict resolution. Develop comprehensive farming system management plans. Provide training on nutrition.	Facilitate access to quality seeds and other inputs to boost agricultural production and farming resilience. Encourage entrepreneurial farmers to employ subsistence farmers as day laborers in seed production.	Encourage entrepreneurial farmers to employ subsistence farmers as day laborers in harvest and post-harvest activities. Train farmers on good post-harvest handling and storage.
Market-oriented farmers	Produce mainly for income generation. Produce relatively higher volumes and keep small proportions for own consumption. Most often choose commercial value chains with both local demand within communities and beyond (offtakers).	Provide trainings on GAPs including CSA and ISFM. Provide training on nutrition. Provide training on collective action and community mobilization. Develop community action plans that include all community members, from subsistence to entrepreneurial farmers. Facilitate access to finance for farmer groups and individual farmers.	Facilitate access to quality seeds and other inputs to boost agricultural production and farming resilience. Facilitate linkages between entrepreneurial farmers and market-oriented farmer groups to work as outgrowers in seed production. Organize farmers into farmer groups to access investment and working capital from financial service providers (FSPs). Facilitate collective aggregate including aggregate input purchase through cooperatives.	Broker fair trade relationships between market-oriented farmers and large industrial offtakers. Develop collective bulking and bargaining with offtakers. Train farmers on good post-harvest handling and storage. Install market infrastructure, including drying stations, storage facilities, and marketplaces. Facilitate service provision through farmer cooperatives.
Entrepreneurial farmers	Engage in farming as a business. Engage in production or service delivery for smallholder farmers. Engage in large-scale production, especially for agricultural inputs, such as seeds and seedlings. Serve as offtakers for farmer produce,	Facilitate linkages to relevant stakeholders like MAAIF, NARO, and external sources for seed. Provide capacity building and technical assistance.	Broker fair trade relationships between market-oriented farmers and large industrial offtakers. Develop collective bulking and bargaining with offtakers. Train farmers on good post-harvest handling and storage. Develop seed production, sales and distribution	Facilitate access to working capital via FSPs to increase aggregation of local commodities for trade. Facilitate access to investment capital via FSPs to increase processing capabilities. Grow trade networks to increase accessible market-size.

Farmer Typology	Description	Resilience	Input-Side Interventions	Output-Side Interventions
	aggregators, processors.		capabilities to sell seed in local communities. Create partnerships with input shops to provide access to fertilizer and agrochemicals for local communities. Facilitate access to investment capital via FSPs to install screenhouses or other critical infrastructure for seed production and input provision.	

2.8 Partnerships and Collaborations

To achieve its objective, the BRIGHT project will work with a number of stakeholders and local implementing partners in building the capacity of farmers to develop farm visioning and training modules that are more suitable to the local context. Seven locally based not-for-profit organizations and other public and private sector actor partners, including the MAAIF, NARO, and local governments were identified for participation in the BRIGHT project. The project held interactive and consultative sessions with development agencies doing similar work, as well as local partners and stakeholders, to ensure that they have a comprehensive understanding of the BRIGHT project and the approach that will be used to cause change.

Local Implementing Partners

During the inception phase, the BRIGHT team held discussions with eight local organization to explore possible partnerships. Terms of reference highlighting the expected deliverables were developed and shared with the organization. Proposals were received from the organizations and evaluated on their approaches, solid financial management and reporting processes, demonstration of successful implementation of similar or related activities, presence in the project operational areas, legal status, and ability to co-invest either in cash or in kind toward the required resources to implement the project activities.

Following the above criteria, seven local implementing partners were found fit and have been onboarded to support the project in the field activity implementation process, including Joint Effort for Environment (JESE), Albertine Intervention for Development (AID), Caritas Kabale Diocese, Uganda Landcare Network (ULN), Uganda Agribusiness Development Solutions (CARD), Ubora, A2N, and Reign Business Development Agency (REBDA). The project will facilitate 18 assigned partner field staff and equip them with motorcycles and other needed tools to ensure efficient capacity building of the farmer-to-farmer households extension outreach. This has a budgetary implication to be aligned and presented in an updated budget.

Other Potential Partnerships

The project has also held discussions with other stakeholders, with the aim of developing public, private partnerships as highlighted in Table 9.

Table 9. Potential partners for the BRIGHT project

Partner	Contribution to BRIGHT project / Areas of collaboration
Agriterra	Strengthen cooperatives and SACCOs.
GrainPulse Limited	Improve access to quality fertilizers, liaising with agro-input dealers to open selling points in rural areas; demonstrate use of quality fertilizers on maize, beans, potato, and coffee; train selected farmers/demonstration hosts on the proper use of fertilizers; and undertake packaging of fertilizers in small packs of 25 kg and 10 kg for easy purchase by smallholder farmers; distribute maize and bean seeds.
Balton	Improve farmers' access to pesticides; provide pesticides for demonstrations; work with agro-input dealers at district level to organize market clinics; improve farmers' access to storage technologies such as hermetic bags, plastic and metallic; distribute maize and bean seeds; and establish selling points with the agro-input dealers in the rural areas.
Uganda Coffee Development Authority (UCDA)	Link smallholder farmers to certified coffee seed producers (Mt. Elgon and Rwenzori regions).
Kilimo Kisasa	Support smallholder farmers to access potato varieties with processing traits to target the processing market segment.
Uganda National Potato Organization (UNAPO)	Advocate for the interests of potato farmers; support establishment of regional seed potato actors' coordination clusters; support the distribution of quality seeds to smallholder farmers; packing and branding of seed potato.

Collaboration with CommonGround

BRIGHT and CommonGround are both four-year projects funded by EKN through the Dutch Ministry of Foreign Affairs under Dutch development policy. They are both operating in the same agroecological zones in the highland areas of Kigezi, Mt. Elgon, and Rwenzori. Central to the implementation of the two projects are the watershed and PIP approaches.

In a bid to ensure uniformity in approach and coherence in delivery of the PIP approach, value chain development action, and other livelihood options, the CommonGround and BRIGHT projects jointly agreed on selection and allocation of operation area parishes and villages of Katebwa and Mukwo sub-counties in Bunyangabu and Rubanda districts.

To foster synergies, BRIGHT and CommonGround agree on the following collaboration areas:

Even though BRIGHT is not a potato project, the team has experience with potato farming and the communities surrounding these crops. There is expertise on market systems and value chain development, with an eye on financial inclusion and cooperative strengthening. BRIGHT has a gender specialist to ensure the inclusion of women across the value chains. A nutrition specialist is an added value of the BRIGHT team to ensure valuable insights on nutrition for the communities involved. All these areas of expertise complement the CommonGround project. CommonGround will tap into the BRIGHT team's experience in potato farming, market systems development, seed systems development, nutrition, and gender. BRIGHT will offer customized trainings on market access, cooperative development, VSLAs, and gender to CommonGround staff. Training materials on different topics will also be shared. BRIGHT will share the lists of the SACCOs and cooperatives supported with

CommonGround. Farmers supported by the CommonGround project will be linked to the SACCOs to access credit at low interest rates and connected to cooperatives for collective action and to access input and output markets for potato, beans, maize, and coffee. This will be done in Bunyangabu District in Rwenzori and in Rukiga, Kabale, and Rubanda districts, where both projects operate. BRIGHT will support seed producers of different potato seed classes and market-oriented potato farmers in the two project areas.

CommonGround will extend its expertise to the BRIGHT project, offering comprehensive training on the PIP approach. This includes sharing updated information, manuals, and approaches, ensuring a unified and standardized delivery approach. CommonGround and BRIGHT will engage in the synchronized implementation of the PIP approach. BRIGHT's involvement will extend to the validation and development of PIP, encompassing training materials and methods. With an emphasis on frequent coordination and experience sharing, this synergy will be integral to the project's success. Jointly, the CommonGround and BRIGHT projects will mutually and complementarily share information, studies, and lessons learned during implementation. Regular planning, reflection, and learning sessions will be organized by both projects. Monthly regional meetings will be organized to facilitate interaction between CommonGround's regional coordinators and designated BRIGHT staff. Experiences from PIP implementation will be documented, analyzed by experts from both projects, and utilized for PIP validation and refinement.

Collaboration with DIETS and GAIN

In the proposal it was envisaged for BRIGHT to collaborate on nutrition (healthy diets), an important secondary outcome for the project, strengthening of farm household and farming system management by improving collaborations with other initiatives, including GAIN and DIETS, linking farmer groups to women's movements at the policy/advocacy level on DIETS to facilitate better access to nutrition services and awareness within the project areas.

CARE International is one of the implementing organizations for DIETS and was envisaged to work with already established structures in the community and work through partnerships. They would build upon Government of Uganda Policies by ensuring that advocacy is established within the community and holding the districts accountable to the proposed actions.

CARE International is implementing the CASCADE project in 15 districts in Uganda. In southwestern Uganda, it is implementing in Kabarole, Kamwenge, Kyenjojo, and Kyegegwa districts. Engagement meetings between BRIGHT and CARE served to identify areas of collaboration. BRIGHT plans to leverage CARE's advocacy approach in the community to promote nutritional outcomes in Kamwenge and Kabarole districts in Rwenzori. The areas of collaboration between the projects are highlighted in Table 10

Table 10. Areas of collaboration discussed and agreed between BRIGHT and CASCADE

What/Content	Where/Convergence	Lead/Who	How/Approach
Food and nutrition policy advocacy coupled with research and learning. Routine sharing of evidence.	National level	BRIGHT has undertaken a baseline and nutrition assessment. The findings/ research reports will be shared with the CASCADE consortium as and when relevant studies have been undertaken.	Joint implementation of a roadmap to guide the collaboration to be drawn. Consider quarterly catchup meetings monitoring between the two projects. Routine check-ins across both projects in areas of geographic overlap.
Alignment of key nutrition messages and information.	Sub-national level (regional and district levels)	Jointly spearheaded by the two projects.	
Inter-agency learnings between the two projects to improve program quality. PIP approach and Gender Action Learning System (GALS) methodology.	Local and lower local government levels (sub-county, parish, and village levels)	Both projects: BRIGHT for PIP and CASCADE on policy advocacy and GALS.	

Ministry of Agriculture, Animal Industry and Fisheries

The BRIGHT project, under IFDC, will work closely with the ministry at policy level to achieve its objectives. IFDC has asked for a 10-year memorandum of understanding with MAAIF to govern this partnership. MAAIF will support quality assurance of seed, approval of the seed potato protocols that were developed under the REACH project, decentralization of seed inspection and certification of seed, deployment of zonal inspectors, enforcement of the standards, digital marketing of seed, and accreditation of district agriculture officers as seed inspectors.

National Agricultural Research Organization

NARO, as an agency of MAAIF, is mandated to coordinate and oversee all aspects of agricultural research in Uganda. IFDC has a 10-year memorandum of understanding with the NARO. IFDC has already held meetings with the NARO to identify ways to work together in supporting and developing the potato seed system, promoting climate-smart technologies and plant-based agrochemicals, and supporting proposed soil conservation measures. NARO will also produce plantlets for the screenhouses, build the capacity of seed multipliers, establish seed demonstrations, and work with seed actors to streamline the seed system for potato, with clear and defined roles of each of each seed actor.

District Local Governments

Consultative meetings with DLG officials were held to identify areas of collaboration as one way of ensuring DLG involvement and the sustainability of project outputs. The identified collaboration areas were consolidated and submitted to Cordaid for developing the Results-Based Financing proposal. Six of the nine districts selected for BRIGHT project implementation participate in the pilot for the Results-Based Financing approach. The project also conducted regional and sub-county pre-entry meetings,

where district and subcounty officials of the program and control districts were met and consulted on geographical areas of implementation as per the BRIGHT Project community selection criteria.

Financial Institutions

The project, through Agriterra, will partner SACCOs, MSC, and banks (DFCU, PostBank, Equity Bank, UDBL) to design and improve loan products. The VSLAs will also be linked to banks and SACCOs to access loans for onward lending. Also, the project will work with financial institutions for access to finance services.

Horticulture Market Acceleration Program (HortiMAP) – TechnoServe

The BRIGHT project will leverage the already built structures of HortiMAP project, especially on nutrition and marketing components in Kigezi and Mt. Elgon (Mbale).

Integrated Smallholder Dairy Programme (ISDAP) – SNV

BRIGHT will leverage on the lessons learnt by ISDAP in the dairy value chain to supplement the household food and nutrition security. This will be complementary in the Rwenzori region.

Partners for Grant Awards

The project will employ both solicited and unsolicited process to on board these categories of partners. For *solicited* process, a competitive approach will be used when the activity can be implemented by any one of numerous existing private sector organizations whose skills and capacities are similar and not unique. Applications will be solicited through an open solicitation (call for proposals) to support a variety of creative approaches to implement the activities in the work plan. The call for proposals will be posted on the IFDC website which will contain all necessary instructions and procedures to apply for a grant. The *Unsolicited Process*es will be used in cases where the applicant clearly presents a unique ,innovative program and has specialized facilities or technical expertise that is key in achieving the project objectives but may require funding from the project, The project will require the applicants to submit concept notes prior to formal proposals for unsolicited ideas so that IFDC and EKN has a chance to adjust internal schedules and budgets or in the event the idea is rejected outright from the start ,manage partner expectation. The concept papers will be submitted through the project team lead and the technical officer will evaluate the technical merits, cost effectiveness and cost realism,

Each partnership application will be subjected to appraisal by the BRIGHT project Partnership/Grant ward committee using uniform set of criteria and procedures. The committee will be chaired by the Team leader, the evaluation carried out by three members including the representative of Grants and Contracts unit, BRIGHT finance team representative and one relevant technical officer.

Operationalization of Grants

Grants will only be utilized for innovations that will improve the functionality of the potato, beans, maize, and coffee value chains. Upon receiving the application /concept note from the potential partner, an economic and financial analysis of proposed interventions as well as a return on investment and value for money analysis will be done and will form the basis for all grant decisions. These will be shared with EKN for discussion before Partnership agreements are signed.

BRIGHT Project staff will provide project assistance and training to the grantees (especially for local partners, for example training partner field staff in PIP. The Grantee will be required to submit performance reports (narrative and financial) as required by the project. Funds will be disbursed under a fixed obligation method that's based on advance requested by the grantee and must be accounted for accordingly. The project M& E staff will evaluate all grantee activities for compliance. At Grant closing

out, within 30 days the grantee will submit the final narrative & financial report, detail of assets used and partnership & grants officer will close the file upon acceptance of the reports.

Grant Awarding

Grants will be awarded to grantees legally recognized as active local or National organizations /companies with presence in the BRIGHT project intervention areas, with demonstrated managerial and financial commitment to implementing the program. The proposed activity must have established support in the community in which the activities will be implemented and involve local farmers/households already linked to the BRIGHT project. Grantees will have to undertake a pre-award compliance review and only low risk grantees will be eligible for funding.

Eligible organizations/companies are Agricultural research institutions, Agric input dealers' associations, Producers, traders' associations, or cooperatives District local governments- For public works grants and Local not for profit organizations capable of supporting the development of the target value chains.

2.9 Road Rehabilitation

To improve market access for all categories of farmers, the BRIGHT project will work in partnership with the District Local Governments and project village committees to rehabilitate and upgrade feeder roads to enable farmer households to overcome physical access constraints and lower transaction costs of market commodity transactions. The project team held initial meetings with Bunyangabo, Kapchorwa, Bulambuli, and Mbale district local governments (DLGs) to establish the willingness to partner in the road rehabilitation process.

Prior to this infrastructure intervention, communities were fully engaged through village awareness meetings in which poor road networks strongly came out as one of the critical issues that need attention, especially in 20 of the 33 project villages that have so far been engaged with PIP module one. Further discussions and assessments will be conducted with District Local Government Leadership for consensus and to establish the feasibility of rehabilitating the roads proposed by communities as per village vision maps. IFDC will identify a consultant engineer to conduct a feasibility study of the proposed roads.

The project had initially proposed 80 km to be rehabilitated through engagements with Local Government structures. However, with the approach of identifying strategic feeder roads through project village engagements, we foresee this distance increasing which will also require additional resources.

2.10 Monitoring, Evaluation, Learning, and Sharing

The BRIGHT Project employs IFDC's pragmatic and tested Monitoring, Evaluation, Learning, and Sharing (MELS) system which aligns project output indicators with outcome indicators that correspond to Directorate-General for International Cooperation (DGIS) and EKN indicators for reporting on Food and Nutrition Security results. The Theory of Change (TOC) and Results Framework (RF) have been developed with clearly defined project output and outcome indicators. The Results Framework was developed in collaboration with and reviewed by the EKN. This framework is purposed to track, measure project impact, and guide the project strategy more accurately to enable adaptive management. It illustrates the goal, outcomes, and objectives, plus an exhaustive list of activities under the five pillars of resilience that are factored into the design of the BRIGHT project.

Following the inception phase studies, baseline assessments, and initial PIP engagements, team meetings were held to discuss the outcomes of the assessments, the critical issues established, their implications on the proposed interventions, and the consequences to the intervention Theory of Change and Results Framework. Based on the assessment findings, the TOC still stands since the assumptions highlighted in the proposal were confirmed during the studies and the PIP engagements. A few changes have been made to the Results Framework based on the refined interventions that were developed to respond to the critical issues identified. To mention but a few, the change in PIP approach from household as the entry-level to the BRIGHT project village, following lessons from the Burundi PAGRIS Project, to enhance and realize more impact, planning at a village level will influence the ripple effect at the household level. Much as this approach changes the implementation process (pathways in the TOC), the end result still remains the same. A table highlighting the adjustments made to the Results Framework is annexed to the report.

Indicators in the Results Framework have been reviewed and updated with baseline values and indicator targets. These targets were established based on the findings from the Baseline assessments. Other complementary studies were done to provide a deeper understanding of the current situation before implementation commences. Although the RF was updated with baselines and targets, some of the indicators (especially the activity level indicators) have a baseline of zero. While BRIGHT understands that similar interventions have been ongoing in the targeted communities, it is vital to measure attributable impact, and hence the baseline values for the new interventions have been assumed zero. Generally, measurement will follow a triangulation approach, involving reviewing national statistics for comparison, and retrospective baseline during subsequent periodic measurements.

A Monitoring, Evaluation, Learning and Sharing (MELS) Plan has been developed to guide results measurement and tracking of the project performance during the life of the project. This tool also elaborates on how the learning agenda will be implemented to facilitate reflective and informed adaptive management. This document will be submitted for review and approval once it is finalized. A work plan and proposed budget have been drafted to reflect planned activities in line with the Results Framework.

Considering the objectives of the BRIGHT MELS framework, to be able to measure the progress of the project and to test assumptions made in the results framework, periodic assessments and monitoring visits will be necessitated beyond the mid-term review and end-line evaluation. It was identified during inception that proper data collection and effectiveness of the MELS system will require bi-annual assessments, annual household surveys, and the forementioned regular monitoring visits to capture change as it unfolds, how beneficiaries respond to it, and at what scale this happens; however, not all of these were considered in the MELS budget for the project.

To centralize and standardize data collection while tracking key indicators for effective data management, visualization, and reporting, the BRIGHT Project identified a firm (IMAGEAD) that specializes in real-time data collection and management systems, to develop a Management Information System (MIS) for the BRIGHT Project. This was in consultation with the donor. Emphasis was placed on ensuring that this system is cloud-based with online and offline functions, the ability to store and manage a database of farmers, and restrictive access. To ensure data privacy and security, access, and utilization of this system will be limited to only staff with access and user rights assigned at different levels. The project database will be password-protected to ensure the confidentiality of data. For all processing and archiving of personal data, the project will comply with the European Union General Data Protection Regulation (GDPR) and with any other regulations from EKN/DGIS that may apply. Although the MIS was not considered in the proposed MELS budget, budget realignments were done

based on the actual costs of setting up the system, running costs, and maintenance costs after a competitive vendor identification and bidding process.

To assess the impact, and attribution of the project interventions, BRIGHT is employing strategies such as control groups. Different indicators will be controlled using different types of controls. Triangulation will be a key player in measuring attributable impact by using national statistics, considering climate changes for some climate-influenced indicators, using comparison groups to assess change, and capturing wider changes in the system. The Project identified and selected control districts during the inception phase and a benchmark was established for these groups in the same way as the intervention groups. Special attention will be undertaken to control intervention activities while checking progress periodically to control spillover. Counterfactuals will then be established at the midline and end line to cater to the change in change between the two comparison groups. In addition, trend analysis will be used to determine changes in relation to the secondary data statistics nationwide for the agricultural sector.

Recruitment of the MELS team, comprising a MELS Manager and two MELS officers, has been completed. This team will be the focal point for MELS, as monitoring progress and results measurement is a whole-of-team responsibility. To ensure effective monitoring, evaluation, and learning during project implementation, BRIGHT project staff and partners have been capacitated on the different MELS aspects, including a MELS training to understand and contextualize the results framework, how it is interlinked with the planned activities and results, and indicators of change. Data collection tools will be developed to track progress of project activities, outputs, and outcomes.

Learning and Sharing Plan

To enhance effective decision-making and adaptive management within the dynamic project environment, the BRIGHT Project will employ the learning agenda. Various learning events and activities like weekly reflection meetings, quarterly program reviews and reflection meetings, and joint monitoring and coordination meetings will be organized for project staff, partners, and stakeholders to present, discuss, and reflect on the status of the project and findings from internal and external reviews and evaluations. Relevant third parties will also be invited to joint events to share the main lessons learned. Additionally, annual assessments and mid-term project reviews will be conducted to assess the progress of the project against original theories of change and explore opportunities to adapt and adjust as necessary.

To leverage the experiences of other projects that have or are implementing interventions similar to BRIGHT, for example, PAGRIS, MWARES, and CommonGround Project, coordination meetings, trainings, and exchange learning visits will be conducted to pick lessons and share experiences for adaptive management.

Sharing of project results and lessons learned will take place regularly throughout the project, with a special learning event after the mid-term review. Results and impacts will be presented to stakeholders and to a wider public through a variety of platforms like periodic reports, fact sheets, and during the meetings.

Selection of Indicators for IATI Reporting

During the reporting period, the project identified 18 out of the 120 BRIGHT Project performance indicators for reporting to the International Aid Transparency Initiative (IATI) system. These were submitted to the donor for review and consensus before registering them in the IATI System. At the end

of every annual reporting period, the BRIGHT Project will be sharing data on project updates as per those indicators. Although few were selected for IATI, all the indicators in the BRIGHT Project Results Framework will be reported on through other platforms like reports.

Selected indicators from the Project's Results Framework for IATI reporting are shown in Annex 1. The IATI profile for BRIGHT has been developed and published in the registry and can be accessed here d-portal.

2.11 Communication Strategy

The BRIGHT communication strategy seeks to promote awareness of success stories and highlight the ongoing work of the project in supporting initiatives to address difficult trade-offs that rural households face in decision making about natural resources, as they seek to balance the conflicting demands of managing the surrounding agricultural with the economic survival of the family. The strategy also identifies levers for attracting donor funds and addresses how both internal and external communications could generate stakeholders' interest in this regard.

BRIGHT communications strategy will be a means to facilitate interface among key different stakeholders with the aim of improving visibility issues for all the project components. The strategy has been compiled in consultation with the existing IFDC communications guidelines. Having a communication strategy and implementation plan in place will assist the BRIGHT project team in enhancing the impact of project activities, provide access to information on project-related activities, encourage local feedback from beneficiaries as well as the donor, tailoring activities and communication to target groups, encourage community participation and ownership of project from inception to completion and beyond and Strengthen internal and external communication with the purpose of improving and facilitating the exchange of information and coordination among project staff.

Policy and technical briefs, factsheets, selected publications, and video materials will be produced following professional standards and consistent layout and design spelt out by the IFDC Branding guidelines. Promotional videos will be to foster learning and knowledge sharing. Dissemination channels that best accommodate access and needs of target audiences will be identified. Pretesting of materials will be done to ensure appropriate and effective messages and content.

In a bid to progressively monitor and document the impact of the BRIGHT, households will be identified in every project village and their stories documented on what the current situation is before the start of the project, midway and at the end of the project.

To ensure visibility of BRIGHT, materials such as brochures, corporate shirts, pull up banners, tear drops among others will be produced. Quarterly newsletters featuring key highlights of the project activities will be produced. BRIGHT project team and some model farmers will be supported to participate in agricultural events such as exhibitions, trade shows, farmer competition as well as featuring on agricultural TV and radio programs such as Seeds of Gold. Relationships with identified media houses will be initiated to work with throughout the project cycle.

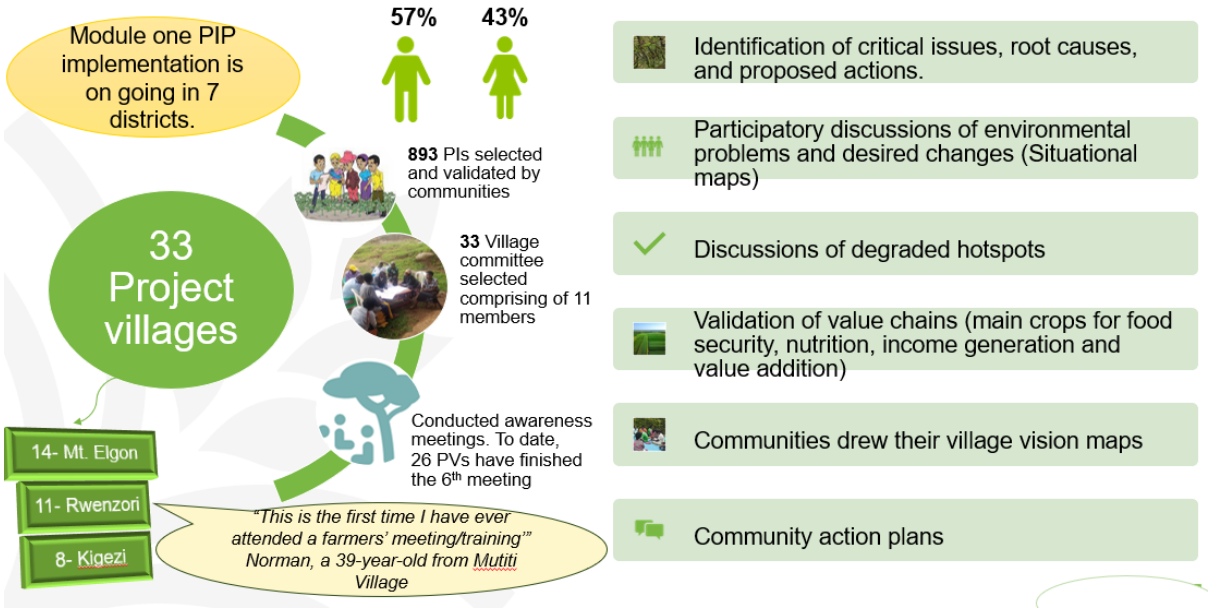
BRIGHT social media activities will be conducted through IFDC's existing social media channels. The capacity of staff capacity will be enhanced in success story writing, basic photography skills periodically and a template for story documentation, photography ethics especially when dealing with minors will be used.

2.12 Risk and Mitigation

There are potential risks associated with the implementation of the BRIGHT project. Expected risks of high impact or high probability of occurrence and proposed mitigation measures related to implementation, technical, financial, political, social, economic and environmental are presented in Annex 2.

3 Activity Progress Year 1

3.1 PIP implementation progress to date



Critical issues identified during the awareness meetings

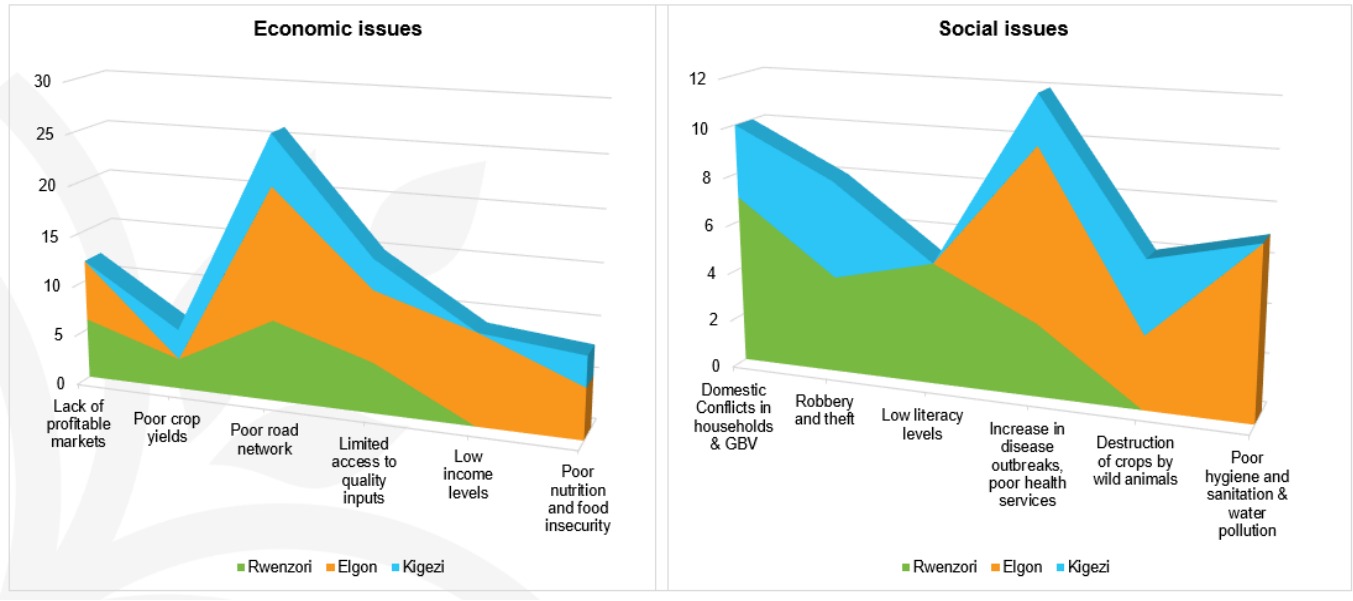


Figure 11. Critical economic and social issues identified during the awareness meetings

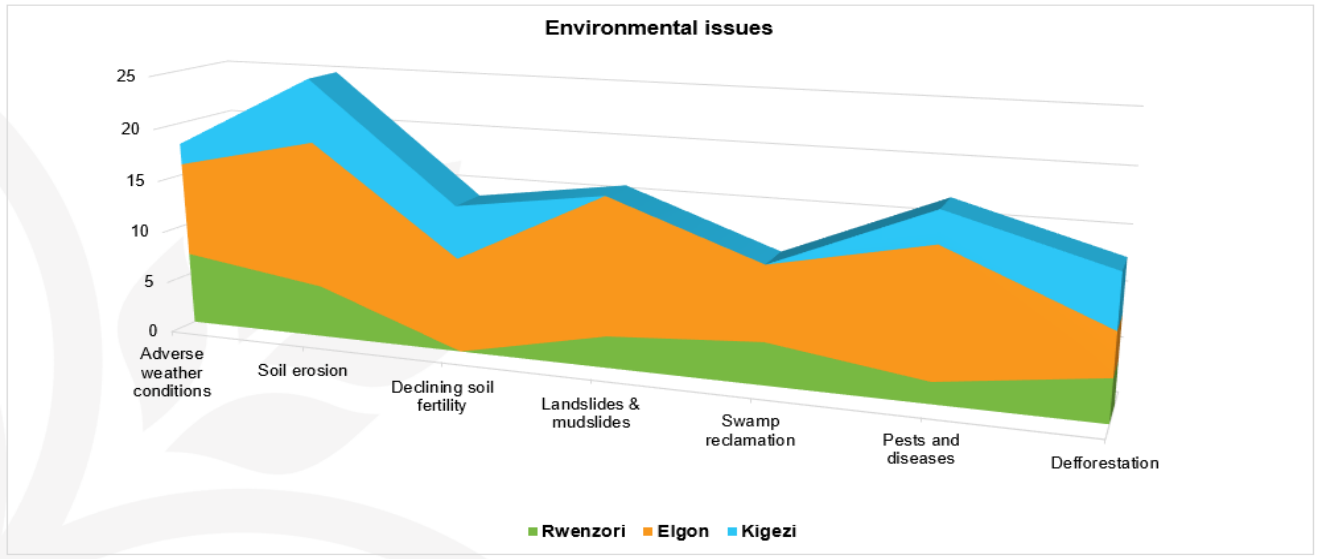


Figure 12. Critical environmental issues identified during the awareness meetings

Development of the Annual Work Plans and Budget

Following the completion of the Baseline and complementary assessments, the BRIGHT Project meticulously crafted the Year Two annual workplan. This plan strategically outlined interventions and activities that would be executed, considering the constraints identified during the assessments, the Project's Theory of Change, and Results Framework. The workplan comprehensively covered activities falling under BRIGHT's Five Pillars of Resilience.

In tandem, we developed a Project Budget tailored to align with the planned workplan activities. Recognizing that certain key and essential activities were not initially accommodated within the proposed budget, we undertook a realignment process during the inception period. This adjustment ensured that all crucial interventions for the project's success were adequately accounted for. The re-aligned budget, along with the workplan, is included as attachments to this report for reference..

3.2 Progress per Component

3.2.1 Farming Systems and Household Decision-Making

The BRIGHT Project employs the Integrated Farm Planning (PIP) approach to empower farmer households in establishing more resilient farming systems. The PIP approach comprises four logical modules:

- Community awareness raising.
- PIP creation.
- Scaling out PIP within the village.
- Scaling out in adjacent villages.

A total of 46 BRIGHT project staff, including personnel from local implementing partners, underwent training in modules one and two of the PIP approach, with guidance from Aad Kessler, the PIP author. Training materials for PIP, developed and supplied by CommonGround, were utilized as part of our collaborative efforts.

Thus far, the Project has engaged 33 project villages spanning seven districts across the three regions, conducting six awareness-raising sessions under module one. During these sessions, 1,960 community members (1,050 males and 945 females) engaged in reflective discussions to identify critical issues impacting their communities in environmental, economic, and social aspects. They proceeded to draft situational maps and propose potential solutions, indicating responsible parties such as the community, local government structures, or the BRIGHT Project.

Cross-cutting issues that emerged from these discussions closely aligned with findings from the baseline and complementary assessments. To address these issues, targeted interventions have been designed for the most affected communities. Details of these interventions are elaborated in the respective component sections.

Table 11. Cross-cutting issues identified and proposed corrective measures

Key issues	Why are the issues persistent?	Actions proposed by the communities
Environmental issues		
Soil erosion/ Declining soil fertility	• Poor relationship between landlords and tenants: Landlords rent out land and the tenants do not invest in soil and water conservation structures because once the land improves, they are chased away by the landlords. • Inadequate knowledge on good soil enhancement practices • Open grazing (no byelaws in place) and this demotivates farmers from establishing the soil bunds. • The land is highly fragmentated and this makes construction of soil and water conservation structures like trenches difficult. • Tree species that encourage water runoff have been planted e.g Eucalyptus. • Continuous cultivation/ land is not allowed to rest. • limited land that cannot allow fallowing and proper rotation. • Source of organic manure are limited at household level. • Terrain / steep slopes makes it hard to carry manure to uphill and expensive	• Digging of trenches • Establish grass bunds. • Construct stone bunds. • Support local government authorities to formulate bylaws and ordinances on open grazing and sustainable land use management.
Deforestation	• Cutting of indigenous trees to a) create room for growing eucalyptus for income b) limited land for crop production c) firewood	• Planting of multipurpose trees • Promote use of energy saving stoves
Mudslides	• Steep slopes, no trees planted to hold the soil	• Plant tree planting and establish gras bunds to stabilize the soils
Siltation of water sources	• Continuous stone quarrying (done mostly by the youth in Rwenzori)	• Skilling of youth in alternative off-farm income generating activities
Swamp reclamation	• Shortage of land for crop production	• Promote sustainable land use practices
Prolonged droughts, heavy rains, floods, Pests and disease outbreak	• Climate change • resistance of pests to pesticides, fake pesticides on market	• Tree planting, • Promote climate-smart agriculture practices
Economic		
Agro-Inputs (limited access, poor quality, adulterated, unaffordable, and lack of knowledge on use and application)	• Agro-input shops are in far towns. • Limited knowledge on safe use of chemicals.	• Train the communities on safe use and application of agro-inputs • Train farmers on use organic pesticides and fertilizers. • Linkages to genuine input dealers to ensure last mile distribution
Poor road network	• Heavy rains • steep slopes • delayed maintenance	• Communal work to repair and maintain the roads, and drainages systems. • Lobby for road rehabilitation by local government and NGOs
Limited access to Output markets: + price fluctuation+ poor quality produce)	• Poor road network, • No Collective marketing efforts by farmers • Lack of storage facilities • poor quality produce. • premature harvesting of crops like potatoes • Low volumes/ quantities sold	• Collective marketing of farm produce • Formation/ strengthening of marketing groups. • Construction of affordable and easy to adopt storage facilities. • Post-harvest handling and value addition

Key issues	Why are the issues persistent?	Actions proposed by the communities
		• Linkage to profitable markets
Social		
Limited access to clean and safe water for domestic use	• drying up of natural water sources • Long distance to water points	• Protection of water sources • Rainwater harvesting.
High levels of illiteracy,	• Poverty • Negligence of parents to send their children to school • Few schools in some villages	• Adult learning • lobbying government to construct schools
Gender based and domestic violence	• Poverty • Low joint decision making in families. • alcoholism/ drug abuse especially among youth and men	• Sensitization on joint decision making and equitable resource allocation. • Skilling to youth and provision of employment opportunities/ alternatives
Human diseases	• Limited access to clean water • poor nutrition • limited access to quality health services • poor hygiene, and sanitation practices,	• Promote WASH technologies. • Promote dietary diversity production and consumption practices
Population growth	• Men are avoiding family planning aspects. • Teenage pregnancies • Early marriages	• Linkage to health centers for family planning services • Sensitization about family planning, practicing integrated farming
Famine/ hunger	• Low productivity, • poor agronomic practices • sale of food and less is left for household consumption. • Small plots of land for crop production	• Promote sustainable land use and good agronomic practices

During the awareness-raising meetings, communities actively participated in the identification and validation of key value chains crucial for enhancing food security, boosting income, and enabling value addition. While the project had initially identified these value chains during the value chains analysis, this exercise served to reinforce their significance on a broader scale.

In the Mt. Elgon region, Coffee and potatoes emerged as prominent income-generating crops. Maize took the lead as a crop suitable for value addition, whereas beans and cooking bananas garnered strong support as staples for food consumption. Similarly, in the Rwenzori region, communities favored beans, cooking bananas, and cassava for their food and nutritional value, while potatoes and coffee were selected for their income-generating potential.

Furthermore, the communities diligently chose Farmer Innovators (FIs) who will play a pivotal role in the upcoming PIP engagements, disseminating essential skills and practices within their communities. A total of 893 FIs, comprising 57% males and 43% females, were carefully selected from the 33 project villages spanning districts such as Mbale, Bulambuli, and Kapchorwa in the Mt. Elgon region, Bunyangabu and Kabarole in the Rwenzori region, and Kabale and Rubanda in the Kigezi region.

These chosen FIs will undergo comprehensive training encompassing nine PIP creation sessions. Subsequently, each FI will pass on this knowledge to 10 other households, referred to as G1s. Additionally, each of the 33 project villages has established a Village Vision Committee to provide support and ensure the effective implementation of their respective village plans. Each committee is composed of a Chairperson, Vice Chairperson, Permanent Secretary, Landscape Engineer, Production

Coordinator, Markets Coordinator, Nutrition and Health Coordinator, Gender and Social Inclusion Coordinator, Finance Coordinator, Mobilizer, and Advisor.



Chaber Project Village committee leaders drawing the vision map

Masenya Project Village committee leaders drawing the vision map

Figure 13. Drawing of map by project village committee leaders

Building upon the critical issues identified and the proposed solutions, communities were provided with guidance to construct vision maps illustrating their current situation and future aspirations. All 33 project villages have successfully created these maps and have formulated corresponding workplans to steer the realization of their community's aspirations.

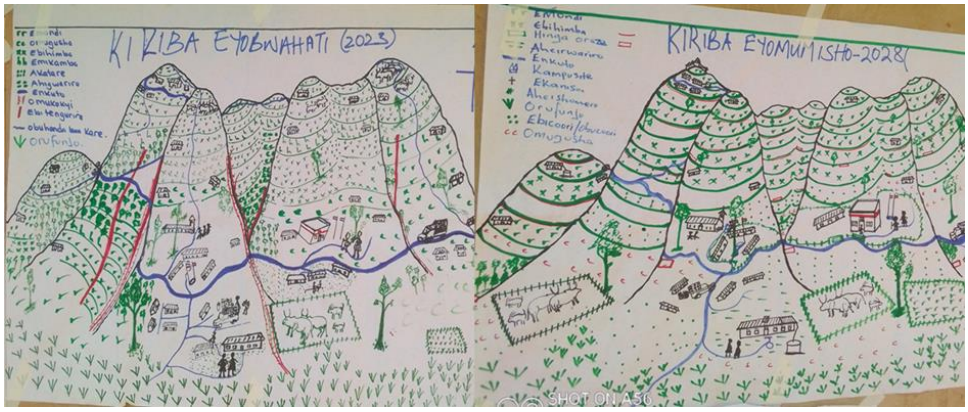


Figure 14. Map of the current status and future vision of Kiriba village, Rubanda district

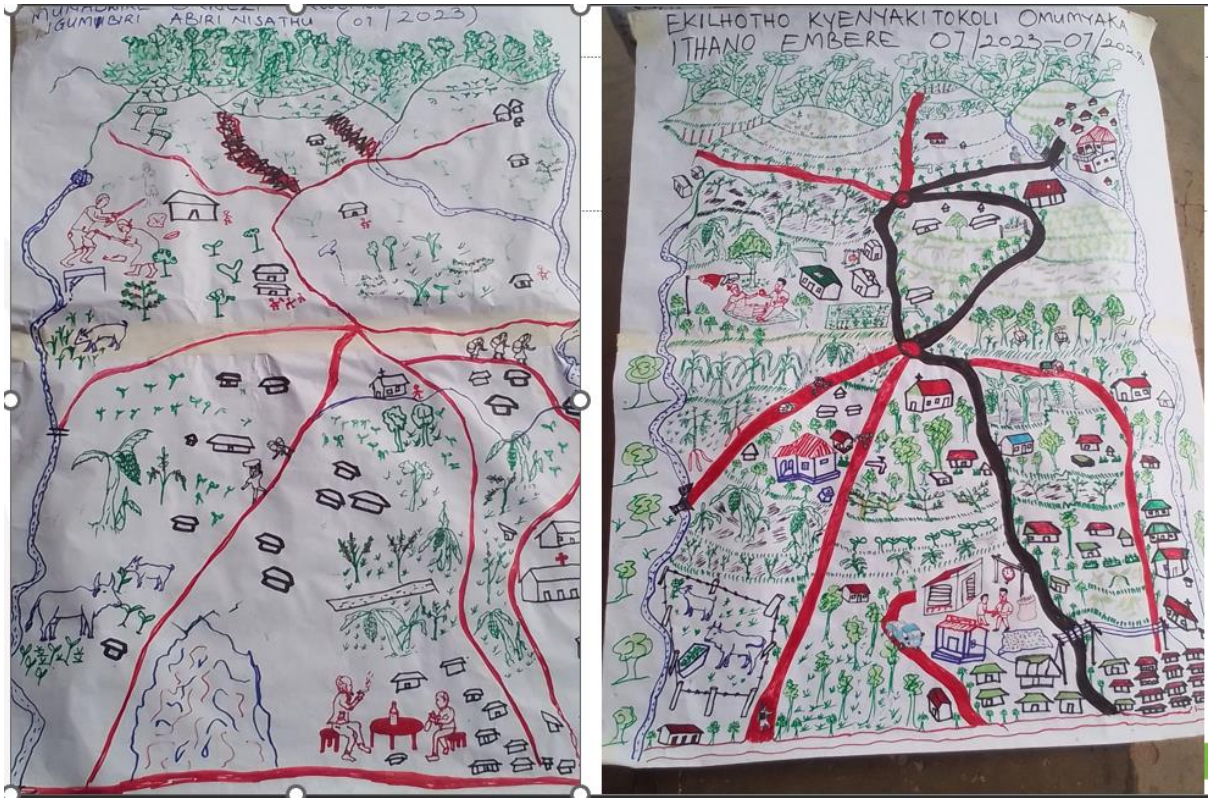


Figure 15. Community maps of the current status (left) and future vision (right) of Nyakitokoli project village in Kabarole district

3.2.2 Sustainable Land Use and Management

One of the primary focal points of the BRIGHT project is to facilitate the transformation of farmland within highland farming communities into a sustainable resource. This transformation entails the reinforcement of sustainable natural resource management practices, both at the watershed/landscape and household/plot levels.

At the watershed/landscape level, the project is actively engaging with district natural resource officers, community members, and local leaders in the identification of degraded hotspots. This process involves prioritizing these areas and developing comprehensive strategies for their restoration. In the reporting period, the project conducted transect walks and organized community awareness and reflection meetings, which proved instrumental in pinpointing watershed and land degradation hotspots that require collective action.

These awareness meetings have seen participation from diverse stakeholders, including district natural resource officers, sub-county agriculture officers, community members, and local leaders. So far, community members have identified approximately 50 degraded land hotspots (25 in Elgon, 11 in Rwenzori, and 14 in Kigezi) within the project villages. These identified hotspots are currently undergoing verification through ongoing biophysical mapping and vulnerability analysis. These hotspots exhibit the following characteristics:

Kigezi Region

In Kigezi, notably in Kamuganguzi and Butanda Sub-Counties in Kabale district, as well as Nihanjare and Ikumba Sub-Counties in Rubanda, the region has faced recurring mudslides. These have been exacerbated by soil erosion, resulting in gullies along the slopes. Poor land use management practices, such as deforestation, cultivation on steep slopes, and a lack of soil and water conservation structures, have significantly contributed to this issue. These challenges have led to noticeable impacts on land management, including problems related to soil exhaustion, soil infertility, and overall land degradation.

Rwenzori Region

In the Rwenzori region, lower plains within Kabonero Sub-County have experienced waterlogging due to the reclamation of wetlands. This region has also seen declining soil fertility, mainly driven by increased cases of soil erosion. Poor land use management practices, such as deforestation, cultivation on steep slopes, and a lack of soil and conservation structures, have further aggravated the situation.

Elgon Region

The Elgon region, particularly in Budwale and Wanale Sub-Counties, has faced recurring mudslides. Additionally, erosion with gullies is prevalent, primarily due to poor land use management practices, including deforestation and cultivation on steep slopes. The absence of soil and water conservation structures has exacerbated these challenges. Occasional flash floods have occurred in Bubentsye parishes, Wanale, and Buwanangadi parishes in Budwale Sub-County. These floods are typically caused by heavy rains, resulting in the bursting of riverbanks, flooding of farmland, silting of protected water springs, and the washing away of culverts from access roads.

To address and restore the identified degraded hotspots, the project is taking several strategic actions. This includes facilitating the establishment of watershed/landscape management committees and community tree nurseries. These committees will oversee the implementation of agreed-upon collective action plans. They will also collaborate with community tree nursery hosts and the village vision committee to ensure the cultivation and planting of tree seedlings as per the community's consensus.
Drawing from the experiences and lessons of the MWARES project, BRIGHT will emphasize the promotion of tree species known for their high tensile and shear strength, particularly in hotspots prone to landslides. These species include Albizia coriria, Grevellia robusta, and Markhamia lutea.

At the household level, the project will utilize the Farmer Field School (FFS) approach to promote soil and water conservation practices and climate-smart agricultural techniques. In each project village, the 25 selected Farmer Innovators responsible for scaling out the PIP approach at the household level will undergo training and receive support to establish learning centers. Each of these Farmer Innovators will set up demonstration sites and be responsible for training at least 10 farming households, following a 1:10:2 strategy as outlined in the PIP approach.

3.2.3 Market and Value Chain Development

Agriterra's journey towards cooperative enhancement

IFDC subcontracted Agriterra to bolster the capacity of cooperatives, farmer organizations, and SACCOs. This effort focuses on facilitating their onboarding process and enrolling them in a comprehensive capacity development program. The program encompasses training, advisory services, and knowledge exchange initiatives, all aimed at enhancing their operational effectiveness. Ultimately,

the goal is to empower these entities to deliver sustainable and impactful services to their respective members.



Figure 16. Agriterra's process of supporting cooperatives and SACCOs

During this reporting period, Agriterra, with support from IFDC, initiated the onboarding process, comprising scoping, assessments, contracting, and action planning. A total of 40 organizations, including 10 SACCOs and 30 FOs/cooperatives, were surveyed across the Rwenzori, Kigezi, and Mt. Elgon regions. This phase aimed to identify and screen cooperatives with notable business and development potential. Out of these, 24 organizations proceeded to the next assessment stage. The identification and scoping of these organizations were conducted in collaboration with the District Commercial Development officers in their respective districts.

Following the scoping phase, ten FOs/cooperatives and five farmer SACCOs underwent thorough assessments to determine their suitability for onboarding as clients, a pivotal step in achieving BRIGHT's objectives related to market enhancement. The contracting process was guided by action plans developed based on the identified gaps within the assessed organizations. This process also laid the foundation for future support and collaborative efforts with farmers, cooperatives, and SACCOs. The final stage of the onboarding process involved contracting these cooperatives and SACCOs, aiming to bolster their institutional and organizational capacities. The contracts encompass 12-month action plans outlining activities and corresponding budget allocations.

Notably, four out of the nine contracted organizations, comprising two SACCOs and two cooperatives in the Rwenzori and Kigezi regions, have already received training in organizational governance and leadership. This training equips management and board members with robust capacities and skills, clarifies their roles and responsibilities, and emphasizes the importance of understanding the limitations of their duties while promoting inclusiveness among smallholder farmers and farmer organized groups.

3.2.4 Voices from the Field

Communities Welcome the BRIGHT Project

As implementation of BRIGHT takes shape in the three regions, the project team was thrilled by the positive attitude expressed by the target communities. Right from the mapping of the project villages,

BRIGHT staff were guided and supported by the local government leaders who introduced them to households. This created a rapport with the communities and eased the work of field staff.

During the first awareness creation meetings, individuals offered their homes for hosting these meetings, an indication of their willingness to cooperate with the BRIGHT project. This gesture created a smooth ground for mobilizing the rest of the households to identify their challenges and provide possible solutions.

In terms of PIP implementation, some project villages did not even wait to complete the entire training process and started on implementing their action plans. For instance, in Busamba and Kanyamura project villages in Rwenzori region, western part of Uganda has had their water sources cleaned and restored. Perusi Kiiza, the chairperson of Busamba project village said: *"The people in my village are always reluctant when it comes to getting solutions to community challenges. I would struggle to mobilize resources to work community roads. They would claim that they are busy or not in good health. But when the BRIGHT came and asked them to identify their problems and possible solutions, they started right away by cleaning the water sources. My work is now easier. Thank you BRIGHT*."

Emmanuel Byamukama said that he is thankful for the project because he is going to work with his neighbors to solve the problem of soil erosion. "*As a community, we have our social relation issues. For instance, the households in the uplands are on their own and we too here are on our own. When it rains, the water runs down and affects us. But now, we have been brought to work together to solve this problem because it affects us"*.



Figure 17. Residents of Busamba project village clearing their water source

4 Conclusions

The BRIGHT project has spent its first year that included a six-month inception phase, characterized by engagement of rural highland communities and critical stakeholders in the project areas of implementation. The baseline and complementary assessments have been resourceful in establishing adaptive mechanisms and strategies to enhance resilience of farming households to ably adapt to and/or

mitigate economic and climatic shocks and stresses. These studies confirm our Theory of Change and Results Framework since the planned interventions align with the identified constraints within the highland farming systems. The PIP approach, to be implemented at both households and landscape levels, will be instrumental, as it offers the opportunity to wholesomely address the constraints observed from the studies at the grassroots level of the rural highland farming communities. The participatory learning and action research adjoined to the PIP implementation offers the opportunity to promote farmer to farmer learning on farmers' plot demonstrations, will contribute to filling the extension service gaps reported in the farming system analysis. Strategic value chains and value chain actors that contribute to the production and productivity of rural households within the agroecological zones have been identified and characterized. Design sessions with local and other strategic partners have been conducted to establish areas of collaboration that are tailored towards enhancing livelihood building opportunities, access to input and output markets, and access to assets as well as social networks and adaptive household governance capacity. With insights provided by the inception phase analyses and studies, the BRIGHT project team is now set to efficiently execute the planned interventions to achieve the expected impact for 106,560 highland farming households.

5 Annexes

Annex 1: Indicators Selected for IATI Reporting

Pillar	Result Framework level	Results area	Indicator
Impact	High level outcome	1. Improved food and nutrition security among farmer households	% of households that are classified as food secure
Impact	High level outcome	2. Farmers have increased income from sale of increased volumes of produce	# of households with increased income
1	Output	1.2 Farmer households apply knowledge on improved nutrition practices	% of farmer households implementing the acquired knowledge on improved nutrition
2	Outcome	2.1 Farmer households increase productivity and profitability of their farming systems	# of farm households increasing their on-farm profitability
2	Output	2.1 Farmer households use good agronomic practices to boost production and mitigate losses through improved post-harvest handling for sustainable production	% of households applying at least four good agronomic practices on their farms
			% of households that report inclusive decision-making on farm enterprises which includes women's perspectives
2	Output	2.2 Farmer households practice on-farm and off-farm diversification	# of households practicing crop diversification for income generation
2	Activity	2.1.1 Conduct farm system analysis and develop integrated farm plans and business plans.	# of farmer households with integrated farm plans (PIP) and business plans developed.
			# of farmer households implementing integrated farm plans (PIP) and business plans.
3	Outcome	3.1 Natural resource management practices adopted and sustainably managed by community and private local actors	% households adopting at least 6 out of 10 CSA practices.
			# hectares of farmland under sustainable use
4	Outcome	4.1 Farmer households have improved access to finance and strengthened social safety nets	# of farmer households accessing finance through VSLAs
5	Outcome	5.1 Farmers have sustainable and equitable access to inputs and output markets	# of farmer households with improved output market linkages
5	Output	5.1.1 Farmer households access finance through formal financial service providers	# of farmer households accessing finance through formal financial service providers
5	Output	5.3.1 Improved availability and accessibility of quality agro-inputs (seeds, fertilizers, chemicals)	% of farmer households with improved access to agricultural inputs and services
5	Output	5.3.2 Farmers use quality and affordable inputs at recommended rates	Volume of certified seed potato purchased by farmers (mt)
5	Output	5.3.2 Farmers use quality and affordable inputs at recommended rates	# of farmer household that use certified seed

Pillar	Result Framework level	Results area	Indicator
5	Activity	5.1.5 Improve access to finance for farmer organizations/SACCOs.	# of members accessing funding for on-farm investments from SACCOs/Cooperatives

Pillar	Result Framework Level	Results Area	Indicator
Impact	High-level outcome	1. Improved food and nutritional security	% of food-secure households
Impact	High-level outcome	2. Increased income from produce sales	# of households with increased income
1	Output	1.2 Applied knowledge on improved nutrition	% of households implementing acquired nutrition knowledge
2	Outcome	2.1 Enhanced farming productivity and profitability	# of households increasing on-farm profitability
2	Output	2.1 Utilized good agronomic practices	% of households applying ≥4 agronomic practices
			% of households with inclusive decision-making
2	Output	2.2 Practiced on-farm and off-farm diversification	# of households diversifying crops for income
2	Activity	2.1.1 Developed integrated farm and business plans	# of households with integrated farm and business plans
			# of households implementing integrated plans
3	Outcome	3.1 Adopted and sustained natural resource management	% of households adopting ≥6 out of 10 CSA practices
			Hectares of farmland under sustainable use
4	Outcome	4.1 Improved access to finance and social safety nets	# of households accessing finance through VSLAs
5	Outcome	5.1 Equitable access to input and output markets	# of households with improved output market linkages
5	Output	5.1.1 Access to finance through formal providers	# of households accessing finance through formal providers
5	Output	5.3.1 Improved agro-input availability and access	% of households with better access to agri-inputs
5	Output	5.3.2 Use of quality inputs at recommended rates	Volume of certified seed potato purchased (mt)
			# of households using certified seed
5	Activity	5.1.5 Enhanced finance access for farmer organizations	# of members accessing funding from SACCOs/Cooperatives

Annex 2: Potential Project Risks and Mitigating Measures

Potential risks	Probability	Influence on project results	Mitigation measures
Physical or political conflict leads to border closures between Uganda, DRC, and/or Rwanda.	Low	Reduction in market transactions due to reduced cross-border trade in agricultural commodities will result in excess supply in local markets. As a result, prices will decrease, and farmers may experience losses.	The BRIGHT project will work towards building farmers' capacities in proper post-harvest handling and investments in storage infrastructure in local markets and build skills to identify alternative local and regional market opportunities.
Socio-economic shocks limit market actor and project staff and stakeholder mobility.	Low	Agricultural inputs providers, farmer households and aggregators' mobility can be constrained by socio-economic shocks, leading to a reduction in access to inputs and advisory services and a decrease in commerce related to agricultural commodities. BRIGHT project staff could be less able or unable to visit project partners and project target demographics on a regular basis, which will have an adverse impact on outreach as relates to extension and inputs provision	Project zones with security threat will be identified and avoided. The BRIGHT project will be based in Fort Portal, with field offices in Kabale and Mbale to ensure that project staff resides in close geographic proximity to project -partners and project target demographics. This will ensure that project staff will be able to interact often and in a meaningful manner with stakeholders and are therefore able to respond to local dynamics quicker and in a more comprehensive manner. In addition, the BRIGHT project will work with local partners including private sector input suppliers and aggregators, local NGOs, local seed businesses, community-based organizations, and others to provide extension and facilitate access to critical inputs on the upstream and downstream sides of the selected agricultural value chains, to ensure that activities can continue in spite of limited mobility of project staff.
Climate change can adversely affect agricultural production at the farmer household-level	Medium	Climate change can have a negative impact on agricultural operations and result in significant yield reduction or crop losses, which nullifies farmers' return on investments in productivity enhancing farming operations, compromising by so doing, the results of the BRIGHT project.	Climate change has been factored into project programming and constitutes a core focus in household resilience building efforts. The BRIGHT project will support farmers to strengthen local farming systems that emphasize crop diversity. Moreover, BRIGHT will ensure that farmers obtain access to agricultural inputs and infrastructure and receive training on climate smart agricultural practices that mitigate the worst effects of climate change. This will increase farmer household resilience to erratic weather. BRIGHT will furthermore work with researchers and seed producers (entrepreneurs and companies) to boost the availability of seed varieties available to farmer households to ensure farmers can choose the best suited variety to the agroecology in which they manage their farming system.
Land conflicts due to small marginal land available for cultivation, leading to encroachment on reserved land.	Medium	Can reduce access to land, particularly for marginalized groups such as female-headed households	Advocacy with the District Environment teams to demarcate the land without encroaching on the reserves. Promote alternative livelihoods/opportunities (off-farm) and train households on conflict resolution.

Potential risks	Probability	Influence on project results	Mitigation measures
Locust swarms ravage farmer fields.	Low	Uganda recorded 9 large swarms of desert locusts that affected 24 districts in the North and East of the country in 2020. Desert locusts ravaged smallholder farmlands throughout East Africa leaving in their wake economic disaster. A re-occurrence of the plague will negatively affect farmers' productivity.	Desert locusts periodically swarm regions of East Africa. Highland temperatures generally limit the presence of desert locusts, but swarms have been recorded at 2.000 m above sea level. The BRIGHT project will work closely with partners and target demographics as well as with the FAO and the government-led response teams to alert the competent authorities and take measured action in case swarms are identified in project zones.
Political instability following further economic downturn, coupled with inflation, which limits market actor mobility and market transactions and increases pressure on limited economic assets including land.	Low	The real GDP in Uganda grew at 2.9% in 2020 compared to 6.8% in 2019, and even if GDP growth rebounds strongly by 2022, the level of per capita GDP is expected to remain well below the pre-COVID trajectory (World Bank, 2021). The negative economic outlook is compounded by increased pressure on Ugandan national resources. Ugandan citizens shifted in significant numbers towards agriculture in response to the pandemic. The shift exacerbated ecological vulnerabilities in a country where forest cover declines by 2.6% annually. The cost of unsustainable soil erosion and land degradation that follow is estimated at 17% of GDP and 27% of agricultural GDP. Unsustainable and uneconomical agriculture and a lack of economic alternatives for Ugandan citizens can result in political instability that limits market actor mobility and constrains access to agricultural inputs and commodity-related commerce.	The IMF and Uganda have reached an agreement on a three-year $1 billion financing package that aims to tackle the near-term impact of COVID-19. To contribute, the BRIGHT project will emphasize sustainable agricultural practices that increase productivity of cash and food crop cultivation and prevent natural capital degradation. Additionally, the project will work in distinct geographic zones across the country and with local stakeholders to ensure local representation and ownership of project activities. The project will work on household-level and community-level stability through work on household visioning, collective action and conflict resolution. This will promote sustainability and insulate market dynamics on the input and output side of the supply chain.
Community-level action plans require support beyond the project life and mandate.	Medium	Community level action are not realized prior to the end of the project.	Build the capacities of local organizations in Integrated Farm Planning and how it relates to community level action plans for posterity. Seek buy in from the local authorities on building the approach into the parish development model
Commercial risks of cooperatives failure to access funding from financial institutions due to lack of proper business documents, collateral, and high interest rates.	Medium	Inability to access funding to access quality inputs, technologies to increase productivity of smallholder farmers.	Through Agriterra expertise, train cooperatives in internal capitalization mechanisms, financial management, advise and support cooperatives to develop bankable business plans, etc.
Financial mismanagement or fraud / corruption of and by project partners, farmer associations and local government.	Medium	Misappropriation of funds / corruption, detracts from project impact and presents a reputational risk to IFDC and the EKN	Grant disbursements will be structured across 3 tranches and payment will be based on performance. Partnership performance against contractually established KPI's will be assessed on a regular basis and underperformance will be subject to remedial

Potential risks	Probability	Influence on project results	Mitigation measures
			action including withholding of payments and termination of contracts. Partners will be trained on preparation of and requested to submit financial and audit reports. Partner contracts will contain clauses to underline zero tolerance as related to corruption.
Financial mismanagement or fraud in accounting, procurement, or grant management during program implementation (internal)	Low	Misappropriation of funds detracts from project impact	IFDC maintains rigorous accounting, administration, and grant management protocols. BRIGHT will be subject to annual audits to ensure proper financial and administrative management
Agricultural intensification leads to environmental degradation	Medium	Agricultural intensification can lead to pollution of surface and groundwaters, contribute to eutrophication of lakes and inflate greenhouse gases emission	All agricultural intensification activities will be conducted using optimal input management stewardships. For example, awareness of farmers will be raised on the 4Rs (right type, right rate, right time and right place of fertilizer application) that will be observed in all farming operations. Additionally, Integrated Soil Fertility Management will be the framework of implementing all soil fertility management activities. Observance of ISFM increases nutrient use efficiency and promotes maintenance of soil organic matter, which provides a buffer against environmental pollution / degradation resulting from excessive leaching of nutrients. Extensive promotion of soil testing for acidity, and balanced fertilizer promotion based on soil fertility mapping will contribute to reducing nutrient losses to the environment.
Mishandling of agricultural inputs can harm farmers	Medium	Improper handling of agricultural inputs such as pesticides and some fertilizers can harm farmers.	Based on pest/disease diagnosis, matching the product to pest disease control, improved storage, mixing and usage of pesticides will be promoted through awareness raising. Households will be prompted to observe environmental standards for disposal of chemical containers and for handling agricultural inputs.
Encroachment on steep lands for agriculture causes environmental degradation	High	With increasing land access problems, farmers are forced to cultivate on fragile steep lands, which can lead to significant erosion, soil losses and fertility degradation and crop yield reduction.	BRIGHT will promote the appropriate soil and water conservation measures. Households will be instructed on the available proven options and will choose the ones that they are willing to apply on their lands.