CANALLS
AGROECOLOGICAL PRACTICES FOR SUSTAINABLE TRANSITION

D5.2 Fair, inclusive and sustainable business models - initial version

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Executive Summary

The present document (deliverable D5.2: “Fair, inclusive and sustainable business models - initial version”) presents the initial outcomes of Task 5.3 of the CANALLS project, focusing on the co-design of inclusive and sustainable business models for agroecological transitions in Central and Eastern Africa. These business models, developed across eight Agroecology Living Labs (ALLs) in the Democratic Republic of Congo (DRC), Burundi, Rwanda, and Cameroon, are tailored to local contexts and crop-specific value chains. They aim to operationalize agroecological strategies through participatory innovation processes that enhance value creation, empower local communities, and enable environmental sustainability. The report synthesizes findings from multi-actor participatory activities—Value Proposition Workshops and Focus Groups—organized in each ALL. It introduces business models based on the Triple Layered Business Model Canvas (TLBMC), capturing economic, environmental, and social dimensions of value creation and sustainability.

Development of Value Propositions

The report builds on value propositions co-created in each ALL during participatory workshops held under Task 5.2. These workshops involved over 100 stakeholders, including smallholder farmers, cooperatives, government agencies, NGOs, and other value chain actors. The workshops used the Value Proposition Canvas to align agroecological production with local market opportunities and societal needs.

The identified value propositions span export-oriented high-value crops—such as coffee (Biega, Giheta, Kabare) and cocoa (Ntui, Bunia)—and staple crops critical for food security—such as cassava (Kamonyi, Uvira), rice (Uvira), and maize (Bujumbura). The propositions emphasize environmental stewardship (e.g., low-carbon, deforestation-free, biodiversity-friendly), ethical trade (e.g., fair pricing, traceability), and community impact (e.g., women's empowerment, youth inclusion, food sovereignty).

Focus Group Methodology for business models development

Each focus group was designed using a structured participatory approach that guided stakeholders through a three-part process: (1) mapping the sequence of events necessary for business model innovation—from training to value creation; (2) assessing the feasibility of the value propositions developed in Task 5.2 by identifying required resources and revenue potential; and (3) co-designing sustainable business models using the Triple Layered Business Model Canvas (TLBMC). Sessions were facilitated using guiding questions and templates, with support from trained moderators. Participants represented diverse segments of each value chain—including producers, cooperatives, input suppliers, processors, exporters, and consumers—ensuring that the resulting models reflect a plurality of perspectives and practical realities. This participatory format enabled local ownership of the models while surfacing context-specific challenges, innovations, and social dynamics.

Focus Group Activities

Each ALL hosted a multi-stakeholder focus group to assess the feasibility of value propositions and co-design corresponding business models using the TLBMC framework. A total of 116 participants contributed insights into production constraints, training needs, market requirements, and infrastructure gaps.

Focus groups validated the relevance of the proposed value propositions and collaboratively mapped key resources, revenue streams, environmental co-benefits, and social outcomes. They emphasized the importance of cooperatives, traceability systems, agroecological training, access to organic inputs, certification (both PGS and third-party) and inclusive market mechanisms. Discussions were tailored to the specific socio-economic, ecological, and cultural conditions of each ALL, ensuring that the resulting business models reflect local realities.

Sustainable Business Models

The business models presented combine agroecological techniques with cooperative-based governance and local value addition. Export crops such as coffee and cocoa aim to access premium markets through certifications and traceability, aligning with international regulations like the EU Deforestation Regulation. Staple crops are positioned to strengthen local food systems, support nutrition security, and reinforce climate resilience.

For example, the Giheta coffee model promotes shade-grown organic coffee processed locally through cooperative efforts, while the Bunia cocoa model emphasizes traceability, low chemical use, and empowerment of women and youth. Uvira's rice and cassava model proposes community-based milling and processing units, while Bujumbura's maize model emphasizes short value chains for urban diets.

Each model is structured using the TLBMC across its three layers:

- **Economic Layer**: Describes key partnerships, customer segments, revenue streams, and cost structures.
- **Environmental Layer**: Maps sustainable practices, environmental benefits (e.g., soil fertility, water conservation), and end-of-life considerations.
- **Social Layer**: Identifies community benefits, social value, governance models, and empowerment outcomes.

Cross-Cutting Themes and Differentiation

A synthesis of business models reveals several cross-cutting strategies:

- **Cooperative-Centered Models**: All models depend on collective structures for efficiency, empowerment, and market access.
- **Environmental Sustainability**: Agroecological practices are central to all models, tailored to local ecosystems.
- **Local Value Addition**: Small-scale processing facilities, branded packaging, and localized sales channels enhance farmer returns.
- **Ethical and Traceable Supply Chains**: Particularly critical for coffee and cocoa aimed at export markets.
- **Training and Capacity Building**: Identified as a prerequisite across ALLs for adoption of agroecological practices.
- **Social Inclusion**: Gender and youth empowerment is prioritized in models like cassava in Kamonyi and cocoa in Ntui.

- **Participatory Guarantee Systems (PGS)**: Proposed in ALLs like Giheta, Kamonyi, and Kabare as an affordable, inclusive certification alternative to third-party schemes.

Despite these shared elements, models vary in complexity and feasibility. Export-oriented models must overcome regulatory, technical, and logistical hurdles, while staple crop models are more accessible but face constraints such as limited purchasing power and low consumer awareness.

Feasibility and Potential Impact

The feasibility of each business model was assessed based on stakeholder feedback, resource requirements, and alignment with local and international market trends.

- **High Feasibility**: Staple crop models in Uvira, Kamonyi, and Bujumbura align with domestic food security goals, benefit from lower certification burdens, and leverage local knowledge. Constraints include financial access and organic input availability.
- **Moderate to High Feasibility**: Export models in Giheta, Biega, Kabare, Bunia, and Ntui are promising due to existing partnerships, quality potential, and market demand—but require significant investment in certification, traceability, and logistics.

Collectively, these models offer a viable path to scale agroecological practices that regenerate ecosystems, empower rural populations, and create market value for sustainable agricultural products.

Internal Validation Workshop

On June 3rd, 2025, a digital workshop was held with the participation of representatives from nearly all Agroecology Living Labs (ALLs), including individuals directly involved in the focus group activities. The purpose was to present and validate the initial business models, gather feedback on their feasibility, and outline the next steps for Task 5.3. The workshop provided valuable insights that informed refinements to the business models presented in this deliverable and helped establish the foundation for piloting Minimum Viable Business Models in the upcoming phase of Task 5.3.

Next Steps

The next phase of Task 5.3 will focus on refining these business models through iterative development and real-life testing as Minimum Viable Business Models (MVBs). This involves:

- Piloting models in local contexts,
- Gathering feedback from farmers, cooperatives, and consumers,
- Refining value propositions and business design,
- Validating outcomes in deliverable D5.4 (Month 42).

Final Reflections

The models presented in this deliverable represent a meaningful shift toward agroecological transitions that go beyond productivity to embrace equity, resilience, and sustainability. Their implementation requires sustained investment in capacity building, infrastructure, and policy support. As these models move into testing and validation, they not only guide the CANALLS project forward

but also serve as replicable frameworks for agroecological business innovation across Central and East Africa.

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List of Terms and Definitions

Abbreviation	Definition
ALL	Agroecology Living Lab
AFAAS	African Forum for Agricultural Advisory Services
CANALLS	Driving Agroecological transitions in the humid tropics of Central and Eastern Africa through traNsdisciplinary Agroecology Living LabS
CSA	Community-Supported Agriculture
DRC	Democratic Republic of the Congo
GMO	Genetically Modified Organism
GASD	Global Action for Sustainable Development
IITA	International Institute of Tropical Agriculture
IRAD	Institute of Agricultural Research for Development
NGOs	Non-Governmental Organizations
PGI	Protected Geographical Indication
PGS	Participatory Guarantee Systems
RAB	Rwanda Agricultural Board
TLBMC	Triple Layered Business Model Canvas
CICC	Interprofessional Cocoa and Coffee Council

Table 1: Terms and Definitions

1. Introduction

This report constitutes Deliverable D5.2: “Fair, inclusive and sustainable business models - initial version” that has been elaborated under Task 5.3: “Co-design and validation of inclusive sustainable business models for agroecological transitions” of the CANALLS project. The deliverable presents the initial version of inclusive sustainable business models for agroecological transitions that have been formulated through Task 5.3, including also the value proposition co-shaping activities reporting and results, that emerged from Task 5.2 activities.

The document is structured as follows:

- **Section 1** is the current introductory section**.**
- **Section 2** outlines the activities undertaken in Task 5.2, focusing on the co-shaping of value propositions. These activities included Value Proposition Workshops held in each Agroecology Living Lab (ALL) to address the needs of identified market segments and ensure fairness for value chain actors.
- **Section 3** details the activities carried out under Task 5.3, focusing on the multi-actor focus groups. These sessions were pivotal in co-designing sustainable and inclusive business models tailored to the agroecological strategies of the project's Agroecology Living Labs (ALLs).
- **Section 4** presents the initial business models co-designed under Task 5.3, developed using the Triple Layered Business Model Canvas.
- **Section 5** includes the conclusions drawn from the activities and findings of Tasks 5.2 and 5.3. It also outlines the next steps for advancing the agroecological business models and provides recommendations and further research to support the project's goals.

The above structure has been chosen with a view to providing a clear, logical, and comprehensive presentation of the activities and outcomes of Tasks 5.2 and 5.3. By organizing the deliverable into distinct sections, we ensure that each key aspect of the project is thoroughly covered, from the co-shaping of value propositions to the co-design of sustainable business models. This structure facilitates a detailed understanding of the multi-actor processes involved, highlights the collaborative efforts in each Agroecology Living Lab (ALL), and underscores the integration of economic, environmental, and social dimensions through the Triple Layered Business Model Canvas. Furthermore, by concluding with actionable next steps and recommendations, the deliverable aims to provide a roadmap for the successful implementation and future scaling of agroecological transitions.

The business models presented in this deliverable are intended to undergo multiple iterations of refinement. These iterations will involve testing and validating the models in real-life contexts using Minimum Viable Business Models (MVBs). This process will include assessing the reactions and acceptance of local farmers and stakeholders engaged in the project's Agroecology Living Labs (ALLs). Through this iterative process, we aim to deliver a set of validated, sustainable, and inclusive business models, which will be detailed in the updated version of this deliverable (D5.4) in Month 42.

2. Development of Value Propositions

2.1 Methodology

2.1.1 *Preparatory Work*

As part of the preparatory work for organizing the value proposition workshops, AFAAS developed tailored training materials, including a Workshop Concept Note, customized pitch presentations for each product piloted in the Living Labs, and a standardized Workshop Reporting Template. These resources were designed to equip CANALLS project partners with the technical knowledge and practical tools needed to conduct effective, participatory workshops. AFAAS adopted an inclusive, bottom-up approach to support the co-design of demand-driven and fair value propositions, engaging a diverse range of stakeholders from public and private sectors, including farmers, local and regional government representatives, cooperative members and policymakers. This approach ensured that all actors along the value chain contributed to identifying challenges and co-creating sustainable, market-oriented solutions, paving the way for pre-testing sustainable business models and facilitating the future commercialization of food products produced with agroecological practices.

2.1.2 *The Value Proposition Canvas*

The Value Proposition Canvas was used as a tool of choice to facilitate the conception, analysis and presentation of the sustainable and inclusive value propositions that were captured during the Workshops.

The Value Proposition Canvas is a strategic tool designed to help organizations systematically understand and articulate how their products or services create value for specific customer segments. It is composed of two main components: the Customer Profile, which captures the customers' jobs, pains, and gains, and the Value Map, which describes the products and services, pain relievers, and gain creators offered to meet those needs (Annex II). This tool is particularly well-suited for identifying and presenting the value propositions emerging from the above workshops, as it enables a structured approach to capturing the perspectives of diverse stakeholders and aligning proposed solutions with their specific expectations and challenges. By using the Value Proposition Canvas, the workshops facilitated a deeper understanding of stakeholder priorities.

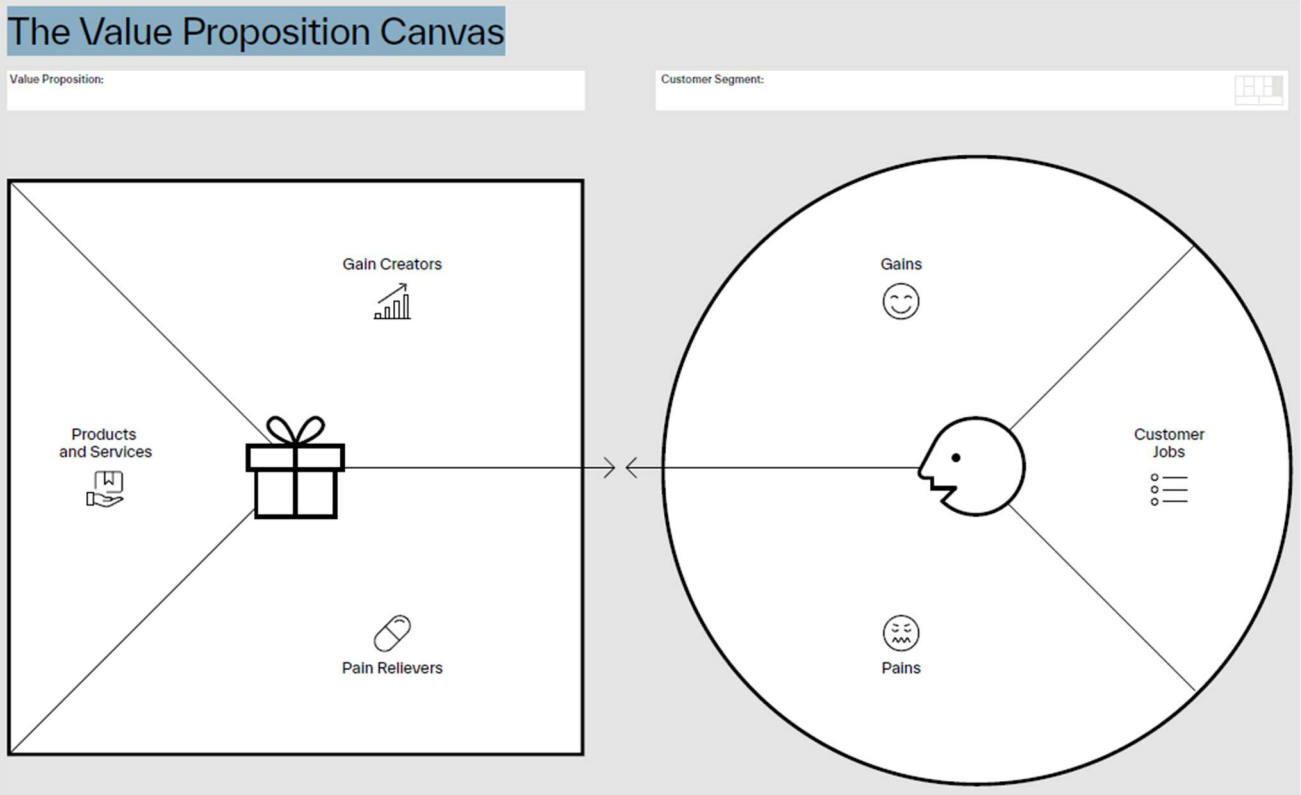

Figure 1: The Value Proposition Canvas

2.1.3 *Criteria for selecting value propositions*

A set of well-defined criteria was employed for the selection of the most appropriate value propositions. Specifically, value propositions were assessed based on their relevance to the needs and priorities of local stakeholders, including farmers, cooperatives, and consumers. Emphasis was placed on environmental sustainability, ensuring alignment with agroecological principles such as biodiversity conservation, soil health, and climate resilience. Economic viability and market potential were also key considerations, alongside social equity, with attention to the empowerment of women, youth, and marginalized groups. Cultural acceptance, coherence with local traditions, and alignment with national and international policy frameworks—such as regulations on deforestation-free products—further informed the selection process. Finally, feasibility, resource availability, and the capacity of the value propositions to contribute to broader systemic change and support agroecological transitions across the value chain were critical factors guiding their selection.

2.2 Implementation of Value Proposition Workshops

2.2.1 *Overview of the workshops conducted in each ALL*

Value Propositions Workshops were organised in all ALLs between May and December 2024. The workshops aimed to develop sustainable and inclusive value propositions that fit the needs of the market segments identified in Task 5.1: “Consumer segments for agroecological food products” and establish fairness for value chain actors involved to enhance commitment to change.

2.2.2 Description of participants

Participants came from various professional backgrounds, including members of farmers' organizations, government officials, academics, representatives of NGOs, various value chain actors [1](wholesalers, retailers, processors transport services providers and inputs providers) and members of civil society organizations. The total number of participants amounted to 101, with value chain actors and members of farmers' organization having the highest participation rates (28,7% and 22,7% respectively).

ALL	Date	Number of participants	Stakeholder categories	Comments
Biega	30/06/2024	15	Farmer's organizations (3); Government representatives (2); Academics (2); NGOs representatives (3); Value chain actors (3); Members of civil society organizations (2)	
Bunia	17/12/2024	12	Farmer's organizations (5); Government representatives (1); NGOs representatives (1); Value chain actors (4); Members of civil society organizations (1)	
Giheta	05/06/2024	11	Farmer's organizations (3); Government representatives (2); Academics (1); NGOs representatives (1); Value chain actors (3); Members of civil society organizations (1)	Participatory Guarantee System (PGS training) on 27 and 28 August 2024 with 14 participants.
Kamonyi	18/10/2024	6	Farmer's organizations (1); Government representatives (1); NGOs representatives (1); Value chain actors (2); Members of civil society organizations (1)	
Ntui	04/06/2024	20	Farmer's organizations (4); Government representatives (3); NGOs representatives (1); Value chain actors (4); Members of civil society organizations (1); Other (7)	
Uvira	31/05/2024	12	Farmer's organizations (4); Government representatives (1); Academics (1); NGOs representatives (1);	

[1] Value chain actors include wholesalers, retailers, processors. transport services providers and inputs providers.

			Value chain actors (3); Members of civil society organizations (2)	
Bujumbura	04/06/2024	11	Farmer's organizations (2); Government representatives (1); Academics (1); NGOs representatives (1); Value chain actors (4); Members of civil society organizations (2)	
Kabare	1/06/2024	14	Farmer's organizations (1); Government representatives (2); Academics (2); NGOs representatives (1); Value chain actors (6); Members of civil society organizations (2)	

Table 2: Workshops Overview

2.3 Results

2.3.1 *Identified Value propositions*

The following section includes the value propositions that were co-developed through the above participatory workshops. Each value proposition reflects the unique characteristics of the product, region, and stakeholder priorities, while also aiming to enhance sustainability, equity, and market relevance. The outcomes serve as a foundation for the design and pre-testing of inclusive and viable business models for agroecological food systems across the CANALLS project countries.

Coffee

Relevant ALLs: Giheta (Burundi), Biega (DRC), Kabare (DRC)

Context

The Democratic Republic of Congo (DRC) and Burundi offer unique value propositions in their coffee industries, shaped by distinct strengths and challenges. In the DRC, high-altitude regions, volcanic soils, and a suitable climate contribute to exceptional Arabica coffee quality. This coffee is gaining international recognition, with significant demand from major buyers like Starbucks and Peet's Coffee. Coffee exports have surged, doubling in recent years to 13,000 metric tons of green coffee. Sustainability is a key focus, with producers obtaining organic and fair-trade certifications to access niche markets. However, the lack of a formal framework for enhancing coffee production hampers the full potential of government policies and regulations.

Burundi's coffee industry is predominantly driven by smallholder farmers, with exports amounting to $41.7 million in 2021. Various efforts to enhance coffee quality, including de-husking and washing stations, have been implemented in recent years. The value chain in Burundi involves input providers, farmers, collectors, transporters, wholesalers, processors, exporters, and regulators, with significant roles played by the Ministry of Agriculture and the Ministry of Environment.

Both countries have the potential to enhance their coffee sectors through targeted support, improved regulatory frameworks, and continued emphasis on quality and sustainability, positioning themselves as key players in the global coffee market.

Key findings and conclusions from Workshops

Value propositions:

VP1. Premium Quality, Ethically Sourced Coffee

VP2. Sustainability and Environmental Stewardship

VP3. Unique Flavors from Diverse Terroirs

VP4. Traceability and Transparency in the Supply Chain

VP5. Health Benefits of Organic Coffee

VP6. Low Carbon Coffee

VP7. Deforestation-Free Coffee

Target Segments: The B2B segment includes specialty coffee roasters, ethical brands, and sustainable retailers seeking high-quality, traceable coffee aligned with ESG commitments. The B2C segment targets eco-conscious consumers who value organic, fair-trade products that support environmental restoration and producer empowerment.

Value Chain Inclusivity: The propositions are designed to ensure the participation and fair remuneration of all actors across the value chain, particularly smallholder farmers, women, and youth. By leveraging cooperatives and participatory governance models, the value chain becomes a platform for empowerment, shared decision-making, and capacity-building.

Revenue Streams: Multiple revenue generation strategies are considered, including direct trade with roasters, premium pricing due to organic certification, and potential brand collaborations that emphasize sustainability narratives. Opportunities for value-added processing at the local level—such as roasted or packaged beans—can further enhance income diversification.

Key Resources: Core resources include organized farmer cooperatives, agroecological cultivation practices, certification schemes and Participatory Guarantee Systems (PGS), traceability mechanisms, and strategic partnerships with both local and international market actors. Investments in training and capacity-building are recognized as critical for maintaining quality and achieving market differentiation.

Cocoa

Relevant ALLs: Ntui (Cameroon), Bunia (DRC)

Context

The cocoa sectors in the Democratic Republic of Congo (DRC) and Cameroon present substantial growth and market opportunities. In the DRC, cocoa production has surged from 600 tons in 2006 to 48,000 tons in 2022, supported by favourable conditions and accounting for a significant portion of agricultural GDP and exports. The DRC's cocoa market segments include the export market, the domestic market, and the premium market, which focuses on speciality and certified cocoa. The value

chain comprises smallholder farmers, cooperatives, local traders, exporters, processors, certification bodies, and NGOs, all contributing to sustainable and quality-focused production.

Cameroon's cocoa market is similarly evolving, with organizational developments enhancing both local and export markets. The Interprofessional Cocoa and Coffee Council (CICC) promotes premium cocoa production through quality incentives and supports the "Made In Cameroon" label to bolster market presence. Market segments include the export market, domestic market, and niche markets for organic and sustainable cocoa. The value chain involves small-scale farmers, cooperatives, middlemen, processors like SIC Cacao and Chococam, input providers such as Agripoint Services, and regulatory agencies like the Ministry of Agriculture and CICC.

Key opportunities in both countries lie in tapping into premium and niche markets for certified organic and fair-trade cocoa, meeting the rising global demand for ethical products. Strengthening cooperatives, improving infrastructure, and enhancing processing capabilities will further amplify the cocoa value proposition from DRC and Cameroon in both local and international markets.

Key findings and conclusions from Workshops

Value Propositions:

VP1. High-Quality, Unique Cocoa

VP2. Sustainably Sourced and Ethically Traded Cocoa

VP3. Organic and Chemical-Free Cocoa

VP4. Empowering Local Communities and Farmer Cooperatives

VP5. Traceability and Transparency from Farm to Market

VP6. Low Carbon Cocoa

VP7. Compliance with EU Deforestation Regulation

Target Segments: The B2B segment comprises specialty chocolate makers, ethical and fair-trade brands, and food retailers seeking distinct, certified cocoa with strong sustainability credentials. The B2C segment includes health-conscious and ethically driven consumers who prioritize organic, deforestation-free products that deliver both superior taste and a positive social impact.

Value Chain Inclusivity: The value propositions foster inclusive participation by integrating smallholder farmers, cooperatives, and local processing units. Emphasis is placed on empowering women, youth, and farmer organizations through fair pricing, transparent trade relationships, and capacity-building initiatives that increase ownership and resilience across the value chain.

Revenue Streams: Revenue generation is built around premium pricing for organic and deforestation-free cocoa, long-term contracts with ethical buyers, and opportunities to capture added value through local processing and certification. Emerging markets for low-carbon and traceable cocoa also offer pathways for differentiation and access to green financing mechanisms.

Key Resources: Essential resources include trained farmer cooperatives, organic and agroecological production methods, traceability and certification systems (e.g., organic, fair trade, deforestation-free, PGS), and partnerships with NGOs, tech providers, and sustainability-oriented buyers. Supportive government policies and international market access further strengthen the ecosystem for value creation and scalability.

Cassava

Relevant ALLs: Uvira (DRC), Kamonyi (Rwanda)

Context

Cassava is a crucial crop with significant economic, nutritional, industrial, and environmental value, especially in countries like Rwanda and the Democratic Republic of Congo (DRC). Economically, it supports millions of smallholder farmers by thriving in diverse soils and climates with minimal inputs, having low production costs and enhancing food security. Moreover, cassava provides essential nutrients combating malnutrition in DRC and Rwanda. Industrially, cassava's starch is used in many products, creating revenue and export opportunities. Environmentally, its resilience to drought and contribution to soil health make it a sustainable crop and food choice, promoting biodiversity and soil conservation. Thus, cassava's comprehensive value proposition strengthens agricultural development and food security in these regions.

Key findings and conclusions from Workshops

Value Propositions

VP1. Nutritional Benefits

VP2. Community Well-Being: Empowering Local Farmers and Strengthening Livelihoods

VP3. Environmental Sustainability

VP4. Preserving Tradition Through Sustainable Cassava Production

Target Segments: The B2B segment includes processors of healthy food products, cooperatives, and institutional buyers (e.g., school meal programs, hospitals, humanitarian supply chains). The B2C segment targets local and regional consumers seeking nutritious, affordable, and culturally familiar food products, with growing appeal among health-conscious urban dwellers and diaspora communities.

Value Chain Inclusivity: The value propositions are rooted in inclusive value chain development, with a focus on empowering smallholder farmers, women, and youth. Local farmer organizations and cooperatives play a central role in production, processing, and marketing, ensuring equitable value distribution and promoting community resilience. Traditional knowledge and farming practices are recognized and integrated as key assets.

Revenue Streams: Revenue models include local and regional market sales of fresh and processed cassava products (e.g., flour, chips, fermented derivatives), institutional procurement, and niche opportunities in urban health food markets. Additional income can be generated through fair trade labeling, local certification schemes such as PGS, and participation in community-supported agriculture (CSA) networks.

Key Resources: Core resources include agroecological production systems, resilient local cassava varieties, farmer cooperatives, and post-harvest processing infrastructure. Capacity-building initiatives, traditional knowledge, and supportive partnerships with NGOs, local authorities, and market intermediaries further reinforce the system’s sustainability and scalability.

Maize

Relevant ALLs: Bujumbura (Burundi)

Context

Maize is a staple crop of strategic importance in Burundi, particularly in regions like Bujumbura where it plays a vital role in supporting local livelihoods, ensuring food security, and contributing to agroecological resilience. Economically, maize cultivation sustains many smallholder farmers by providing a dependable source of income and food, especially in rural communities. Its adaptability to different altitudes and climates makes it a reliable crop across varied landscapes. Nutritionally, maize is a key source of carbohydrates and essential micronutrients, forming the basis of many traditional Burundian diets and addressing chronic food insecurity and undernutrition. Environmentally, agroecological practices in maize production—emphasizing crop rotation, organic fertilization, and minimal chemical input—contribute to soil health, reduce erosion, and promote biodiversity. As such, maize is not only a critical food crop but also a foundation for sustainable agricultural development.

Key findings and conclusions from Workshops

Value Propositions:

VP1. Maize of high nutritional value

VP2. Short Value Chains for Local Market Resilience

VP3. Environmentally Friendly and Climate-Resilient Production

Target Segments: The B2B segment includes local millers, food processors, school feeding programs, and urban retailers looking for traceable, sustainably produced maize. The B2C segment targets health- and sustainability-conscious urban consumers who seek fresh, nutritious, and locally grown staple foods.

Value Chain Inclusivity: The value propositions aim to empower smallholder farmers—particularly women and youth—through cooperative structures, direct market linkages, and decentralized value addition. They promote inclusive participation by minimizing intermediary layers and strengthening short value chains that retain more value at the producer level.

Revenue Streams: Revenue models include direct sales to local markets, institutional procurement (schools, hospitals), value-added products (e.g., fortified flour), and potential premiums for climate-resilient and traceable sourcing. New income opportunities also arise through partnerships with food service providers and sustainable procurement initiatives.

Key Resources: Key resources include farmer cooperatives, agroecological farming knowledge, post-harvest infrastructure, traceability tools, and supportive market networks. Investment in local processing, training in climate-smart practices, and engagement with urban food actors are critical to enhancing competitiveness and scalability.

Rice

Relevant ALLs: Uvira (DRC)

Context

The rice sector in the Democratic Republic of Congo (DRC) presents significant opportunities to enhance food security, stimulate economic growth, and promote sustainable agricultural practices. By boosting local rice production, the DRC reduces its reliance on imports and ensures a stable supply of rice. Improved agricultural practices and efficient value chains lead to higher rice productivity and income for smallholder farmers. Consumers benefit from a consistent supply of high-quality rice products, while the overall economy gains from increased local production and market diversification.

Key findings and conclusions from Workshops

Value Propositions

VP1. High-Quality Rice

VP2. Community-Centric Rice

VP3. Environmentally Sustainable Rice

VP4. Health Benefits

Target Segments: The B2B segment includes institutional buyers such as school meal programs, hospitals, and NGOs, as well as local processors and ethical food brands seeking sustainably sourced rice. The B2C segment targets health-conscious consumers, urban households, and local markets looking for nutritious, chemical-free, and locally grown staple foods.

Value Chain Inclusivity: The value propositions promote inclusive participation by smallholder farmers—especially women and youth—organized into cooperatives. These structures ensure fair income distribution, collective bargaining power, and shared ownership of production and marketing processes. Community-centered approaches foster rural resilience and build local food system sovereignty.

Revenue Streams: Revenue generation strategies include direct sales of paddy and milled rice to local markets, value-added processing (e.g., semi-polished rice, whole grain), institutional procurement, and premium pricing for sustainably produced and chemical-free rice. There is potential for partnerships with food security programs and eco-labeling for emerging ethical consumption markets.

Key Resources: Core resources include agroecological production knowledge, farmer cooperatives, sustainable water and land management practices, post-harvest handling infrastructure, and community-based processing units. Supportive resources also involve technical training, traceability tools, and partnerships with local authorities and development agencies.

2.3.2 *Summary of Value Propositions*

The matrix below presents a comparative overview of the value propositions developed for food products produced with agroecological practices across the Agroecology Living Labs (ALLs) participating in the CANALLS project. Each row corresponds to a specific ALL and crop, highlighting the strategic focus, value propositions, target segments, inclusivity approaches, revenue streams, and key resources. While many crops share overarching goals—such as sustainability, social inclusion, and local value creation—each value proposition has been tailored to reflect the unique socio-economic, environmental, and market conditions of its respective context. This matrix serves as a synthesis of the co-design process conducted with local stakeholders and provides a foundation for further development of inclusive, resilient, and sustainable business models.

Note: This matrix presents a selection of key highlights from the value propositions developed across the Agroecology Living Labs. It is intended as a summary for comparative purposes. For a complete and detailed account of each value proposition, including supporting context and stakeholder insights, please refer to the corresponding sections of this deliverable.

ALL & Crop	Value Propositions	Strategic Focus	Target Segments	Value Chain Inclusivity	Revenue Streams	Key Resources
Organic Coffee (Biega, DRC)	Rich flavour from volcanic soils; deforestation-free and low carbon; ethical sourcing; EU import compliant; Traceability and Transparency; Ethically sourced via inclusive cooperatives	Premium, climate-resilient coffee with traceability for international markets	B2B: Specialty roasters, sustainable retailers, cooperatives, exporters B2C: Quality-focused, environmentally aware consumers	Women/youth-inclusive cooperatives; participatory certification (PGS or third-party)	Direct export, organic and deforestation-free premiums, local value addition	Agroecological practices, digital communication tools, monitoring tools, PGS, organic inputs
Organic Cocoa (Bunia, DRC)	Organic, chemical-free cocoa; empowers cooperatives; aligned with EU deforestation rules; traceable and ethically marketed	Export oriented sustainable cocoa with regulatory and social compliance	B2B: International ethical chocolate producers and importers, Fair-trade buyers and cooperatives, NGOs and institutional buyers B2C: Organic and fair-trade chocolate consumers	Cooperatives manage certification and compliance; training for EU market access	Fair trade, organic and deforestation-free premiums	Organic inputs, certification partnerships, traceability systems, pilot farm schools and training centers, trained farmers and agronomists
Organic Coffee (Giheta, Burundi)	High-altitude, organic coffee with distinct aroma; promotes biodiversity and soil restoration; locally processed; health Benefits of Organic Coffee	Climate-resilient, specialty coffee rooted in agroecology	B2B: Ethical brands, fair trade roasters, cooperatives and fair-trade partners B2C: Eco-conscious, quality-driven consumers	Smallholder-driven value chain, cooperative governance, inclusive training	Direct trade, local roasting, fair trade/organic premium pricing, sales of complementary agroforestry products	Organic fertilizers, high-quality seeds, water management systems, skilled farmers, shared infrastructure

Cocoa (Ntui, Cameroon)	Traceable, high-flavour cocoa; climate-resilient; enhances producer visibility; social Impact cocoa	Premium, sustainable cocoa with traceability and climate co-benefits	B2B: Specialty chocolate makers and retailers, ethical traders, international chocolate manufacturers B2C: Ethical chocolate buyers, local consumers	Supports cooperatives with forest-friendly practices; women in nursery/harvest roles	Certified cocoa for export, value-added products through local processing, deforestation-free premiums	Farmer training centers and model agroecological plots, organic inputs, cooperatives, local processing units
Rice & Cassava (Uvira, DRC)	Rice: Chemical-free, water-resilient, community-based milling; Cassava: Nutrient-dense, drought-tolerant, local processing Both: Affordable, culturally appropriate food staple	Enhancing local food sovereignty, replacing imports	B2B: Local processors, humanitarian buyers, school programs B2C: Rural and peri-urban households	Farmer-led cooperatives; women and youth in post-harvest activities	Institutional procurement, processed rice and cassava, value-added flours, traceable packaging	Agroecological inputs, cooperative-run mills, fermentation and drying infrastructure, local knowledge
Maize (Bujumbura, Burundi)	Nutrition-diverse maize for urban diets; marketed via short supply chains; climate-smart; culturally familiar staple	Urban food security and climate adaptation	B2B: Millers, school feeding programs, institutional buyers, local markets B2C: Urban families	Local cooperatives with youth/women involvement; strengthens city-region food systems	Institutional supply contracts, sales to local markets, branding, packaging and certification opportunities	Intercropping practices, local processing facilities, agroecological training, use of local or improved seeds
Cassava (Kamonyi, Rwanda)	Contributes to nutrition security; supports women's income generation; enhancing	Nutrition and cultural resilience through sustainable	B2B: Food processors and small-scale industries,	Cooperative-based approach, strong women's involvement, links	Sales of fresh/processed cassava, cassava peel-derived	Local knowledge, basic post-harvest infrastructure,

	community well-being; promoting environmental sustainability	cassava production	cooperatives and institutional buyers B2C: Local households and consumers	to traditional markets	animal feed and compost, potential entry into the tourism market	agroecological inputs, women's cooperatives, rural finance groups
Coffee (Kabare, DRC)	Shade-grown, and climate-resilient coffee; Ethically sourced and traceable supply chain; Supports farmer solidarity and community empowerment; Promoting environmental sustainability	Coffee as a lever for stability, identity, and green development	B2B: International buyers of sustainable and traceable coffee; cooperatives, exporters, and ethical brands B2C: Conscientious consumers	Community-oriented initiatives; women/youth engagement	Direct trade with roasters, premium pricing due to organic certification, local branding	Farmers and cooperatives; Organic inputs; Shade trees, drying stations; Grants, credit and subsidies

Table 3: Summary of Value Propositions

This comparative analysis illustrates how agroecological value propositions, while rooted in shared principles such as environmental stewardship, community empowerment, and market relevance, are uniquely shaped by local conditions and stakeholder priorities in each Living Lab. The diversity of approaches—from traceable, export-oriented cocoa and coffee value chains to locally embedded staple crops like maize, rice, and cassava—demonstrates the adaptability and scalability of agroecological business models. These differentiated value propositions not only address pressing challenges such as food insecurity, climate vulnerability, and market exclusion, but also lay the groundwork for building more equitable, sustainable, and self-determined food systems in the countries of interest.

3. Focus groups activities

This section details the focus groups organized under Task 5.3, which aimed to co-design inclusive, sustainable business models for agroecological transitions in the project's Agroecology Living Labs (ALLs). Each focus group, consisting of 10-20 participants from diverse stakeholder backgrounds, worked collaboratively to identify the necessary steps from training and strategy formation to value creation. The focus groups also assessed the feasibility of the value propositions developed in Task 5.2 and presented in the previous chapter by analysing the relevant resources and potential revenues. Through these activities, the project aimed to ensure that the proposed business models are both practical and aligned with the needs of local farmers and other value chain actors.

3.1 Organization of Focus Groups

As a first step in organizing the multi-actor focus groups, a comprehensive set of documents was developed to assist local organizers in effectively setting up and running the sessions. These documents included detailed written guidelines covering the following key areas:

- **Recruitment of Participants**: Ensuring the focus groups were representative of the diverse stakeholders involved.
- **Preparations**: Steps to take before the focus group meetings, including necessary documents and logistical arrangements.
- **Selection of Venue and Date**: Guidance on choosing an appropriate location and timing for the meetings.
- **Meeting Moderation**: Instructions on moderating the discussions, recording the sessions, taking photos and videos, and preparing a summarizing report.

Additionally, these guidelines were supplemented by a detailed Discussion Guide for the focus group moderators. This guide provided step-by-step instructions for conducting the focus group meetings, including a sample agenda and a consent form template for obtaining participants' permission to audio record the sessions and to take photos and videos for dissemination purposes.

Secondly, an information package was developed and sent to focus groups' participants to help them understand the concept of the project and prepare for the discussion. This information package consisted of:

- a project's leaflet;
- an overview of the focus groups process;
- an agenda of the focus group meeting;
- a guide to understanding the Triple Layered Business Model Canvas;
- an informed consent form;
- an overview of the value propositions developed under Task 5.2.

All the above are included in ANNEX I.

3.2 Overview of focus groups

All eight Living Labs conducted focus groups: Biega, Bunia, Giheta, Kamonyi, Ntui, Uvira, Bujumbura, and Kabare. In total, 116 participants took part in the meetings, representing a wide spectrum of stakeholders involved in agroecology and agriculture-related sectors.

Most participants were small producers and cooperative members, reflecting the central role of farmers and grassroots organizations in agroecological transitions. However, the groups also included representatives from processing companies, exporters, researchers, government and policy institutions, extension service providers, local traders, and NGOs, as well as individuals in supporting or informal roles (e.g., carriers or partners managing demonstration plots).

3.2.1 ALL Biega

The focus group in Biega was held at INERA Mulungu on 22 November 2024. 13 individuals participated in the session. The group included 3 small producers, 3 members of cooperatives, 2 exporters, 3 researchers, 1 policy maker/government representative, and 1 training and extension service provider. The session brought together a balanced mix of producers, researchers, and institutional actors.

3.2.2 ALL Bunia

On 15 February 2025, a focus group took place in Bunia, gathering 15 participants. The stakeholders included 3 small producers, 3 cooperative members, 1 local trader/intermediary, 2 representatives of processing companies, 1 exporter, 1 researcher, 2 government representatives, and 2 extension service providers. The group represented a broad range of voices enabling a comprehensive discussion.

3.2.3 ALL Giheta

The focus group in Giheta was conducted on 31 October 2024, with a total of 12 participants. These included 2 small producers, 1 cooperative member, 2 local traders/intermediaries, 1 processing company representative, 1 exporter, 1 researcher, 2 government officials, and 2 training and extension service providers.

3.2.4 ALL Ntui

In Ntui, the focus group took place on 27 November 2024 with 13 participants. Stakeholders included 2 small producers, 2 cooperative members, 2 local traders/intermediaries, 1 representative of a processing company, 1 exporter, 1 researcher, 3 government representatives, and 1 extension service provider. The focus group in Ntui demonstrated balanced participation across most stakeholder categories.

3.2.5 ALL Uvira

The Uvira focus group was organized on 30 November 2024 and was attended by 16 individuals, exceeding the initially expected number of 10 participants. Among them were 1 small producer, 1 cooperative member, 1 processing company representative, 1 exporter, and 3 policy makers/government representatives. Additionally, 9 participants categorized as "other" (mostly rice farmers with demonstration plots) were present.

3.2.6 ALL Bujumbura

On 7 February 2025, Bujumbura ALL held its focus group with 12 participants. The group included 4 small producers, 4 cooperative members, 2 local traders/intermediaries, and 2 government representatives.

3.2.7 ALL Kamonyi

Held over two days on 6–7 February 2025, the Kamonyi focus group welcomed 20 participants representing 17 organizations. These included entities from the fields of research, technology transfer, private sector (companies), media, NGOs, farmer cooperatives, and various government departments.

3.2.8 ALL Kabare

The Kabare focus group took place on 27 March 2025 and engaged 12 participants. These comprised 2 small producers, 3 cooperative members, 1 local trader/intermediary, 2 representatives from processing companies, 1 exporter, 1 researcher, 1 government representative, and 1 extension service provider. Among the participants, 3 were women.

Stakeholder group	Participants
Small producers	17
Members of cooperatives	17
Local traders/intermediaries	8
Representatives of processing companies	7
Exporters	7
Researchers	7
Policy makers and government representatives	14
Training and extension service providers	7
Other (carrier, NGOs, ISABU, IITA, Reporter, Mediator)	15
Kamonyi participants (Researchers, Private companies, Media, NGOs, Farmers Cooperatives, NGO-Private Center, Government)	17
Total:	**116**

Table 4: Focus Group Participants Information

3.3 Methodology

All focus group sessions were conducted based on a common methodological guide and structured reporting template that were shared in advance with each Agroecology Living Lab (ALL). The format ensured active participation from stakeholders and encouraged the sharing of local knowledge and practical insights.

The discussions were divided into four main parts:

1.Chain of Events for Business Model Innovation

Participants explored the sequence of activities leading to business model innovation, starting from training and strategy formation to the actual creation of value. They identified critical resources, key actions, and relevant stakeholders to be involved throughout the process.

2.Assessment of Value Propositions

An overview of value propositions, previously developed in the context of the project (Task 5.2), was presented. Participants assessed the feasibility of each proposition by discussing required resources, potential revenue streams, and anticipated challenges.

3.Co-Design of Sustainable Business Models

Using the Triple Layered Business Model Canvas (TLBMC) as a framework, stakeholders worked collaboratively to co-design agroecological business models. The TLBMC approach emphasized the integration of economic, environmental, and social aspects of sustainability.

4.Conclusion

Each focus group concluded with a summary of key insights, a discussion on potential next steps, and an expression of appreciation for participants' contributions.

Data protection and privacy regulations were strictly followed. Explicit written consent was obtained from all participants before taking any photos or videos. The Consent Form that has been used is presented in Annex I.

Reporting Template

To ensure consistent documentation across all focus groups, each ALL was provided with a structured reporting template, presented in Annex I. The template was organized into the following key sections:

- **Focus Group Identification** (e.g. Venue and Date, name of Moderator, etc.)
- **Participant Information:** Number and stakeholder groups of the participants
- **Chain of Events for Business Model Innovation:**
  - Key insights on training needs and strategies
  - Value Creation
  - Implementation steps
- **Feasibility of Value Propositions:** Captured insights on required resources, potential challenges, revenue expectations, and the overall viability of each value proposition.
- **Co-Design of Sustainable Business Models:** the Triple Layered Business Model Canvas was applied to guide the co-design of business models along three dimensions—economic, environmental, and social.
- **Recommendations and Next Steps**: Included participant suggestions for improving business models and any agreed follow-up actions.

This structured approach helped to generate insights across all participating ALLs and contributed to the participatory development of agroecological business models.

3.4 Results

The key findings and conclusions drawn from each focus group are presented in the sections below, organized by Living Lab.

3.4.1 Biega ALL – DRC

Figure 2: Biega focus group

The focus group in Biega gathered a broad range of stakeholders from the coffee value chain, including agroecological input suppliers (GASD, ANAMED, ASDR), smallholder coffee producers, cooperatives (RAE, Kivu Coffee), exporters (Virunga Coffee), and representatives of international consumer markets. The session was designed to map the enabling conditions for agroecological business model innovation, evaluate the feasibility of selected value propositions, and co-design sustainable business models using the Triple Layered Business Model Canvas (TLBMC).

Participants reaffirmed the core value propositions identified for Biega's organic coffee: its distinctive flavour profile, production practices that are deforestation-free and low in carbon emissions, ethical sourcing through inclusive cooperative structures, and compliance with EU market regulations. These attributes position Biega coffee as a premium, sustainable product for both domestic and international specialty markets

The proposed business model revolves around the production and sale of parchment and processed organic coffee. Key customer segments include cooperatives, exporters, and ethical consumers, particularly in the EU. Revenue streams are expected to derive from premium pricing for certified organic and deforestation-free coffee, with added value through local processing and differentiation in global markets. Communication and marketing are facilitated via a blend of traditional (radio, phone) and digital tools (WhatsApp, Facebook, LinkedIn), enabling outreach across the value chain

Strategic partnerships—particularly with organic input providers, farmer cooperatives, and certification bodies—were seen as essential to implementing the model. Environmentally, the business model integrates agroforestry practices, composting of coffee parchment, and biogas generation to minimize deforestation and reduce household energy dependence. The model explicitly

excludes synthetic inputs and envisions the development of a local certification label to reinforce environmental integrity and traceability in line with EU deforestation regulations.

Socially, the model strengthens farmer solidarity and confidence through cooperative governance, fair pricing mechanisms, and transparent trade relationships. The assurance of market access and equitable returns motivates producers and improves their willingness to invest in farm productivity. Biogas production from coffee waste was highlighted as a co-benefit, reducing reliance on firewood and contributing to household energy security. Cooperative membership was also seen as fostering a culture of mutual support and shared responsibility among farmers.

Participants acknowledged challenges such as disorganized local markets, price volatility, and limited access to finance—particularly for women and youth. Recommendations to address these issues included organizing farmers into stronger cooperatives, scaling up organic input supply, promoting gender equity in production, and increasing the international visibility of Biega coffee. Overall, the model was seen as a viable pathway to inclusive, environmentally sound, and economically rewarding coffee value chains.

3.4.2 Bunia ALL, DRC

Figure 3: Bunia focus group

The focus group held in Bunia focused on identifying the sequence of interventions and resources required to support the agroecological transformation of the cocoa sector. Participants emphasized the need for targeted training and strategy development across the entire value chain. For cocoa farmers, key training needs include agroforestry techniques, sustainable water and soil management, bio-based pest control, and good agricultural practices that align with organic and deforestation-free standards. Post-harvest practices—particularly fermentation, drying, and packaging—were highlighted as critical for improving cocoa quality and marketability, especially in traceable and certified supply chains.

To ensure alignment with the value propositions—specifically compliance with EU deforestation regulations and ethical marketing—training must also target buyers and cooperatives, focusing on quality assurance and traceability systems. Participants proposed participatory, hands-on training through pilot farm schools supported by agronomists, along with structured monitoring to evaluate adoption of agroecological techniques. Implementation steps discussed include selecting farmer beneficiaries, developing training modules, and coordinating logistics in collaboration with local institutions. However, participants noted that current technical and financial resources — particularly

those available to public agricultural departments — are insufficient, calling for additional support to implement and scale agroecological standards.

Using the Triple Layered Business Model Canvas (TLBMC), participants evaluated the environmental, social, and economic sustainability of the proposed model. Environmentally, the model supports climate change adaptation, reduction of greenhouse gas emissions through non-deforestation practices, and improved soil fertility via compost, animal manure, and mulch. In areas with steep slopes, the use of contour lines was proposed for effective water and pressure management. While the region's rain-dependent climate limits irrigation options, integrated practices can mitigate this constraint.

Socially, the business model promotes the inclusion of marginalized groups. Youth were identified as key to ownership and innovation, women as crucial actors in awareness and adoption, and indigenous communities as essential partners in culturally appropriate agroecological transformation. The model envisions strengthening cooperatives to improve farmers' income, and resilience to climate shocks. Beyond improved livelihoods, the group highlighted potential social benefits such as better access to education, healthcare, housing, and safer working conditions.

To sustain momentum and ensure proper institutional alignment, participants recommended organizing coordination meetings and establishing formal agreements with relevant stakeholders. These efforts aim to embed agroecological principles into public and private sector programs, ensuring that the business model for Bunia cocoa remains environmentally compliant, socially inclusive, and economically viable—while positioning it as a traceable, ethically marketed product for premium international markets.

3.4.3 Giheta ALL, Burundi

Figure 4: Giheta focus group

The focus group in Giheta, Burundi, brought together stakeholders from the coffee value chain, including smallholder coffee producers, cooperatives, local input suppliers, and export partners. The session aimed to identify the enabling conditions for agroecological business model innovation, assess the feasibility of selected value propositions, and co-design sustainable business models using the Triple Layered Business Model Canvas (TLBMC).

Participants emphasized the need for targeted training on organic farming, soil fertility, and pest management. The success of organic certification in coffee was highlighted as a key driver for

accessing premium markets, with the suggestion to extend similar training to bean and soybean producers. Such support could improve yields, reduce dependence on chemical inputs, and promote more sustainable practices.

The group discussed value creation through agroecological techniques, such as intercropping beans with nitrogen-fixing plants and growing shade coffee. These methods enhance soil health, increase crop quality, and align with growing market demand for sustainable products. Nutritional crops like beans, peas, and soybeans support food security, while organic coffee, with proper certification, can be positioned as a premium export product.

Key resources identified for successful cultivation of beans, soybeans, peas, and coffee include access to high-quality seeds, efficient water management systems, and organic fertilizers. In addition, farmers require technical training and ongoing support to apply agroecological practices effectively. Cooperative models were seen as crucial for enabling the sharing of essential equipment and infrastructure, such as irrigation systems, washing stations, and drying facilities. This collective approach reduces individual costs and improves overall productivity.

The economic potential lies in both organic and fair-trade coffee exports, as well as local soy-based products such as soy milk. Key customer segments include international buyers and local, health-conscious consumers. Sales channels would involve local markets, cooperatives, and export partners.

Primary costs identified include seeds, fertilizers, labor, and transport. Local processing can reduce transport costs, while the energy costs for coffee processing remain a challenge. The hilly terrain of Giheta and the distance between producers and processors were noted as logistical challenges, often exploited by intermediaries to the disadvantage of producers.

Environmental benefits of the business model include soil protection, fertility, and water conservation, all of which are vital for Burundi’s hilly landscapes. The use of pesticides in soybean farming was flagged as a harmful practice that could be replaced with organic alternatives, thereby further reducing the environmental impact.

The social benefits of this model extend to farmers, cooperatives, local communities, and consumers. Empowering coffee farmers through cooperatives provides collective bargaining power, strengthens producers' positions in the market, and improves livelihoods. Additionally, improved yields from beans and peas would enhance food security for local communities.

Next steps to enhance the business model include establishing small processing units for soy-based products or branded coffee packaging. There is also an emphasis on pilot projects to test sustainable farming practices and demonstrate their effectiveness in improving yields and income for local farmers.

3.4.4 Ntui ALL, Cameroon

Figure 5: Ntui focus group

The focus group in Ntui, Cameroon, convened participants from various sectors of the cocoa value chain, including smallholder cocoa farmers, cooperatives, traders, exporters, and representatives of certification bodies. The session aimed to identify the enabling conditions for agroecological business model innovation, assess the feasibility of selected value propositions, and co-design sustainable business models using the Triple Layered Business Model Canvas (TLBMC).

The group identified the need for comprehensive training on agroecological practices, with a particular focus on crop associations (e.g., cocoa with lemon), organic plant disease treatments, composting, biochar production, biopesticides, and intercropping techniques tailored to the savannah context. Additionally, participants highlighted the importance of training on revenue management and raising awareness about the socio-economic benefits of agroecology, ensuring that farmers understand the broader value of sustainable practices for both their livelihoods and the environment.

A key strategy for value creation proposed by the group was the establishment of farmer training centers and model agroecological plots through cooperatives or associations. These centers would serve as practical demonstration sites to address climate change, improve soil and human health, and maintain high productivity on limited land without harming the environment.

To implement this model, participants suggested the following next steps: securing land through collaboration with ministries, other authorities, and local communities; organizing production processes, including nurseries, pruning, planting, and maintenance; building strong cooperatives and networks among farmers, traders, exporters, and certifiers; and establishing dedicated markets for agroecological cocoa, including local processing structures to add value to the product.

Despite challenges such as limited access to organic inputs, lack of funding, and a lack of youth interest in agriculture, the group recognized the high revenue potential of cocoa produced with agroecological practices. The product's traceability and alignment with social and environmental values offer a unique selling point in both national and international markets.

The target customers for agroecological cocoa include national and international cocoa buyers, as well as chocolate producers. The cocoa is expected to be sold directly and through supermarkets, with financial resources potentially mobilized through savings and microfinance. Key partners

identified include input suppliers, research institutions such as IRAD and IITA, training centers, and cocoa buyers.

From an environmental perspective, the cocoa produced at the Ntui Agroecological Living Lab (ALL) will contribute to the restoration and maintenance of soil health and fertility. The use of agroecological practices, such as agroforestry, will further enhance soil quality and biodiversity, helping to mitigate the impacts of climate change and promote sustainability.

However, the group also acknowledged several challenges. Limited access to land restricts the scale of production and diversification efforts, and there is a shortage of suitable tree species for agroforestry associations, hampering efforts to enhance biodiversity and soil health. Financial constraints are another significant barrier, as many farmers struggle to afford high-quality agricultural inputs such as seeds, organic fertilizers, and equipment, limiting their ability to fully adopt and benefit from agroecological practices.

Next steps for improving the business model include securing the necessary resources for cooperative formation, scaling up agroecological training and outreach efforts, and fostering partnerships with local and international stakeholders to build a sustainable and traceable cocoa supply chain.

3.4.5 Uvira ALL, DRC

Figure 6: Uvira focus group

The focus group in Uvira, DRC, brought together participants from various sectors of the rice and cassava value chains, including smallholder farmers, cooperatives, traders, and local processors. The session aimed to explore the challenges and opportunities of agroecological business model innovation and co-design sustainable solutions using the Triple Layered Business Model Canvas (TLBMC).

Discussions at the Uvira Agroecology Living Lab (ALL) highlighted several key challenges faced by farmers adopting agroecological principles, primarily revolving around market acceptance and the economic viability of agroecological production. Participants emphasized that while agroecology

offers long-term sustainability benefits, it often leads to higher production costs. This creates a bottleneck, as consumers currently do not differentiate between agroecological and conventional products, limiting the ability to secure premium prices for agroecological products.

To address this challenge, the group proposed the need for stronger advocacy efforts to secure subsidies that could help level the playing field. Subsidies would support fair market competition and make it easier for agroecological producers to compete with conventional farming practices. Additionally, participants highlighted the importance of raising consumer awareness through accelerated information campaigns. Educating consumers about the benefits of agroecologically produced food is seen as a critical step in shifting consumer habits and creating a viable market for these products.

There was a consensus between the participants that the already identified value propositions align with the local community's needs for resilient food systems, better nutrition, and access to locally processed products. Rice production, in particular, benefits from being chemical-free and resilient to water stress, making it an attractive option for regions with fluctuating water availability. Cassava, on the other hand, is valued for its drought tolerance and nutritional benefits, making it a key crop for food security in the region.

With regards to business model selection, participants emphasized the importance of strengthening local processing capacities. For rice, a community-based milling model was proposed, ensuring that value-added processing takes place locally, benefiting farmers and reducing transportation costs. For cassava, participants suggested focusing on local processing to enhance product quality and value, thereby increasing marketability and creating more opportunities for local economic growth.

Key challenges discussed by the group included the lack of market differentiation for agroecological products, which limits their ability to command premium prices, as well as the need for better access to training and resources for farmers to fully transition to agroecological methods. Financial barriers, such as the high cost of inputs and the difficulty in accessing credit, were also highlighted as significant hurdles for farmers trying to adopt sustainable farming practices.

The proposed business models, however, offer strong potential for creating value. By emphasizing the community-based nature of production and processing, both rice and cassava could better serve local needs and markets while aligning with global trends toward sustainability.

Next steps for improving the business model include engaging in advocacy to secure subsidies, launching consumer education campaigns to raise awareness of agroecological benefits, and strengthening local processing capacities for both rice and cassava. The goal is to increase the economic viability of agroecological production while ensuring food security and environmental sustainability in the region.

3.4.6 Bujumbura ALL, Burundi

Figure 7: Bujumbura focus group

In the Bujumbura Agroecology Living Lab (ALL), participants from various sectors of the agricultural value chain gathered to discuss the challenges and opportunities for advancing agroecological practices in the region. The focus was on supporting the agroecological transition through training, knowledge sharing, and value creation.

A key takeaway from the focus group discussions was the need for extensive training in agroecological practices. This training should cover essential topics such as composting, soil fertility restoration, biopesticide production and use, agroforestry, the preservation of peasant seeds, and small livestock breeding to produce organic manure. Additionally, participants emphasized the importance of educating farmers about the harmful effects of synthetic pesticides and chemical fertilizers and promoting healthier alternatives for both the environment and human health.

The group also recognized the potential to create value by integrating agroecological practices into both upstream and downstream processes. Upstream, farmers can adopt agroecological methods to produce organic products. Downstream, the value of these products can be enhanced by ensuring they are marketed separately from conventional agricultural products. However, to achieve this, participants stressed the need for support from the government, especially in adjusting market prices for organic products to make them competitive with conventional alternatives.

The environmental benefits of agroecology were highlighted during the discussions. Key advantages include improved soil fertility, increased biodiversity, erosion prevention, and reduced dependence on synthetic inputs. However, the group also identified several significant challenges, including the limited availability of biopesticides, a lack of technical knowledge on their use, resistance to change among farmers, and the shortage of biomass for organic fertilizer production.

To overcome these barriers, participants proposed several strategies, including diversifying agroecological research, gaining official approval for biopesticides, promoting small livestock breeding, and raising awareness about the long-term benefits of sustainable practices. By

strengthening the technical knowledge and capacity of farmers, the region could see a wider adoption of agroecological practices and a shift towards more sustainable farming systems.

In terms of next steps, the group identified several key actions to strengthen the adoption and impact of agroecological practices in Bujumbura. These included increasing the number of farmers involved in agroecology, enhancing promotion and awareness efforts, and providing comprehensive training programs. The group also emphasized the importance of ensuring farmers have access to necessary resources, such as peasant seeds and plants like neem and tithonia for biopesticide production. Additionally, establishing recognized points of sale for organic products and seeds at fair prices would help strengthen market access for products produced with agroecological practices.

3.4.7 Kamonyi ALL, Rwanda

Figure 8: Kamonyi focus group

In the Kamonyi Agroecology Living Lab (ALL), discussions centered on fostering agroecological practices that could help strengthen the sustainability of cassava production while addressing local challenges. Participants emphasized the need for training focused on core agroecological farming principles, climate-smart agriculture, erosion control, good agronomic practices, and the cassava value chain. Field demonstrations, farm visits, and mass mobilization efforts were proposed as key tools to build awareness and engage local farmers in adopting sustainable practices.

Value creation was a central theme during the discussions. Participants agreed that agroecological practices could significantly improve soil health, enhance nutrition, and generate income. These benefits align with several value propositions developed in the context of Task 5.2, which include enhancing community well-being through the empowerment of local farmers and strengthening livelihoods, promoting environmental sustainability, and preserving cultural heritage through sustainable cassava production. The model's emphasis on nutrition security, community empowerment, and environmental preservation highlights the broader impact that agroecology can have in Kamonyi.

A key source of revenue identified was the diverse range of products and income streams associated with cassava. These include cassava cuttings (used as germplasm), cassava peels for animal feed and compost, cassava leaves as food, and processed products like starch. Additionally, income can be generated from animal feed production, eco-certification, and tapping into tourism and culture-based markets. Financial support from stakeholders, bank loans, and environmental grants were seen as potential avenues for securing funding and enhancing the model's economic sustainability. Furthermore, the diversification into both crop and animal production was considered a strategy to increase resilience and profitability.

However, participants also identified several barriers to achieving these revenue streams. These included the lack of organic inputs such as manure, limited financial resources, fluctuating cassava market prices, and the absence of safety certificates for organic products. Since agroecological products are often priced higher than conventional ones, limited local purchasing power was seen as a significant challenge. Other technical obstacles, such as pest and disease outbreaks, climate variability, and the slower action of organic compost compared to chemical fertilizers, were also noted.

In terms of the social stakeholder layer, participants proposed several actions to address key challenges. These included increased training on agroecological practices, access to resilient seeds, and better market linkages. Furthermore, the group highlighted the importance of practices like rainwater harvesting, intercropping, and mulching as strategies to adapt to climate-related stressors.

3.4.8 Kabare ALL, DRC

Figure 9: Kabare focus group

In the Kabare Agroecology Living Lab (ALL), the focus was on identifying key stakeholders and addressing the social and environmental benefits of coffee production with agroecological practices. The main actors for the value chain were identified as agricultural input suppliers, small producers,

cooperatives, exporters, and consumers. Communication channels to engage these stakeholders included physical meetings, door-to-door campaigns, media, and telephone outreach.

A stakeholders analysis showed a well-connected ecosystem with clearly defined needs: Agricultural input suppliers need access to grants, agricultural credit, and training, while cooperatives and small coffee producers seek agricultural credit, training, and subsidies. Exemptions for external markets to facilitate trade were highlighted, and consumers needed access to processed sustainable products and subsidies.

The expected social and financial benefits for farmers were considered significant. These included access to fair market prices, job creation, and the ability to secure loans for household expenses, knowing that agroecological practices would ensure repayment. The transition to agroecology was also expected to strengthen farmer solidarity and interdependence, as all farmers in the region would be involved in the agroecological process. This solidarity would help improve farmers' living conditions by providing increased income and creating a strong sense of community. Farmers were anticipated to become ambassadors for climate change mitigation, using their knowledge of sustainable practices to influence others.

From a social perspective, the model was expected to improve living conditions by enhancing access to education, healthcare, adequate housing, and better working conditions. This would also contribute to the empowerment of women and youth, who are often key participants in agricultural production. On the environmental side, agroecological practices were considered to support soil health through organic inputs such as compost and GASD, while preserving biodiversity—particularly through shade-grown coffee, which boosts productivity and ensures environmental sustainability.

However, the ongoing insecurity in South Kivu province, particularly in the Kabare region, was identified as a significant challenge to the implementation and progress of agroecological practices. The instability in the region could hinder efforts to build infrastructure, secure funding, and ensure market stability.

Several key barriers to large-scale adoption were highlighted. These included limited funding, market instability, insufficient infrastructure, and a lack of consumer awareness about the benefits of agroecologically produced coffee. The need for capacity building through training on sustainable practices, increased access to organic inputs, and resilient seeds was repeatedly emphasized. Participants also stressed the importance of strengthening cooperative structures to foster collaboration and reduce production costs.

3.5 Internal Validation Workshop

On June 3rd, 2025, ALL representatives participated in an online validation workshop with a view to:

- Present and validate the initial business models developed as a result of the above focus groups' activities.
- Receive feedback and discuss the feasibility of the proposed business models.
- Give an overview of the next steps for Task 5.3.

Most ALLs were represented in the workshop with at least one person that was involved in the focus groups' activities.

The workshop gave us the opportunity to clarify all the details regarding the building blocks of the business models and to have a first assessment of their viability. This insight on the one hand helped us to improve the business models presented in the next chapter of this deliverable and from the other hand it laid the foundation for the work that will be accomplished in the next phase of Task 5.3.

4. Sustainable Business Models

4.1 Triple Layered Business Model Canvas (TLBMC)

The Triple Layered Business Model Canvas (TLBMC) is a strategic tool that extends the traditional business model canvas by incorporating sustainability aspects. It helps organizations design business models that consider economic, environmental, and social dimensions.

The **Economic Layer** focuses on the foundational components of a traditional business model that drives economic value. It is composed of nine key elements: *Customer Segments*, which define the groups of people or organizations the business aims to serve; *Value Propositions*, which describe how value is created for those customers; *Channels*, outlining how the business communicates with and delivers its value proposition to its customer segments; and *Customer Relationships*, which define the nature of relationships established with different customer groups. *Revenue Streams* detail how the business generates income from each segment, while *Key Resources* and *Key Activities* identify the critical assets and actions needed to make the business model function effectively. *Key Partnerships* refer to the essential network of suppliers and collaborators, and the *Cost Structure* captures all costs incurred to operate the business model.

The **Environmental Life Cycle Layer** evaluates the environmental impacts of a business model from a life cycle perspective. It begins with understanding the *Functional Value* of a product or service and continues through the assessment of *Materials* used and their ecological footprint, with an emphasis on identifying greener alternatives. It also includes the environmental effects of *Supplies and Outsourcing*, *Production processes*, and *Distribution*, considering transportation, packaging, and delivery. The *Use Phase* examines how the end-user's interaction with the product or service affects the environment, while the *End-of-Life* phase explores disposal or recycling implications. This layer concludes with a comprehensive assessment of *Environmental Impact* and the identification of *Environmental Benefits*, such as emissions reduction or resource efficiency.

Lastly, the **Social Stakeholder Layer** highlights the social value generated by a business model for its various stakeholders. It includes *Social Value*, reflecting how the business contributes to society at large, and considers the well-being of *Employees*, evaluating working conditions, wages, and benefits. *Governance* practices are reviewed in terms of transparency and accountability. The needs and benefits provided to *End-users* are assessed alongside the business's impact on *Communities*, such as job creation or local development. The *Scale of Outreach* measures the geographic and demographic reach of the business, while *Societal Culture* explores how norms and values shape the model's adoption. Finally, the layer encompasses *Social Impact* and *Social Benefits*, capturing outcomes like enhanced quality of life, health improvements, and educational opportunities. (Annex III)

4.2 Business Models for each ALL

4.2.1 ALL Biega in DRC (Highlands/ coffee)

The business model developed for Biega's organic coffee is grounded in the insights of a multi-stakeholder focus group and structured using the Triple Layered Business Model Canvas (TLBMC). It integrates economic, environmental, and social dimensions, reflecting the unique value propositions of Biega coffee—such as its traceability, low carbon footprint, and compliance with EU deforestation regulations. The model highlights opportunities for inclusive growth, climate resilience, and ethical trade.

<table>
<tr><th>A</th><th>Partners</th><th>Activities</th><th>Value Propositions</th><th>Customer Relationship</th><th>Customer Segments</th></tr>
<tr>
<td rowspan="3">Economic Business Model Canvas</td>
<td rowspan="3">• Organic input suppliers
• Cooperatives and local producers
• Exporters (e.g. Virunga Coffee)
• Certification bodies
• Farmer's organizations
• NGOs
• Government Officials and Policymakers</td>
<td>• Organic and deforestation-free coffee cultivation
• Biofertilisant living soil
• Processing, sorting, packaging
• Local certification (e.g. PGS) and compliance verification
• Marketing and export facilitation
• Biogas production from waste.</td>
<td rowspan="3">• VP1. Premium quality coffee with rich flavour from volcanic soils
• VP2. Deforestation-free
• VP3. EU imports compliant
• VP4. Low carbon coffee
• VP5. Ethically sourced via inclusive cooperatives
• VP6. Traceable supply chain</td>
<td>• Contact via cooperatives and exporters
• Transparency and traceability systems
• Storytelling and branding</td>
<td rowspan="3">• Ethical consumers
• Specialty coffee buyers
• Exporters (e.g. Virunga Coffee)
• Cooperatives (e.g. RAE, Kivu Coffee)</td>
</tr>
<tr>
<td>Resources</td>
<td>Channels</td>
</tr>
<tr>
<td>• Organic inputs (GASD, ANAMED, ASDR)
• Participatory Guarantee Systems (PGS)
• Local processing facilities
• Digital communication tools</td>
<td>• Traditional: radio, phone, trade fairs
• Digital: WhatsApp, Facebook, LinkedIn, B2B platforms</td>
</tr>
</table>

<table>
<tr><td></td><td colspan="2">Cost Structure</td><td colspan="3">Revenue Streams</td></tr>
<tr><td></td><td colspan="2">• Certification costs for PGS and/or international sustainability standards.
• Training and capacity building for agroecological practices.
• Organic input procurement.
• Logistics and export costs
• Processing and packaging to meet international quality standards.
• Communication and marketing</td><td colspan="3">• Sales of certified organic parchment and processed coffee
• Premium pricing for organic, deforestation-free and EU-compliant coffee
• Local value addition (e.g. roasting, packaging) and differentiation in global markets
• Biogas byproducts or carbon credit opportunities (future potential)</td></tr>
<tr><td>B</td><td>Supplies and Out-sourcing</td><td>Production</td><td>Functional Value</td><td>End of Life</td><td>Use Phase</td></tr>
<tr><td rowspan="4">Environmental Lifecycle Business Model Canvas</td><td rowspan="4">• Local inputs: Compost, organic fertilizers, and eco-friendly materials sourced from within the community.
• Outsourcing: Minimal reliance on external suppliers due to the focus on local resources and PGS certification systems, which prioritize local inputs and supply chains.</td><td>• Agroecological Farming Practices: focused on enhancing soil fertility, water conservation, and biodiversity.
• Water Management: Efficient use of water in cultivation and processing,
• Carbon Management: Agroecological practices help to sequester carbon into the soil.</td><td rowspan="4">Environmentally friendly practices enhance product credibility and access to EU markets.</td><td>• Composting of coffee parchment.
• Recycling organic waste into energy through biogas generation.
• Minimal packaging, locally sourced where possible</td><td rowspan="4">• Ethical consumers enjoy premium coffee, knowing their purchase supports sustainable and transparent production, with minimal environmental impact.
• Coffee brands benefit from marketing products that meet consumer demand for sustainability and health-conscious offerings.</td></tr>
<tr><td>Materials</td><td>Distribution</td></tr>
<tr><td>• Organic inputs such as compost, manure, and natural pest control methods, reducing the environmental impact of farming.
• No synthetic inputs</td><td>• Distribution through low-carbon logistics partners, especially for exports to the EU market.
• Direct marketing through eco-friendly</td></tr>
</table>

		• Biodegradable or recyclable packaging materials, emphasizing sustainability.		supply chains, ensuring that carbon emissions from transportation are minimized.	
	Environmental Impacts		**Environmental Benefits**		
	• Prevention of deforestation through EU regulation compliance and agroforestry practices. • Reduced carbon emissions through agroecological farming and low-impact processing • Improved soil fertility through composting and cover crops • Renewable energy via biogas from coffee waste		• Preservation of biodiversity through agroecological practices. • Reduced CO_2 emissions from biogas and agroecological methods. • Reduced chemical use. • Supports climate change mitigation and adaptation		
C	**Local Communities**	**Governance**	**Social Value**	**Societal Culture**	**End User**
Social Stakeholder Business Model Canvas	• Local communities benefit from increased economic activity, training programs, and sustainable farming practices. • PGS fosters community engagement and builds trust among farmers, buyers, and consumers.	• Transparent decision-making processes with regular community meetings and input from all stakeholders. **Employees** • Fair wages and safe working conditions for farm workers involved in the coffee production process. • Capacity-building programs to help farmers adopt agroecological practices.	• **PGS Certification**: Empowering local farmers through participatory certification processes. • **Economic Empowerment:** Higher income for farmers due to premium market access and better prices from certified coffee.	Promotion of agroecological farming as a way of life, reinforcing cultural values. **Scale of Outreach** The scalable model of PGS certification can be expanded to other regions	• Retailers and manufacturers have access to a product that meets consumer demands for transparency and sustainability. • Consumers benefit from high-quality, ethically produced coffee.

	Social Impacts	Social Benefits
	• Improved livelihoods for smallholder farmers by giving them access to premium markets and fairer prices. • Empowerment of local communities through participation in PGS and cooperatives.	• Strengthened local economies through increased income for farmers and workers. • Better environmental and social outcomes through agroecological practices. • Assurance of market access and equitable returns through fair pricing mechanisms, and transparent trade relationships • Contribution to household energy security through biogas production

Table 5: Biega Business Model

4.2.2 ALL Bunia in DRC (Lowlands/ cocoa)

The business model for agroecological cocoa in Bunia is designed to align with both international compliance requirements and local sustainability priorities. Structured using the Triple Layered Business Model Canvas (TLBMC), it integrates economic feasibility, environmental protection, and social inclusion. Reflecting the insights of diverse local stakeholders, the model positions Bunia cocoa as a traceable, chemical-free, and ethically marketed product aligned with EU deforestation regulations, while promoting climate adaptation, cooperative empowerment, and livelihood resilience.

A	Partners	Activities	Value Propositions	Customer Relationship	Customer Segments
Economic Business Model Canvas	• Local institutions and agricultural departments • Cooperatives, NGOs, certification bodies • Exporters and traceability tech providers • Government Officials and Policymakers	• Agroforestry-based cocoa cultivation • Post-harvest processing: fermentation, drying, packaging • Training and monitoring of agroecological practices • Certification (e.g. PGS) and compliance assurance	• **VP1.** Organic, chemical-free cocoa • **VP2.** Traceable and ethically marketed cocoa • **VP3.** Cocoa aligned with EU deforestation regulations • **VP4.** Empowers farmer cooperatives	• Transparent, long-term trade agreements • Certification-backed trust with international buyers	• International ethical chocolate producers and importers • Fair-trade buyers and cooperatives • NGOs and institutional buyers supporting sustainable sourcing

<table>
<tr><td rowspan="4"></td><td>Cocoa traders and producers seeking sustainable, organic cocoa</td><td>Awareness campaigns targeting buyers and cooperatives.</td><td rowspan="3"></td><td></td><td rowspan="3">Health-conscious consumers, ethical buyers, eco-friendly shoppers, premium chocolate consumers</td></tr>
<tr><td></td><td>Resources</td><td>Channels</td></tr>
<tr><td></td><td>Pilot farm schools and training centers
Trained farmers and agronomists
Traceability systems
Organic inputs (compost, manure, mulch)</td><td>Export through cooperative-led trade partnerships
Direct B2B sales
Digital platforms</td></tr>
<tr><td colspan="3">Cost Structure</td><td colspan="3">Revenue Streams</td></tr>
<tr><td colspan="3">Training
Organic input sourcing and logistics
Certification and monitoring systems
Cooperative development and quality assurance
Communication and marketing</td><td colspan="3">Premium prices for certified organic, deforestation-free cocoa
Value-added sales from improved post-harvest quality</td></tr>
<tr><td>B</td><td>Supplies and Out-sourcing</td><td>Production</td><td>Functional Value</td><td>End of Life</td><td>Use Phase</td></tr>
<tr><td rowspan="3">Environmental Lifecycle Business Model Canvas</td><td rowspan="3">Inputs sourced locally through cooperatives and agroecological networks
Minimal chemical use or external dependency</td><td>Agroforestry systems with shade trees and contour planting on steep slopes,
Use of organic fertilizers and bio-pesticides</td><td rowspan="3">High-quality, deforestation-free cocoa aligned with EU regulations, offering climate-resilient benefits.</td><td>Waste (e.g. cocoa shells) can be composted or used in local biomass energy systems</td><td rowspan="3">Clean, traceable cocoa supports ethical and sustainable chocolate production.</td></tr>
<tr><td>Materials</td><td>Distribution</td></tr>
<tr><td></td><td></td></tr>
</table>

		• Compost, animal manure, mulch • Traditional, disease-resistant cocoa varieties		• Export logistics coordinated through cooperatives with attention to reducing carbon footprint	
	Environmental Impacts		**Environmental Benefits**		
	• Reduced deforestation and GHG emissions • Improved soil fertility via compost, animal manure, and mulch • Water retention through organic matter and contour lines.		• Supports biodiversity • Mitigates climate risk • Improves land regeneration and carbon sequestration		
C	**Local Communities**	**Governance**	**Social Value**	**Societal Culture**	**End User**
Social Stakeholder Business Model Canvas	• Strengthened through improved income, food security, education, and health outcomes	• Cooperative-based governance with participatory decision-making and accountability mechanisms.	Fosters cooperative empowerment, youth engagement, gender equity, and inclusion of indigenous communities in agroecological transformation	• Builds on traditional land stewardship and indigenous knowledge • Reinforces pride in locally adapted agroecological methods	• Buyers receive ethically sourced, traceable cocoa • Consumers support climate-resilient agriculture through conscious purchasing.
		Employees		**Scale of Outreach**	
		• Farmers receive fair wages and are supported through training and improved working conditions • Job creation in post-harvest processing		• Regional reach through pilot schools • Replicable in other cocoa-growing areas	

	Social Impacts	Social Benefits
	• Increased livelihood resilience • Inclusion of marginalized groups • Empowerment of women and youth in agriculture.	• Greater access to services (education, healthcare) • Improved food security • Safer working environments • Strengthening cooperatives

Table 6: Bunia Business Model

4.2.3 ALL Giheta in BR (Highlands/ coffee)

The business model developed for Giheta's organic coffee builds on the region's growing commitment to agroecological farming and cooperative-based innovation. Drawing from the insights of a diverse group of local stakeholders, the model reflects the unique context of Burundi's highland coffee sector—one that blends environmental stewardship with local value addition and social empowerment. Structured using the Triple Layered Business Model Canvas (TLBMC), it highlights the feasibility of scaling high-altitude, organically certified coffee that promotes biodiversity, strengthens cooperative identity, and contributes to food security through integrated cropping systems.

A	Partners	Activities	Value Propositions	Customer Relationship	Customer Segments
Economic Business Model Canvas	• Farmer cooperatives • Input providers (organic fertilizers, seeds) • Export partners • NGOs and certification bodies • Specialty coffee roasters and ethical coffee brands • Government Officials and Policymakers • Local consumers	• Agroforestry, intercropped coffee cultivation • Soil permanent cover • Processing, drying, packaging • Training and capacity building • Certification through PGS for local market and international certifications for coffee exports • Branding and marketing.	• **VP1.** High-altitude, organic coffee with distinct aroma • **VP2.** Promotes biodiversity, soil restoration and water balance • **VP3**. Locally processed coffee for added value • **VP4.** Builds cooperative brand identity • **VP5.** Health Benefits of Organic Coffee and product for local market	• Long-term trade relationships based on traceability and transparency • Consumer education through cooperative storytelling and branding	• International specialty and ethical coffee buyers primarily in the EU and North America • International and local health-conscious consumers • Premium coffee enthusiasts • Cooperatives and fair-trade partners

		Resources • High-quality coffee and intercropping seeds • Water management systems • Organic fertilizers and compost • Skilled farmers and cooperative members • Shared infrastructure (washing stations, drying beds) • Marketing and distribution networks		**Channels** • Export through cooperative networks and trade partners • Local markets and health food stores • Direct sales and digital outreach (e.g. WhatsApp, Facebook)	
	Cost Structure • Inputs (organic fertilizers, seeds, labour) • Transport • Energy costs for coffee processing • Certification costs • Cooperative management and training. • Communication and marketing		**Revenue Streams** • Premium sales of certified organic and fair-trade coffee • Branded local products (e.g. roasted beans) • Sales of complementary agroforestry products (fruits, timber)		
B	**Supplies and Out-sourcing**	**Production**	**Functional Value**	**End of Life**	**Use Phase**
Environmental Lifecycle Business Model Canvas	• Predominantly local inputs and services • Strong reliance on cooperatives and local input suppliers • Minimal reliance on external suppliers	Agroecological /organic practices: Agroforestry coffee, intercropping will permanent soil crops, composting, soil fertility enhancement, biopesticides	A high-quality, certified organic coffee that supports soil restoration, biodiversity, and sustainable land use on hilly terrains.	• Biodegradable waste (coffee grounds, compostable packaging) • Reuse of processing waste in compost or energy generation	• Organic product reduces health and environmental risks • Supports sustainable consumer choices. • Coffee brands benefit from

<table>
<tr><td></td><td>due to the focus on local resources</td><td>Materials
• Organic fertilizers, compost, nitrogen-fixing intercrops (beans, peas), traditional seed varieties.</td><td></td><td>Distribution
• Local sales reduce transport emissions;
• Exports rely on coordinated logistics to minimize carbon footprint.</td><td>marketing products that meet consumer demand for sustainability and health-conscious offerings.</td></tr>
<tr><td></td><td colspan="2">Environmental Impacts
• Reduces chemical use and pesticide runoff.
• Enhances water conservation and erosion control on hillsides.</td><td colspan="3">Environmental Benefits
• Improved soil fertility and health
• Increased biodiversity
• Lower input-related emissions
• Ecosystem resilience
• Contribution to climate change mitigation</td></tr>
<tr><td>C</td><td>Local Communities</td><td>Governance</td><td>Social Value</td><td>Societal Culture</td><td>End User</td></tr>
<tr><td rowspan="2">Social Stakeholder Business Model Canvas</td><td rowspan="2">• Empowered through infrastructure sharing, improved food security (intercropped legumes), and collective marketing
• Stronger local interaction</td><td>• Democratic cooperative structures; transparency in pricing, trade, and resource management.
• Sharing of essential equipment and infrastructure, such as irrigation systems, washing stations, and drying facilities</td><td rowspan="2">• Promotes cooperative governance, food security, gender inclusion, and shared access to resources.
• Higher income for farmers due to premium market access.
• Reduces production cost</td><td>• Builds on local pride in coffee farming heritage
• Supports agroecological identity and traditional knowledge</td><td rowspan="2">• Access to traceable, chemical-free, locally processed coffee
• Informed consumers empowered to support sustainability.</td></tr>
<tr><td>Employees
• Farmers organized through cooperatives receive training, fair pricing, and participate in decision-making.</td><td>Scale of Outreach
• Reaches both rural communities and international markets</td></tr>
</table>

				• Replicable in other regions of Burundi	
	Social Impacts		**Social Benefits**		
	• Improved livelihoods, especially for women and youth • Increased community cohesion and food system resilience.		• Better incomes, health outcomes, training access • Collective bargaining power through cooperatives • Reduced dependency on intermediaries • Energy security via local processing innovations (e.g. biogas) • Preservation of traditional farming knowledge and community cohesion through sustainable and participatory practices • Food security		

Table 7: Giheta Business Model

4.2.4 ALL Ntui in CR (Lowlands/ cocoa)

The business model developed for Ntui's cocoa reflects the area's transition to resilient, climate-smart farming systems rooted in agroforestry and cooperative development. Structured through the Triple Layered Business Model Canvas (TLBMC), the model integrates economic opportunity with environmental sustainability and social inclusion. It emphasizes the value of traceability, biodiversity protection, and producer visibility, offering a path to connect smallholder farmers with national and international cocoa markets.

A	Partners	Activities	Value Propositions	Customer Relationship	Customer Segments
Economic Business Model Canvas	• Research (IRAD, IITA, ICRAF/CIFOR, RIKOLTO) • Certification bodies (ANOR for products and MINADER for seeds, fertilizers and biopesticides) • Input suppliers (TMG, Agripoint Services, agrishop)	• Agroecological cocoa production • Composting, biopesticide application, pruning • Cooperative formation • Training in agroecological practices and revenue management	• **VP1.** Traceable Cocoa Supply Chains • **VP2.** Quality Cocoa • **VP3.** Climate-resilient and biodiversity-friendly production • **VP4.** Enhances producer visibility in sustainable supply chains	• Transparent, traceable trade relationships • Certification-backed trust and branding partnerships • Back-to-back support from cocoa buyers (training and inputs assistance)	• International chocolate manufacturers • Ethical and fair-trade buyers • Specialty retailers • Local processors

	• Cocoa buyers (middleman, cooperatives, individuals), • NGOs (SAILD, FODER, CAMFAAS), • Financial institutions • Cooperatives (Local cooperatives and farmer federations like CONAPROCAM2) • Exporters (TELCA, OFI, OLACAM, SIC CACAO, Neo-Industry) • Training centers (Centre de l'excellence de Ntui, Nachigal training center,, ISAGO[3] and ISSAER[4])	• Certification (e.g. PGS) and supply chain management. • Land acquisition • Organization of production (seed, shade management, intercropping with fruit trees, foliar fertilization) • Organization of actors & market **Resources** • Farmer training centers and model agroecological plots • Organic inputs • Cooperatives • Local processing units • Various climatic areas (savanna, forest and transitions) • Farmers' knowledge on cocoa farming	• **VP5.** Social Impact Cocoa	• B2B price negotiation with cocoa buyers and inputs providers **Channels** • Export channels via cooperatives and certification bodies • Local markets • Direct sourcing for ethical brands • Local cooperative markets (organized within the cooperatives to buy and store farmers' products)	and consumers • Local cocoa buyers working as middlemen • Seasonal market co-organised by the cooperatives' leaders and local authorities
	Cost Structure		**Revenue Streams**		
	• Training and cooperative support • Organic inputs, seedlings, equipment • Certification and marketing • Supply Chain and Traceability Costs		• Premium cocoa sales (certified, traceable) • Value-added products through local processing • Potential eco-certification incentives and future climate finance instruments		

[2] CONAPROCAM is a national concertation of cocoa farmers in Cameroon which stand by Confederation Nationale des Producteurs de Cacao du Cameroun
[3] ISAGO is a higher institute of agriculture and management located at 20km from Ntui
[4] ISSAER is another higher institute of agricultural training and rural development located at 25km from Ntui

<table>
<tr><th>B</th><th>Supplies and Out-sourcing</th><th>Production</th><th>Functional Value</th><th>End of Life</th><th>Use Phase</th></tr>
<tr><td rowspan="4">Environmental Lifecycle Business Model Canvas</td><td rowspan="3">• Locally sourced inputs
• Minimal reliance on synthetic materials
• Cooperation with national research institutions
• Certification experts</td><td>• Agroecological cocoa cultivation with crop associations, composting, shade tree integration, and erosion control techniques
• Foliar fertilization and organic fertilization</td><td rowspan="3">• Sustainable cocoa grown under agroforestry systems, contributing to carbon sequestration and biodiversity protection
• The use of organic fertilizer and foliar fertilization increase yield and reduce pest attack with positive effect on cocoa beans quality.</td><td>• Organic cocoa shells reused in compost or energy generation;
• Minimal packaging waste in local sales</td><td rowspan="3">• Ethically sourced and health-friendly cocoa with environmental integrity for ethical chocolate brands.</td></tr>
<tr><td>Materials</td><td>Distribution</td></tr>
<tr><td>• Compost, organic fertilizers, biochar, biopesticides; agroforestry tree species (e.g., shade trees)</td><td>• Mixed model: local sales and international export
• Cooperative-led logistics aim to optimize cost and environmental performance</td></tr>
<tr><td colspan="3">Environmental Impacts</td><td colspan="3">Environmental Benefits</td></tr>
<tr><td colspan="3">• Reduced deforestation risk
• Soil fertility improvement
• Enhanced biodiversity and microclimate regulation.
• Restoration of ecosystem in the savanna area
• Restoration of micro fauna and microflora in the farm</td><td colspan="3">• Climate resilience,
• Erosion control,
• Restoration of degraded land,
• Reduced agrochemical pollution,
• Habitat connectivity via biodiversity corridors</td></tr>
<tr><th>C</th><th>Local Communities</th><th>Governance</th><th>Social Value</th><th>Societal Culture</th><th>End User</th></tr>
<tr><td>Social Stakeholder</td><td>• Strengthened through training centers, job creation, access to local</td><td>• Transparent cooperative governance</td><td>• Builds sustainable livelihoods, cooperative</td><td>• Respects and revitalizes traditional land stewardship</td><td>• Conscious consumers benefit from</td></tr>
</table>

Business Model Canvas	processing and input services • Land access and farm inheritance for women and youth	• Participation of youth in the farming practices and strong involvement of women in cocoa farm management	empowerment, and food security • Contribution to sustainable cocoa health system	• Integrates indigenous practices with scientific agroecology	traceable, ethically sourced cocoa products
		Employees		**Scale of Outreach**	
		• Smallholder cocoa farmers organized into cooperatives receive training, equitable pay, and participate in decision-making		• Regional within Cameroon, with replication potential across similar agroecological zones in Central Africa	
	Social Impacts		**Social Benefits**		
	• Improved income stability, • Strengthened farmer identity • Increased youth involvement in agriculture • Food diversification		• Higher education and healthcare access • Enhanced gender equity • Reduced rural poverty and land degradation • Reduction of farmer contamination and toxic diseases		

Table 8: Ntui Business Model

4.2.5 ALL Uvira in DRC (Lowlands/ cassava, rice)

The business model for Uvira's rice and cassava value chains reflects a pragmatic response to the challenges of transitioning to agroecological practices in a context of limited market incentives and financial constraints. Structured using the Triple Layered Business Model Canvas (TLBMC), the model integrates economic resilience, local food sovereignty, and environmental stewardship. It prioritizes community-based processing, advocacy for public support, and increased consumer awareness, with a focus on delivering nutrient-dense, climate-resilient staples that are accessible, locally valued, and ecologically sound.

<table>
<tr><th>A</th><th>Partners</th><th>Activities</th><th>Value Proposition</th><th>Customer Relationship</th><th>Customer Segments</th></tr>
<tr><td rowspan="4">Economic Business Model Canvas</td><td rowspan="2">Local authorities
NGOs
Extension services
Community cooperatives and processors
Education and health institutions as anchor buyers</td><td>Production of rice and cassava with agroecological practices
Local processing (milling, fermentation, drying)
Advocacy for subsidies
Consumer awareness campaigns
Cooperative strengthening and market linkage.</td><td rowspan="2">Rice:
VP1. Chemical-free
VP2. Water-resilient
VP3. Community-milled
Cassava:
VP4. Nutrient-dense
VP5. Drought-tolerant
VP6. Locally processed
Both:
VP7. Affordable, culturally appropriate food staple</td><td>Trust-based relationships through transparency and local engagement
Awareness campaigns to educate consumers on agroecological benefits</td><td rowspan="2">Local consumers (urban and peri-urban)
Community organizations
Institutional buyers (e.g., schools, health centers)
Small-scale food processors</td></tr>
<tr><td>Resources
Agroecological inputs (compost, mulch)
Community-based milling and drying equipment
Local knowledge</td><td>Channels
Local markets, cooperatives, and fairs
Direct-to-consumer via short supply chains
Potential institutional procurement (e.g., public canteens)</td></tr>
<tr><td colspan="2">Cost Structure
Production inputs (organic fertilizers, seeds)
Processing infrastructure and labour
Training, capacity building, and market development costs</td><td colspan="3">Revenue Streams
Sales of processed rice and cassava products
Value-added derivatives (e.g., cassava flour)
Potential for eco-certification premiums (mid to long-term)
Institutional contracts (schools, hospitals)</td></tr>
</table>

<table>
<tr><th>B</th><th>Supplies and Out-sourcing</th><th>Production</th><th>Functional Value</th><th>End of Life</th><th>Use Phase</th></tr>
<tr><td rowspan="4">Environmental Lifecycle Business Model Canvas</td><td rowspan="3">Mostly local inputs
Reliance on communal resources and self-produced compost
Minimal external sourcing</td><td>Low input cultivation
Minimal pesticide use
Intercropping
Soil conservation techniques (e.g., mulching, erosion barriers)</td><td rowspan="3">Culturally embedded, low-impact staple foods that support nutrition and environmental resilience</td><td>Processing by-products reused (e.g., cassava peels for animal feed or compost)</td><td rowspan="3">Minimally processed foods with low environmental impact
Reduced waste from spoilage through local access.</td></tr>
<tr><td>Materials</td><td>Distribution</td></tr>
<tr><td>Compost, organic mulch, peasant seeds;
Drought and water-resilient crop varieties</td><td>Short supply chains reduce emissions
Local delivery networks based on cooperative logistics
Raised awareness through all channels about the social, health, environmental, and economic benefits of agroecology.</td></tr>
<tr><td colspan="2">Environmental Impacts</td><td colspan="3">Environmental Benefits</td></tr>
<tr><td colspan="2">Supports water conservation (rice), soil restoration, and drought resilience (cassava)
Low GHG footprint from local operations:
GHG reduced through improved lowland water management (Smart Valley approach).</td><td colspan="3">Climate adaptation, biodiversity protection, reduced synthetic inputs, restoration of degraded soils, food system circularity
Increases the frequency of rainfall in areas</td></tr>
</table>

<table>
<tr><th>C</th><th>Local Communities</th><th>Governance</th><th>Social Value</th><th>Societal Culture</th><th>End User</th></tr>
<tr><td rowspan="3">Social Stakeholder Business Model Canvas</td><td rowspan="3">• Strengthened through training centers, job creation, access to local processing and input services</td><td>• Strengthened by shared infrastructure and local food systems
• Economic benefits stay within the region</td><td rowspan="3">• Improves local food security, supports inclusive rural economies, and fosters pride in local food systems
• Improved social cohesion between stakeholders due to common interest generated by agroecological practices</td><td>• Reinforces traditional cassava and rice consumption patterns
• Values local crops through agroecological branding</td><td rowspan="3">• Access to healthy, safe, and affordable staple foods
• Supports informed consumer choices through awareness campaigns</td></tr>
<tr><td>Employees</td><td>Scale of Outreach</td></tr>
<tr><td>• Farmers and processors organized into cooperatives
• Job creation in processing and marketing
• Skill-building through training</td><td>• Targeting regional urban centers and rural markets
• Scalable across similar regions in DRC</td></tr>
<tr><td></td><td colspan="2">Social Impacts</td><td colspan="3">Social Benefits</td></tr>
<tr><td></td><td colspan="2">• Greater food self-reliance
• Reduced vulnerability to imports and price shocks
• Improved household nutrition
• Valorization of certain local natural products often not used in the manufacture of biopesticides</td><td colspan="3">• Enhanced livelihoods,
• Dietary health, and social cohesion
• Greater participation of women and youth in agro-food activities
• Increased profitability and income (the use of biopesticide reduces production cost)</td></tr>
</table>

Table 9: Uvira Business Model

4.2.6 ALL Bujumbura in BR (Lowlands/ maize)

The business model for Bujumbura's maize, produced with agroecological practices, is designed to meet the nutritional and cultural needs of urban populations while supporting smallholder farmers in transitioning to sustainable practices. Structured using the Triple Layered Business Model Canvas (TLBMC), the model integrates climate-smart production, local market access, and health-conscious food systems. It emphasizes decentralized training, short supply chains, and policy support to position maize as a culturally rooted, environmentally sustainable, and economically viable staple.

<table>
<tr><th>A</th><th>Partners</th><th>Activities</th><th>Value Proposition</th><th>Customer Relationship</th><th>Customer Segments</th></tr>
<tr><td rowspan="4">Economic Business Model Canvas</td><td rowspan="4">Government bodies (policy support and pricing regulations)
NGOs
Farmer networks,
Research institutions
Local processors
Cooperatives
University of Burundi</td><td>Production of maize with agroecological practices
Use of human urine as biofertilizer,
Use of biopesticide and organic manure
Farmers training in agroecological practices
Awareness campaigns
Market development and cooperative organization</td><td rowspan="4">VP1. Nutrition-diverse maize for urban diets
VP2. Marketed via short supply chains
VP3. Climate-smart production methods
VP4. Culturally familiar staple food</td><td>Trust and loyalty through visibility and traceability
Consumer awareness campaigns promoting the benefits of maize produced with agroecological production practices</td><td rowspan="4">Urban consumers seeking healthy staples
Local markets
Institutional buyers (e.g., primary schools, hospitals)</td></tr>
<tr><td>Resources</td><td>Channels</td></tr>
<tr><td>Farmer training centers and agroecological demonstration plots
Biopesticide-producing plants (e.g., neem, tithonia)
Use of local or improved seeds
Local processing facilities</td><td>Local markets, fairs, and cooperatives
Urban food outlets and short-chain retail
Direct-to-consumer sales via farmers' markets</td></tr>
</table>

				• Institutional market (e.g. primary schools)	
	Cost Structure		**Revenue Streams**		
	• Training and awareness delivery • Inputs (seeds, compost, biopesticide materials) • Small-scale processing and packaging • Market infrastructure and sales promotion		• Sales of fresh and processed maize products • Premium from branding and certification (mid-term) • Institutional supply contracts		
B	**Supplies and Out-sourcing**	**Production**	**Functional Value**	**End of Life**	**Use Phase**
Environmental Lifecycle Business Model Canvas	• Locally produced biopesticides and compost • Community-managed seed systems • Minimal chemical suppliers involved • Use of human urine and livestock manure as fertilizers	• Collection and hygienisation of human urine • Erosion control • Crop rotation • Use of small livestock for organic manure • Production of biopesticide (neem biomass) **Materials** • Compost, manure, neem, tithonia, peasant maize varieties • No synthetic pesticides or fertilizers • Human urine as biofertilizer	Nutrient-rich, accessible staple produced using sustainable, low-input techniques for urban and peri-urban diets	• Crop residues and processing waste reused for compost or animal feed • Biodegradable packaging encouraged **Distribution** • Short, local supply chains reduce emissions and spoilage • Decentralized market hubs near consumers	• Consumers benefit from nutritious maize in their daily diets, contributing to better health outcomes. • Increased shelf stability from traditional preservation methods

<table>
<tr><td></td><td colspan="2">Environmental Impacts</td><td colspan="3">Environmental Benefits</td></tr>
<tr><td></td><td colspan="2">• Improved soil health
• Biodiversity enhancement,
• Reduced water use and erosion on sloped lands.</td><td colspan="3">• Climate adaptation
• Pollution prevention
• Resource cycling
• Reduction of synthetic inputs</td></tr>
<tr><td>C</td><td>Local Communities</td><td>Governance</td><td>Social Value</td><td>Societal Culture</td><td>End User</td></tr>
<tr><td rowspan="4">Social Stakeholder Business Model Canvas</td><td rowspan="3">• Strengthened via farmer networks, communal training, and shared sales platforms
• Increased local food sovereignty</td><td>• Cooperative decision-making, transparent pricing, and participatory governance at local markets</td><td rowspan="3">• Enhances local food systems, supports farmer resilience, and promotes agroecological awareness</td><td>• Reinforces maize’s role as a staple food
• Promotes revival of traditional agroecological practices</td><td rowspan="3">• Urban families benefit from safe, nutritious maize
• Increased consumer trust through visible value chain</td></tr>
<tr><td>Employees</td><td>Scale of Outreach</td></tr>
<tr><td>• Smallholder farmers and cooperative members
• Involvement of youth and women in production and processing</td><td>• Targeted at Bujumbura urban and peri-urban zones scalable to other Burundian districts</td></tr>
<tr><td colspan="3">Social Impacts</td><td colspan="3">Social Benefits</td></tr>
<tr><td colspan="3">• Improved household nutrition and food access
• Job creation in cultivation and marketing
• Reduced reliance on imports</td><td colspan="3">• Healthier diets,
• Better living conditions for farmers,
• Enhanced agricultural knowledge
• Community cohesion</td></tr>
</table>

Table 10: Bujumbura Business Model

4.2.7 ALL Kamonyi In RW (Highlands/ cassava)

The business model for cassava in Kamonyi is rooted in agroecological diversification, community empowerment, and climate resilience. Developed using the Triple Layered Business Model Canvas (TLBMC), it responds to local priorities around food security, women's economic participation, and sustainable land stewardship. The model emphasizes training, value-added processing, and cultural preservation while unlocking multiple revenue streams—from cassava-based foods and by-products to eco-tourism and certification—positioning cassava as both a staple crop and a development engine for rural Rwanda.

<table>
<tr><th>A</th><th>Partners</th><th>Activities</th><th>Value Proposition</th><th>Customer Relationship</th><th>Customer Segments</th></tr>
<tr><td rowspan="4">Economic Business Model Canvas</td><td rowspan="4">NGOs,
Women's associations,
Training centers
Environmental grant providers and microfinance institutions
Local tourism boards
Cooperatives</td><td>Cassava cultivation and processing with agroecological practices
Training focused on core agroecological farming principles
Product branding and tourism engagement
Animal integration and composting systems</td><td rowspan="4">VP1. Contributes to nutrition security
VP2. Preserving traditional values
VP3. Supports women's income generation
VP4. Enhancing community well-being
VP5. Promoting environmental sustainability</td><td>Community outreach and consumer education
Cooperative marketing and storytelling around tradition and health</td><td rowspan="4">Local households and consumers
Food processors and small-scale industries
Cultural and eco-tourism markets
Cooperatives and institutional buyers</td></tr>
<tr><td>Resources</td><td>Channels</td></tr>
<tr><td>Farmer knowledge and cultural heritage
Agroecological inputs (compost, intercropping species, resilient seeds)
Processing equipment and training facilities
Women's cooperatives
Rural finance groups
Financial support, bank loans and environmental grants</td><td>Local markets, cooperatives, and processors
Direct-to-consumer sales
Tourism-linked sales and cultural fairs</td></tr>
</table>

<table>
<tr><td></td><td colspan="2">Cost Structure</td><td colspan="3">Revenue Streams</td></tr>
<tr><td></td><td colspan="2">• Inputs (manure, compost, seed cuttings)
• Training, equipment, and infrastructure
• Communications and promotion campaigns</td><td colspan="3">• Sale of cassava roots, leaves as food, cuttings (germplasm)
• Processed products: starch
• Cassava peel-derived animal feed and compost
• Eco-certified or locally branded products
• Entry into the tourism market</td></tr>
<tr><td>B</td><td>Supplies and Out-sourcing</td><td>Production</td><td>Functional Value</td><td>End of Life</td><td>Use Phase</td></tr>
<tr><td rowspan="4">Environmental Lifecycle Business Model Canvas</td><td rowspan="3">• Locally sourced inputs
• Reliance on farmer cooperatives for planting materials and organic fertilizers</td><td>• Agroecological practices
• Rainwater harvesting
• Intercropping
• Mulching
• Composting
• Pest-resilient varietal use</td><td rowspan="3">A drought-tolerant, nutrient-rich crop that supports food sovereignty, soil regeneration, and environmental resilience</td><td>• Peels and processing waste reused for compost or livestock feed
• Potential for zero-waste cassava systems</td><td rowspan="3">• Edible leaves and roots provide multi-nutrient food options
• Processed goods (starch) offer extended shelf life</td></tr>
<tr><td>Materials</td><td>Distribution</td></tr>
<tr><td>• Local cassava varieties
• Organic compost
• Mulch
• No synthetic agrochemicals</td><td>• Local and regional markets reduce food miles
• Traditional transport systems supported by community hubs</td></tr>
<tr><td colspan="2">Environmental Impacts</td><td colspan="3">Environmental Benefits</td></tr>
<tr><td colspan="2">• Reduces land degradation
• Preserves biodiversity
• Enhances adaptive capacity in the face of climate change</td><td colspan="3">• Erosion control
• Water conservation
• Organic matter enrichment
• Carbon storage through improved soil practice</td></tr>
<tr><td>C</td><td>Local Communities</td><td>Governance</td><td>Social Value</td><td>Societal Culture</td><td>End User</td></tr>
</table>

<table>
<tr><td rowspan="4">Social Stakeholder Business Model Canvas</td><td>• Empowered through access to knowledge, shared infrastructure, and diversified income opportunities</td><td>• Participatory structures within cooperatives;
• Local accountability
• Emphasis on gender inclusion</td><td rowspan="3">• Strengthens rural food systems, supports equitable income generation, and preserves agricultural identity</td><td>• Reinforces traditional knowledge and local farming customs;
• Links production to cultural events and identity</td><td rowspan="3">• Rural and urban consumers benefit from affordable, healthy, and culturally valued food options</td></tr>
<tr><td></td><td>Employees</td><td>Scale of Outreach</td></tr>
<tr><td></td><td>• Women and youth are central to production, processing, and local entrepreneurship</td><td>• Local and district-level impact, with potential for national replication in cassava-growing regions</td></tr>
<tr><td colspan="2">Social Impacts</td><td colspan="3">Social Benefits</td></tr>
<tr><td colspan="2">• Increased resilience to market and climate shocks
• Revitalization of rural economies
• Inclusion of women and youth</td><td colspan="3">• Improved household nutrition,
• Gender equity
• Job creation
• Intergenerational knowledge transfer</td></tr>
</table>

Table 11: Kamonyi Business Model

4.2.8 ALL Kabare in DRC (Highlands/ coffee)

The business model for coffee produced with agroecological practices in Kabare responds to both the potential and challenges of scaling sustainable farming in a fragile socio-political context. Developed using the Triple Layered Business Model Canvas (TLBMC), it emphasizes cooperative-led value creation, climate-smart cultivation, and inclusive market engagement. With strong social and environmental objectives, the model aims to enhance producer livelihoods, promote biodiversity, and build resilience—despite ongoing regional insecurity and market constraints.

<table>
<tr><th>A</th><th>Partners</th><th>Activities</th><th>Value Proposition</th><th>Customer Relationship</th><th>Customer Segments</th></tr>
<tr><td rowspan="3">Economic Business Model Canvas</td><td rowspan="2">Agricultural input providers
Credit institutions
Cooperatives
NGOs
Government agencies
Training centers
Certification bodies
Exporters
Fair trade networks
Certification bodies</td><td>Coffee production and processing with agroecological practices
Cooperative management and governance
Market linkage, storytelling, and awareness campaigns
Local certification (PGS)
Organic and deforestation free coffee cultivation</td><td rowspan="2">VP1. Shade-grown, organic, and climate-resilient coffee
VP2. Ethically sourced and traceable supply chain
VP3. Supports farmer solidarity and community empowerment
WP4. Promoting environmental sustainability</td><td>Relationship-building through transparency and trust
Cooperative representation in negotiations
Branding linked to sustainability and local impact
Social networks</td><td rowspan="2">International buyers of sustainable and traceable coffee
Local consumers and processors
Cooperatives
Exporters
Ethical brands</td></tr>
<tr><td>Resources
Cooperatives
Organic inputs (compost, GASD)
Shade trees, drying stations, and basic infrastructure
Grants, credit and subsidies</td><td>Channels
Door-to-door campaigns
Physical meetings, telephone outreach, and media
Export partnerships</td></tr>
<tr><td colspan="2">Cost Structure
Organic inputs,
Infrastructure maintenance
Training
Certification,
Transport, and marketing costs</td><td colspan="3">Revenue Streams
Sales of green or processed coffee
Premiums for certified or traceable products</td></tr>
</table>

<table>
<tr><td></td><td colspan="2"></td><td colspan="3"></td></tr>
<tr><td>B</td><td colspan="2">Supplies and Out-sourcing</td><td>Production</td><td>Functional Value</td><td>End of Life</td><td>Use Phase</td></tr>
<tr><td rowspan="4">Environmental Lifecycle Business Model Canvas</td><td colspan="2" rowspan="2">• Local input suppliers using low-carbon practices;
• Minimized external chemical dependency</td><td>• Shade-grown agroecology with erosion control,
• Organic pest management,
• Intercropping</td><td rowspan="3">Environmentally responsible coffee with strong biodiversity benefits and reduced chemical dependency</td><td>• Coffee waste reused for compost or biogas
• Biodegradable packaging potential for local sales</td><td rowspan="3">• Clean, chemical-free coffee that supports sustainable consumption patterns and consumer health</td></tr>
<tr><td>Materials</td><td>Distribution</td></tr>
<tr><td colspan="2">• Organic compost,
• GASD inputs,
• Native shade trees
• Resilient seed varieties</td><td>• Local and export channels via cooperatives</td></tr>
<tr><td colspan="3">Environmental Impacts</td><td colspan="3">Environmental Benefits</td></tr>
<tr><td colspan="3">• Increased soil fertility and health
• Reduced deforestation pressure
• Water conservation
• Carbon sequestration</td><td colspan="3">• Preserves biodiversity
• Regenerates degraded land
• Reduces emissions
• Aligns with EU sustainability expectations
• Farmers act as ambassadors for climate change mitigation</td></tr>
<tr><td>C</td><td>Local Communities</td><td>Governance</td><td>Social Value</td><td>Societal Culture</td><td>End User</td><td></td></tr>
<tr><td>Social Stakeholder Business Model Canvas</td><td>• Empowered through training, collective infrastructure, and income diversification</td><td>• Democratic cooperative structures with inclusive participation and accountability mechanisms</td><td>• Strengthens farmer solidarity and visibility</td><td>• Builds on community cooperation traditions and land stewardship</td><td>• Access to health-safe and ethically sourced coffee</td><td></td></tr>
</table>

	• Improved access to education, health, and housing		• Expands social services through improved income	• Promotes pride in sustainable local products	• Consumer education via direct communication and awareness initiatives
		Employees		**Scale of Outreach**	
		• Smallholder farmers, youth, and women involved in all steps of the value chain • Job creation through cooperatives		• Regional focus in South Kivu • Scalable to similar fragile zones in eastern DRC and Great Lakes region	
	Social Impacts		**Social Benefits**		
	• Higher household incomes • Climate awareness • Collective resilience in times of conflict or instability		• Access to education • Job creation • Improved housing and living conditions • Enhanced farmer solidarity and interdependence • Better working conditions • Broader social inclusion and gender equity		

Table 12: Kabare Business Model

4.3 Summary of the Initial Business Models

ALL & Crop	Value Propositions	Economic Focus	Environmental Contributions	Social Impact
Biega (DRC) – organic coffee	Premium, traceable, deforestation-free, low carbon, EU-compliant coffee	Certified organic production and local processing; export-oriented premium market	Agroforestry, reduced CO_2 emissions, composting, no synthetic inputs	Cooperative empowerment, equitable trade, improved energy access, household income
Bunia (DRC) – organic cocoa	Chemical-free, traceable, EU-compliant, producer visibility, community empowerment	Certified organic, deforestation-free cocoa. Value-added sales from improved post-harvest quality.	Agroforestry, no synthetic inputs, improved soil structure and fertility, reduced deforestation and GHG emissions	Inclusive supply chain, cooperative development, gender equity, youth engagement
Giheta (Burundi) – organic coffee	High-altitude, organic, biodiversity-friendly, locally processed, builds cooperative identity	Premium sales of certified organic and fair-trade coffee. Sales of complementary agroecological products (e.g. soy milk, beans),	Soil restoration, erosion control, pesticide reduction, shade farming	Strengthens food security, collective infrastructure use, farmer solidarity
Ntui (Cameroon) - cocoa	Traceable, high-flavour, climate-resilient, biodiversity corridors, producer visibility	Premium cocoa sales (certified, traceable) Value-added products through local processing	Agroforestry, biochar, composting, reduced deforestation	Youth and women inclusion, livelihood resilience, land stewardship
Uvira (DRC) – rice and cassava	Rice: chemical-free, water-resilient, local milling; Cassava: nutrient-dense, drought-tolerant, local processing	Community-based processing hubs, local markets, advocacy for subsidies	Water-efficient practices, composting, low-carbon logistics	Enhanced food security, access to affordable staples, cooperative structures
Bujumbura (Burundi) – maize	Nutrition-diverse, short-chain marketed, climate-smart, culturally familiar	Short supply chains, market price regulation, government support	Soil fertility restoration, biopesticides, composting, erosion prevention	Urban nutrition, knowledge transfer, increased farmer participation
Kamonyi (Rwanda) – cassava	Culturally significant, nutrition-secure, empowers women	Diverse revenue streams (starch, cuttings, eco-tourism); product and income diversification	Rainwater harvesting, mulching, compost use, minimal inputs	Women's income generation, local traditions, improved nutrition, education access
Kabare (DRC) – coffee	Shade-grown, traceable, climate-smart, cooperative-based	Fair trade coffee, local and export markets, cooperative coordination	Biodiversity preservation, compost, minimal synthetic inputs	Strong community cohesion, education, income, and gender inclusion

Table 13: Summary of Initial Business Models

4.3.1 Overview of the common elements across the ALLs

Across the eight Agroecology Living Labs, several key patterns and shared features emerge:

1. **Cooperative-Centered Models**: Every business model depends heavily on strengthening or forming cooperatives to manage production, processing, marketing, and capacity building. Cooperatives are essential vehicles for reducing costs, enabling collective bargaining, and improving market access.
2. **Environmental Sustainability**: All models rely on agroecological practices that regenerate soil fertility, improve water management, reduce agrochemical use, and promote biodiversity—often through agroforestry or organic composting.
3. **Local Value Addition**: Whether through community-based milling, small-scale processing units, or branding efforts, value addition near the point of production is a core strategy for increasing returns to farmers.
4. **Short and Ethical Supply Chains**: While export potential is emphasized in coffee and cocoa models (Biega, Giheta, Kabare, Ntui, Bunia), there is a strong focus on local and regional markets for staples (Uvira, Kamonyi, Bujumbura), relying on traceability, transparency, and cultural relevance.
5. **Traceability** is emphasized in export-oriented crops (coffee and cocoa), particularly in Bunia, Ntui, and Biega, where compliance with EU deforestation regulations offers market access advantages.
6. **Training and Knowledge Transfer**: All models propose training hubs, demonstration plots, or farmer field schools as foundational elements—viewed as prerequisites for agroecological transition.
7. **Social Equity**: All business models integrate gender and youth inclusion goals, highlighting empowerment, especially for women in cassava (Kamonyi) and maize (Bujumbura), and for youth in cocoa (Ntui).
8. **Participatory Guarantee Systems (PGS):** While at varying stages of implementation, most ALLs recognized the need for localized, low-cost certification systems to build trust and market recognition for agroecological products. PGS emerged as a cross-cutting mechanism particularly suited for domestic and regional markets, where third-party certification is often financially or logistically inaccessible. In contexts like Uvira, Bujumbura, and Kamonyi—where consumer awareness is still growing and formal certification is limited—PGS was viewed as a vital enabler of transparency, quality assurance, and farmer empowerment. Meanwhile, in export-focused ALLs such as Bunia and Giheta, PGS can complement or prepare for more formal traceability systems, serving as an entry point to certified markets.

4.3.2 Feasibility of business models, constraints and challenges

Feasibility

The business models built around staple crops such as cassava, rice, and maize show strong feasibility due to their deep cultural embeddedness and alignment with local food security needs. These models primarily target local and regional markets, which involve fewer regulatory barriers compared to international exports, and allow for shorter, more adaptable supply chains. Their feasibility is further reinforced by the use of familiar crops, well-understood cultivation practices, and existing consumer demand.

In Bujumbura and Kamonyi, for example, the integration of culturally significant foods like maize and cassava into agroecological production is likely to generate acceptance among both producers and consumers. Similarly, in Uvira, rice and cassava are daily staples, making them ideal entry points for agroecological transition. These models also benefit from relatively **low logistical complexity**—processing and distribution can be managed locally, reducing dependency on external actors and infrastructure.

However, the **limiting factors** remain substantial. Many farmers face restricted access to organic inputs such as compost, manure, and biopesticides, as well as a lack of technical support and storage facilities. Additionally, **local purchasing power is constrained**, which can limit the premium consumers are willing or able to pay for products produced with agroecological practices. This makes it difficult for producers to capture added value unless accompanied by **subsidies, awareness campaigns, or institutional demand** (e.g. public procurement for schools or hospitals).

Overall, these models offer a relatively high probability of successful implementation in the short to medium term—**provided that support structures are strengthened**, including financial mechanisms, training programs, and participatory certification schemes like PGS to reinforce credibility and differentiation in the marketplace.

Business models focused on export-oriented agroecological crops—such as coffee and cocoa—exhibit moderate to high feasibility due to strong international demand for traceable, ethically sourced, and environmentally sustainable products. These models aim to tap into premium markets, especially in the EU and North America, where there is growing interest in organic, deforestation-free, and socially responsible commodities.

However, capturing these opportunities requires **compliance with strict international standards**, including third-party certification (e.g., organic, fair trade, EU deforestation regulation compliance) and the implementation of **robust traceability systems**. These systems are not only essential for market access but also for ensuring transparency and building buyer trust. The challenge lies in the **significant upfront investments** needed to establish these systems—covering training, digital tools, auditing, and supply chain coordination—as well as the need for sustained **technical capacity and cooperative governance** to manage them.

Despite these barriers, feasibility is strengthened by several enabling factors already present in the ALLs. In **Giheta**, for example, previous success in obtaining organic certification has built institutional experience and producer confidence. **Biega** benefits from established export relationships and recognition of its coffee's unique terroir and sustainable practices. **Ntui** and **Bunia** are actively building

cooperative networks and traceability mechanisms, which, while still evolving, form a solid foundation for future compliance. In **Kabare**, the emphasis on cooperative solidarity and community-driven value chains is a social asset that can support certification and quality control efforts, even in a context challenged by political instability.

Ultimately, the **feasibility of these models hinges on sustained external support**, including public and private investment, technical assistance, and policy alignment—particularly in helping producers meet certification requirements and navigate international regulations. If these enabling conditions are met, the models hold significant potential to deliver **high returns and long-term sustainability** by connecting local producers to high-value ethical markets.

Constraints and challenges include:

- Weak infrastructure and processing capacity
- Market volatility and insecurity
- Limited access to finance and credit, particularly for women and youth
- Limited access to organic inputs
- High cost of organic inputs
- Limited technical and financial resources available to public agricultural departments
- Consumer awareness gaps, especially for agroecological differentiation
- Limited access to land
- Higher production costs associated with agroecological production
- Resistance to change among farmers
- Limited local purchasing power
- Ongoing insecurity and instability in South Kivu province

5. Conclusions, next steps and recommendations

5.1 Conclusions and next steps

5.1.1 Overall assessment of the potential for agroecological business model innovation.

The work carried out across the eight Agroecology Living Labs (ALLs) demonstrates a strong and diverse potential for agroecological business model innovation. Through participatory focus groups, it became clear that agroecological strategies can generate economic value while supporting environmental sustainability and social inclusion. Across diverse agroecological and socio-economic contexts—from traceable cocoa in forest-savannah mosaics to culturally significant cassava in drought-prone hills—farmers and stakeholders have envisioned actionable business models grounded in real needs, opportunities, and traditions.

These models consistently emphasized:

- Cooperative-led governance and cost-sharing;
- Local value addition and short supply chains;
- Environmentally sustainable farming practices;
- Social inclusion, especially for women and youth;
- Product differentiation through traceability, health benefits, or cultural value.

While significant challenges remain—such as market instability, access to finance, consumer awareness, and infrastructure gaps, the focus group process revealed high local motivation to engage in agroecological transition, especially when combined with technical support and fair market access.

5.1.2 The importance of continuous collaboration and support

The transition to sustainable and inclusive agroecological business models is not a linear process—it requires an ecosystem of collaboration and support that spans technical, institutional, and social domains. The work conducted through the Agroecology Living Labs (ALLs) so far has clearly demonstrated the value of **multi-actor engagement**, where farmers, cooperatives, researchers, policy actors, and private sector stakeholders co-design innovative solutions rooted in local realities.

However, the durability and success of these solutions depend on more than initial co-design. Ongoing collaboration is needed to ensure that business models evolve with changing environmental conditions, market dynamics, and community needs. Institutional support—from local governments, research institutions, financial actors, and certification bodies—is essential to create an enabling environment for agroecological innovation. Equally, continuous engagement with communities ensures that the models remain inclusive, socially embedded, and resilient.

5.1.3 Vision for the future of agroecological transitions in the region

The agroecological business models co-designed across the ALLs in Burundi, DRC, Rwanda, and Cameroon reflect a broader vision: one where sustainable agriculture, social equity, and economic viability converge. These models place smallholder farmers and their communities at the center of food systems transformation, using local knowledge, ecological practices, and cooperative governance as levers for change.

Looking forward, agroecological transitions in the region can serve as a blueprint for more inclusive and climate-resilient rural development. By advancing environmentally sustainable practices—such as composting, intercropping, agroforestry, and low-input production—and combining them with value-added local processing and fair-trade mechanisms, these models respond to urgent global and local challenges alike: food insecurity, biodiversity loss, youth unemployment, and economic inequality.

The models also point to a pluralistic future—one that recognizes multiple pathways to sustainability. Whether through locally branded cassava for nutrition security, traceable coffee for export, or maize marketed through short supply chains, the business models demonstrate that agroecology is not a one-size-fits-all solution but a flexible and context-sensitive approach to transforming food systems.

5.1.4 Next steps

The models presented in this deliverable represent the first iteration of sustainable and inclusive business model innovation. In the next phase of the project, these models will enter a process of real-world validation and refinement. Next steps include:

- **Development of Minimum Viable Business Models (MVBs):** The initial business models will be translated into simplified, testable versions that can be implemented at the local level. These MVBs will help validate the assumptions underlying each model.
- **Field Testing in ALLs:** Local partners will engage directly with farmers, cooperatives, processors, and other stakeholders to test and observe the functioning of MVBs in real-life settings.
- **Data Collection and Analysis:** Feedback on the performance, acceptance, and feasibility of the MVBs will be gathered through participatory evaluation and structured monitoring. This data will be analysed to assess viability, scalability, and required improvements.
- **Iterative Refinement:** Based on the insights generated through testing, each business model will be refined and adapted. Adjustments will reflect both observed outcomes and stakeholder feedback, ensuring models remain relevant and actionable.
- **Delivery of Final Business Models:** The full set of validated, sustainable, and inclusive business models will be included in the updated version of this deliverable.

5.2 Recommendations

This section outlines a set of cross-cutting recommendations derived from the business model co-design process conducted across the eight Agroecology Living Labs (ALLs). These recommendations respond to recurring challenges and opportunities and are intended to guide implementation, scaling, and policy support in the next phase of the project.

Strengthen Farmer Cooperatives and Producer Organizations

Across all ALLs, cooperatives emerged as central actors in delivering agroecological value—from training and knowledge exchange to input distribution, processing, and market access. Strengthening their internal governance, financial management, and service delivery capacities is critical.

Develop Participatory Guarantee Systems (PGS)

Participatory Guarantee Systems (PGS) offer a low-cost, locally driven alternative to third-party certification, especially in domestic and regional markets. PGS empower farmers, build consumer trust, and create shared accountability mechanisms. Establishing or reinforcing PGS in each ALL will help formalize agroecological practices, enhance market visibility, and promote equitable value distribution. (Annex IV)

Support Decentralized Processing and Local Value Addition

Local processing—whether milling, fermenting, drying, or packaging—helps farmers retain more value, reduce transportation costs, and create jobs. Investing in small-scale, community-managed infrastructure and cooperative branding can improve profitability and product differentiation.

Expand Agroecological Training and Demonstration Networks

The need for hands-on, context-specific training was identified in all ALLs. Establishing farmer field schools, model plots, and agroecological training hubs can strengthen capacity, promote peer learning, and increase adoption. These should be embedded within cooperatives or local institutions to ensure sustainability.

Invest in Youth and Women's Inclusion in Agroecological Enterprises

Women and youth play critical roles in food production, processing, and marketing. Targeted support for their participation in leadership, training, and entrepreneurship can accelerate adoption and improve equity**.**

Launch Consumer Awareness and Education Campaigns

A lack of consumer differentiation between products of agroecological practices and conventional products was a major constraint, particularly in ALLs targeting local markets. Education campaigns—via radio, markets, schools, and digital tools—are essential to increase understanding of the health, environmental, and cultural benefits of agroecological food.

Facilitate Knowledge Exchange Across ALLs

Despite diverse contexts, ALLs share many challenges and innovations. Facilitating cross-ALL exchange visits, joint trainings, or knowledge-sharing platforms can promote learning, accelerate scaling, and foster a shared identity around agroecological entrepreneurship. Moreover, some ALLs that have already undergo a certification process could transfer their know how to other ALLs that

stand at the beginning of the process (e.g. certification with the East Africa Standard for Organic Agriculture for cassava produces in Giheta).

In summary, the agroecological business models co-designed across the Agroecology Living Labs offer a solid foundation for transforming local food systems through sustainability, equity, and resilience. Their success, however, hinges on the implementation of coordinated, cross-cutting strategies that go beyond individual farms or communities. Strengthening cooperatives, embedding Participatory Guarantee Systems, supporting decentralized value addition, and enabling inclusive training and governance structures are not just technical recommendations—they are vital enablers of long-term viability. When backed by policy alignment, consumer engagement, and peer learning across ALLs, these models can evolve into scalable, regionally embedded solutions. With continued collaboration and targeted support, they have the potential to catalyse a broader agroecological transition across Central and East Africa—empowering communities while restoring ecosystems and securing livelihoods.

Annex I: Supporting material for Focus Groups

Guidelines for Organizing Focus Groups

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1. Recruiting Participants

1.1 Identify Key Participants

Identify and invite participants who are representative of the various stakeholders involved in agroecological practices:

- Small-scale farmers
- Members of cooperatives
- Local traders/ intermediaries
- Representatives of processing companies
- Exporters
- Researchers
- Policy Makers and Government Representatives
- Training and Extension Service Providers

Aim for 6-10 participants per focus group to ensure manageable and productive discussions. Consider diversity in terms of age, gender, and roles within the agroecological ecosystem. Ensure that participants understand the purpose of the focus group and their role in it.

1.2 Invitation Process

Send personalized invitations explaining the purpose of the focus group, its importance, and the role of participants. To assist you in this task, we have included a short list of the objectives of the focus groups:

- Identify Key Steps in Agroecological Business Model Innovation
- Assess Resource Requirements and Feasibility of the value propositions
- Develop Comprehensive Training Programs
- Formulate Value Creation and Appropriation Strategies
- Outline Initial Co-designed Business Models

Follow up with phone calls or visits to confirm participation.

2. Preparation

2.1 Materials

Soon we will send a generic discussion guide and a focus group agenda that you will tailor to the specific situation of your focus group. We will also include an informed consent form for audio recording and for taking photos and videos and a structured reporting template to assist you in documenting key findings from the discussions.

We will also send you a background information packet to be send to the participants before the focus group meeting. Review the background information package (detailed below) to ensure you can answer any questions participants might have. Send the background information package to participants at least one week before the focus group meeting.

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Contents of the background information package:

1. Sample Email to Focus Group Participants
2. Project's leaflet
3. Overview of the Focus Group Process
4. Focus Group Agenda
5. The Triple Layered Business Model Canvas
6. Informed Consent Form
7. Overview of Value Propositions

2.2 Logistics

Think about what kind of equipment you will need and arrange for its availability. You may need one or more laptops, a projector or a big screen and a printer. If you choose to record the discussions with audio recorders you will need to bring with you at least two of them.

Ensure availability of stationery (e.g., notepads, pens, etc.)

Assign responsibilities to your staff. You will need at least one moderator and one rapporteur. Consider if they need a brief training session on focus group facilitation techniques (see section 4 for some relevant information).

3. Selection of place and date

3.1 Venue

Choose a neutral, easily accessible location that is comfortable and free from distractions.

Ensure the venue can accommodate all participants with adequate seating and space.

3.2 Date and time

Select a date and time convenient for most participants, considering their availability and preferences.

Avoid peak agricultural seasons or local events that might affect attendance.

3.3 Duration

A focus group session is expected to last 3 hours. You may expand this time frame but only if you have good reasons.

4. Moderation

4.1 Role of the moderator

Prepare thoroughly, understanding the objectives and key topics of discussion.

Introduce the session, explaining the purpose, agenda, and ground rules.

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Encourage participation from all members, ensuring balanced contributions.

Use open-ended questions to stimulate discussion and probe deeper into responses.

Manage time effectively, keeping the discussion on track.

4.2 Facilitation Techniques

Create a welcoming atmosphere to make participants feel comfortable and valued.

Actively listen and show empathy, validating participants' contributions.

If needed, handle conflicts or dominant participants diplomatically to maintain group harmony.

5. During the meeting

5.1 Recording

You need to choose between 2 potential recording methods:

1. Audio recorders, provided that the participants are informed, and written consent has been obtained.
2. Handwritten notes. In this case you need to assign rapporteur duties to one or more of your staff members (**not the moderator**).

5.2 Photos and videos

Explain the purpose of taking photos and videos: "We would like to document the focus group for our project records and to share our progress with stakeholders. Photos and videos can help illustrate our work and its impact."

Obtain explicit written consent from all participants before taking any photos or videos. Use the informed consent form that has been sent to you. Explain how the images and videos will be used and ensure they understand their rights.

Ensure that all personal data collected (including images and videos) is stored securely and only accessible to authorized personnel.

Take photos and videos that focus on group activities, discussions, and interactions rather than individual participants.

Use photos and videos to highlight key moments, collaborative efforts, and outcomes of the focus group.

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6. Reporting

6.1 Documentation

Summarize key findings from the focus group discussions, highlighting common themes, challenges, and opportunities. It is highly recommended to use the reporting template that has been sent to you.

Include direct quotes to illustrate points but maintain anonymity.

6.2 Feedback

Provide a summary report to participants, acknowledging their contributions and explaining how their input will be used.

Discussion Guide for Focus Group Moderators

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1. Introduction

Expected duration: 15 minutes

1.1 Welcome Participants

Greet everyone warmly and thank them for their participation.

Introduce yourself and the note-taker (rapporteur).

1.2 Purpose and Objectives

Explain the purpose of the focus group: "We are here to discuss and co-design sustainable business models for agroecological practices in our region. Your insights and experiences are crucial for this process."

1.3 Agenda Overview

Provide a brief overview of the topics to be covered:

- Chain of Events for Business Model Innovation
- Analysis of Value Propositions
- Co-design of Sustainable Business Models
- Conclusions

1.4 Ground Rules

Establish ground rules for the discussion:

- Respect each other's opinions.
- Allow everyone to speak.
- Keep comments concise and relevant.
- Confidentiality will be maintained.

1.5 Consent

Inform participants that photos and videos will be taken during the meeting for dissemination and communication purposes

If you have decided to record the discussions, please inform participants that the session will be recorded for accuracy.

Obtain written consent from all participants both for taking photos and videos and for audio recording (if you do it). A relevant informed consent form has been sent to the participants as part of the background information package.

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2. Chain of Events for Business Model Innovation

Expected duration: 45 minutes

2.1 Discussion Points

"Let's start by discussing the steps necessary to create a successful agroecological business model."

Ask open-ended questions to explore each step:

- **Training**: "What type of training do stakeholders need to understand and adopt agroecological practices effectively?"
- **Strategy Formation**: "What strategies are important for implementing these practices?"
- **Value Creation**: "How can we create value from these agroecological practices?"

2.2 Key Activities and Resources

"What key activities and resources are essential at each step of the process?"

Probe for specifics, e.g., "Can you give an example of a key activity during training?"

2.3 Stakeholders Involved

"Who are the key stakeholders involved in each step?"

Encourage participants to discuss their roles and contributions.

3. Analysis of Value Propositions

Expected duration: 45 minutes

3.1 Evaluation of Value Propositions

"Now, let's analyze the value propositions that were sent to you previously."

Ask participants to discuss each proposition:

- "What do you think about this value proposition?"
- "Are the resources already identified sufficient?"
- "What other resources are needed to make these value propositions successful?"
- "Are the revenue streams already identified attainable?"
- "What other potential revenue streams can we identify for these value propositions?"
- "Is it feasible to implement these value propositions and to create a sustainable business model? Why or why not?"
- "What challenges might we face?"

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4. Co-design of Sustainable Business Models

Expected duration: 60 minutes

4.1 Environmental Life Cycle Layer

Briefly explain the concept of the environmental life cycle: "The environmental life cycle looks at the impact of our agroecological practices from the beginning to the end, including raw material extraction, production, use, and disposal. Our goal is to minimize negative impacts and enhance sustainability.

Ask participants to discuss the following questions:

- "What environmental benefits have you observed from using agroecological practices on your crops?" Probe for specific examples, such as improved soil health, reduced chemical use, and increased biodiversity.
- "How can we minimize the use of synthetic fertilizers and pesticides?"
- "How do we manage irrigation and water use for our crops?" "What techniques can we adopt to improve water efficiency?"
- "How do we handle waste and by-products from our agroecological practices?" "What sustainable disposal methods can we implement?"
- "What challenges have you faced in implementing environmentally sustainable practices?" "What solutions have you found effective or would like to try?"
- "Who are potential partners for promoting environmental sustainability?"
- "What type of training or financial support would be helpful?"

4.2 Social Stakeholder Layer

Briefly explain the concept: "The Social Stakeholder Layer examines the impact of our agroecological business models on people and communities. Our aim is to ensure that the business models are socially inclusive, fair, and beneficial to all stakeholders." Discuss stakeholder relationships, social benefits, and ways to address potential social challenges.

Ask participants to discuss the following questions:

- " Who are the key stakeholders in our agroecological value chain?" "What roles do they play, and how are they affected by our practices?"
- What are the main needs and expectations of farmers regarding agroecological practices?"
- "What do local communities expect from these practices in terms of social and economic benefits?"
- "How have these practices contributed to community cohesion and empowerment?"
- "What are the needs and expectations of other value chain actors (transporters, producers, wholesalers, consumers etc.?"

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- "What social benefits have you observed or experienced from adopting agroecological practices?" Examples might include improved livelihoods, better health outcomes, increased community cohesion, and empowerment of marginalized groups.
- "What social challenges have you encountered or expect to encounter in implementing agroecological practices?"
- "How can we ensure that our business models are inclusive and benefit marginalized groups?"
- "How can we collaborate with local communities, NGOs, and government bodies to improve social outcomes?"
- "What community engagement activities can we implement to build trust and foster cooperation?"

4.3 Collaborative Refinement

"What ideas do you have for improving this business model?"

Encourage participants to suggest and discuss modifications.

5. Conclusion

Expected duration: 15 minutes

5.1 Summary of Key Points

Summarize the main points discussed during the session.

5.2 Final Questions and Comments

"Do you have any final questions or comments?"

5.3 Next Steps

Explain the next steps in the process: "We will compile all the insights from this focus group and use them to refine our business models. Your contributions will directly impact the final design."

5.4 Thank Participants

Thank everyone for their time and valuable contributions.

Inform them how they can stay updated on the project's progress.

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6. Tips for Moderators

- Active Listening: Pay close attention to participants' responses and follow up with probing questions to gain deeper insights.
- Encouragement: Encourage quieter participants to share their thoughts and ensure that all voices are heard.
- Time Management: Keep track of time to ensure all topics are covered within the allocated time.
- Neutrality: Remain neutral and avoid leading participants towards any particular viewpoint.

Consent form for focus groups

< INSERT PARTNER LOGO >

Text included in < > and/or highlighted with yellow should be replaced with content that is suitable to the context of each activity as well as to the organisation seeking to obtain the consent.

Before using this template take the time to carefully read and adjust it to the needs of the activity at hand as well as to any relevant regulations and particularities applicable to your country and organisation.

INFORMED CONSENT FORM

Who we are:

We are < Insert Partner Name > and we are contacting you in the framework of CANALLS, a project funded by the European Union under the Horizon Europe Framework Programme for Research and Innovation. A detailed description on how CANALLS handles personal data is presented in the Privacy Policy available on our project's web page https://www.canalls-project.eu/privacy-policy.

Project:

CANALLS – Driving agroecological transitions in the humid tropics of Central and Eastern Africa through traNsdisciplinary Agroecology Living LabS (GA Number 101083653).

Partner:

Organisation name: < Insert Partner Name >

Address: < Insert Partner Address >

Phone: < Insert Partner Phone >

E-mail: <Insert Partner Generic E-mail Address >

Responsible persons:

#	Role	Name	E-mail
1	CANALLS Project Manager	<Insert name of project manager from your organisation>	<Insert e-mail of project manager from your organisation>
2	Focus Group Moderator	<Insert name of moderator from your organisation >	<Insert e-mail of moderator from your organisation>

What do we need from you?

We need you to participate in a focus group meeting that will be carried out by the CANALLS project with a view to co-design inclusive sustainable business models for agroecological transitions.

The focus group meeting is expected to last about 3 hours. We will take written notes and we will be making an <audio recording> of the interview. Moreover, we will be taking photos and videos.

To effectively conduct this focus group meeting, we need to process some of your personal data:

1.

Consent_Form_focus groups.docx Page 1 from 3

- Your contact details (full name, email, phone number);
- Some basic demographics (age, gender, region, country);
- Your professional info (organization, job position, field of expertise);
- Your opinions on the subject matter.
- Your voice, face images and videos

Why do we need your data and what will we do with them?

We need your contact details to contact you in order to plan and carry out the aforementioned focus group meeting and to resolve any ambiguities, questions and other issues that may arise after, as a result of the meeting. Your demographics and professional info will help us to better analyse the findings of the focus group meeting. We also need to record your voice to keep track of the discussions that will take place during the focus group meeting. Finally, we need your photos and videos as a proof of our work and its impact and also for communication and dissemination purposes to comply with our project's publicity obligations.

The project's deliverables that will be derived by the focus group meeting will not include your personal data or any other information that could identify you. Your personal data will remain on our written notes (interview transcript) and the sound recording we will make during the interview. Your photos and videos will be posted in the project's website (https://www.canalls-project.eu/) and its social media channels (LinkedIn, Twitter, YouTube, Facebook).

We will share your data with a few other CANALLS project partners that are also involved in this task and will participate in the drafting of the relevant deliverables. We are also obliged to grant access to your data to:

- EU officials such as our Project Officer for purposes related to project's evaluation.
- EU agencies and other authorities for project's auditing purposes.

We would also be grateful if you gave us your consent to also contact you in the future to ask you to participate in other project activities (e.g. surveys, interviews, project events etc.) and also to inform you about the project progress (e.g. by sending you a newsletter or similar messages).

How can you withdraw your consent?

You should know that you can withdraw your consent at any time by communicating either on the phone or by email with the responsible persons listed in the previous page. With regards to the informational messages and newsletters you can always opt out by simply clicking the link "Unsubscribe" or something similar included at the end of all the relevant messages.

< INSERT PARTNER LOGO >

I hereby give my consent to the processing of my personal data needed for:

*(Please, tick the boxes below to confirm that you give us your consent for the respective subject. Any boxes left unticked mean that **you do not consent to the relevant subject**.)*

#	Consent Subject	Tick box
1	My participation in a focus group meeting that will be carried out by CANALLS to co-design inclusive sustainable business models for agroecological transitions	
2	I give permission to < Insert Partner Name > take photos and videos of me. These photos and videos will used for promoting the CANALLS project according to the project's relevant contractual obligations	
3	My participation in future activities of CANALLS	
4	Receiving newsletters and messages regarding CANALLS activities	

Name of participant _____ Date _____ Signature _____

Sample agenda for focus groups

CANALLS

"Driving agroecological transitions in the humid tropics of Central and Eastern Africa through traNsdisciplinary Agroecology Living LabS"

GA Number 101083653

SAMPLE AGENDA FOR FOCUS GROUPS

Date:	
Location:	

Funded by the European Union under GA no. 101083653. Views and opinions expressed are however those of the authors only and do not necessarily reflect those of the European Union or REA. Neither the European Union nor the granting authority can be held responsible for them.

Time	Topic
09:00 – 09:15	Introduction
✓ Welcome participants ✓ Introduce the moderator and note-taker (rapporteur) ✓ Explain the purpose, objectives, and agenda ✓ Establish ground rules and obtain consent for recording (if audio recording will take place) & photos/ videos taking	
09:15 – 10:00	Chain of Events for Business Model Innovation
✓ Training phase ✓ Strategy formation ✓ Value creation ✓ Key activities, resources, and stakeholders involved in each step	
10:00 – 10:45	Analysis of value propositions (economic layer)
✓ Review the value propositions selected in Task 5.2 ✓ Analyze the key resources required, the potential revenue streams and the foreseen challenges ✓ Assess the feasibility of the value propositions	
10:45 – 11:00	Short Break
11:00 – 12:00	Co-design of sustainable business models (environmental and social layer)
✓ Environmental benefits ✓ Resource Efficiency and Conservation ✓ Life-cycle Analysis ✓ Stakeholder Engagement and Social Impact ✓ Community Resilience and Well-being ✓ Ethical Considerations and Fair Trade Practices	
12:00 – 12:15	Conclusion
✓ Summarize key points discussed ✓ Address any final questions or comments ✓ Explain next steps and how the information will be used ✓ Thank participants for their time and contributions	

Overview of the focus group process

< INSERT PARTNER LOGO >

Overview of the Focus Group Process

Purpose of the Focus Group

The focus group is designed to gather valuable insights and feedback from key stakeholders involved in agroecological practices. The primary objective is to co-design and validate inclusive and sustainable business models that can drive agroecological transitions in Central and Eastern Africa. Your participation will help shape the strategies and actions needed to achieve these goals.

Structure of the Focus Group

The focus group will be structured around a series of discussions guided by a moderator. The key topics to be discussed are the following:

- **Chain of Events for Business Model Innovation:**
  - Discussion on the sequence of activities from training and strategy formation to value creation.
  - Identification of key activities, resources, and stakeholders involved in this process.
- **Analysis of Value Propositions:**
  - Overview of the value propositions developed in a previous project's task.
  - Evaluation of the feasibility, required resources and potential challenges of each value proposition.
- **Co-design of Sustainable Business Models:**
  - Introduction to the Triple Layered Business Model Canvas.
  - Collaborative development of business models focusing on economic, environmental, and social sustainability.
- **Conclusion:**
  - Summary of key insights and recommendations.
  - Next steps and follow-up actions.
  - Closing remarks and appreciation for participants' contributions.

Roles and Responsibilities

- **Moderator:**
  - Facilitates the discussion, ensures that all topics are covered, and encourages participation from all attendees.
  - Guides the group through the agenda and ensures that the discussion remains focused and productive.
- **Participants:**
  - Share their experiences, insights, and perspectives on agroecological practices and business model innovation.
  - Engage in collaborative discussions to co-design and validate sustainable business models.

Data Collection and Reporting

- **Recording:**
  - The focus group discussions will be recorded to capture all insights accurately. Consent for recording will be obtained from all participants.

Overview of the Focus Group Process.docx Page 1 from 2

- All personal data will be handled in compliance with data protection laws, ensuring confidentiality and respect for participants' privacy.

- **Reporting:**
  - After the focus group, a report will be compiled, summarizing the discussions, key insights, and recommendations. This report will be shared with all participants and relevant stakeholders.

Reporting template

< INSERT PARTNER LOGO >

CANALLS Project: Focus Group Reporting Template

Focus Group Identification

- **Country:** (e.g., Democratic Republic of Congo, Burundi, Cameroon, Rwanda)
- **Agroecology Living Lab Location:** (Specify the exact location of the ALL)
- **Date of Focus Group:**
- **Moderator:**
- **Note-taker (Rapporteur):**

1. Participant Information

- **Number of Participants:**
- **Stakeholder Groups Represented:** (Mark with X or specify number of participants per group)
  - Small-scale farmers [ ]
  - Members of cooperatives [ ]
  - Local traders/ intermediaries [ ]
  - Representatives of processing companies [ ]
  - Exporters [ ]
  - Researchers [ ]
  - Policy Makers and Government Representatives [ ]
  - Training and Extension Service Providers [ ]
  - Other (please specify .....) [ ]

2. Key Findings: Chain of Events for Business Model Innovation

- **Training and Strategy Formation:**
  - Key insights on training needs and strategies discussed.
- **Value Creation:**
  - How can we create value from these agroecological practices?
  - Barriers to value creation identified by participants.
- **Implementation Steps:**
  - Proposed steps for implementing the agroecological business model innovation.

Reporting Template.docx Page 1 from 4

- Any sequence of activities or processes highlighted as critical.
- Key stakeholders involved in each of the above activities.

3. Feasibility of Value Propositions

- **Overview of Value Propositions Assessed:**
  - List the value propositions reviewed during the session.
- **Resources Required:**
  - Key resources (financial, human, physical, etc.) identified for each value proposition.
  - Potential challenges in mobilizing these resources.
  - Are these resources sufficient?
  - Other resources needed
- **Revenue Potential:**
  - Assessment of expected revenue streams or economic benefits from each value proposition.
  - Potential challenges in securing these revenue streams.
  - Additional revenue streams (if any)
  - Feasibility assessment of value propositions the based on participants' feedback (e.g., high, medium, low).

4. Co-Design of Sustainable Business Models Using the Triple Layered Business Model Canvas

Economic Layer

- **Customer Segments:**
  - Who are the target customers identified?
- **Channels**
  - How will we reach our customer segments?
- **Cost Structure:**
  - Main sources of revenue discussed.
  - Primary costs involved and how they can be managed or minimized.
- **Key Partnerships**
  - Network of suppliers and partners that make the business model work

Environmental Life Cycle Layer

- **Environmental Benefits:**
  - Positive environmental outcomes of our business model (e.g. soil health, reduced chemical use, increased biodiversity).
- **Environmental harm**
  - Negative environmental outcomes of our business model.
- **Supplies and outsourcing:**
  - Use of synthetic fertilizers and pesticides
  - Other issues relevant to supply chain and logistics.
- **Production**
  - Water efficiency
  - Waste and by-products
  - Other issues associated with our production processes
- **Sustainability Practices:**
  - Highlight practices proposed to enhance environmental sustainability.
  - Challenges faced when implementing these practices.
  - Proposed solutions.
  - Potential Partners for promoting environmental sustainability.

Social Stakeholder Layer

- **Stakeholder Needs and Benefits:**
  - Identification and roles of key stakeholders.
- **Social value and impact:**
  - How does our business model create benefits for its stakeholders, and society more broadly?
  - Which are the broader social impacts of our business model, including contributions to social well-being and addressing societal challenges such as equity, inclusiveness, and fair treatment of stakeholders.
  - What social challenges have you encountered or expect to encounter in implementing agroecological practices
- **Social benefits:**
  - Expectations and potential social benefits for farmers.

- Expectations and potential social benefits for local communities (e.g. job creation, community development, cohesion and empowerment etc.).
- Expectations and potential social benefits for other stakeholders/ value chain actors (e.g. transporters, producers, wholesalers, consumers etc).

- **Towards better social outcomes**
  - Identified actions for ensuring that our business models are inclusive, and benefit marginalized groups.
  - Identified community engagement activities for building trust and fostering cooperation.
  - Proposed partners for better social outcomes (e.g. NGOs, and government bodies).

5. Recommendations and Next Steps

- **Recommendations for Refining Business Models:**
  - Any suggestions from participants to improve the proposed business models.
- **Next Steps:**
  - Outline agreed-upon next steps or actions to be taken post-focus group (if any).

6. Challenges Encountered

- **Facilitation Challenges:**
  - Issues faced during the facilitation of the focus group (e.g., language barriers, lack of engagement).
- **Content-Related Challenges:**
  - Difficulties in achieving consensus on value propositions or business model components.

7. Additional Comments

- Include any other insights or feedback that did not fit into the above sections.

8. Contact Information of the Report Compiler

- Name:
- Organization:
- Email:
- Phone Number:

Annex II: Value Proposition Canvas

The Value Proposition Canvas is a strategic tool designed to ensure that a product or service aligns with what customers value and need. By systematically analysing both customer needs and the value provided, businesses and other organizations can create, test, and refine propositions that resonate strongly with their target customers and stakeholders.

The **Value Proposition Canvas**[5] is composed of two parts: Customer Profile (Figure 1, right) and Value Map (Figure 1, left).

With the **Customer Profile** we visualise, understand and track the customers we intend to create value for. More particularly, we describe:

- **Customer Jobs**, i.e. that the customers are trying to get done. These jobs may be functional (like getting from A to B), social (like building a good reputation) or emotional (like gaining peace of mind).
- **Customer Pains**, which represents the hurdles that annoy the customers while they are trying to get their job done. They are the negative outcomes that customers hope to avoid, like dissatisfaction about existing solutions and challenges, frustrations, risks or obstacles related to performing a job.
- **Customer Gains** describe how customers measure the success of a job well done, for example through concrete results, benefits and aspirations.

With the **Value Map** we make explicit how our products and services will relieve pains and create gains for customers. We use it to design, test and iterate our value proposition until we come up with a proposition that resonates with the customer profile. More particularly, we describe:

- The **Products and Services** that the value proposition builds on.
- The way these products, services and features act as **Pain Relievers**, how they reduce or eliminate pains customers care about, making their life easier.
- The way these products, services and features act as **Gain Creators,** producing, increasing or maximizing the outcomes and benefits that customers expect, desire or would be surprised by.

A fit between **Customer Profile** and the **Value Map** is achieved by creating a clear connection between what matters to customers and how the provided services ease pains and create gains. **Great value propositions target essential customer jobs, pains and gains with clarity and accuracy.**

[5] Osterwalder, A., Pigneur, Y., Bernarda, G., Smith, A., Papadakos, T., Kyhnau, J., & Nielsen, C. (2015). Value Proposition Design. *Journal of Business,* Vol. 3, No. 1, pp. 81-89.

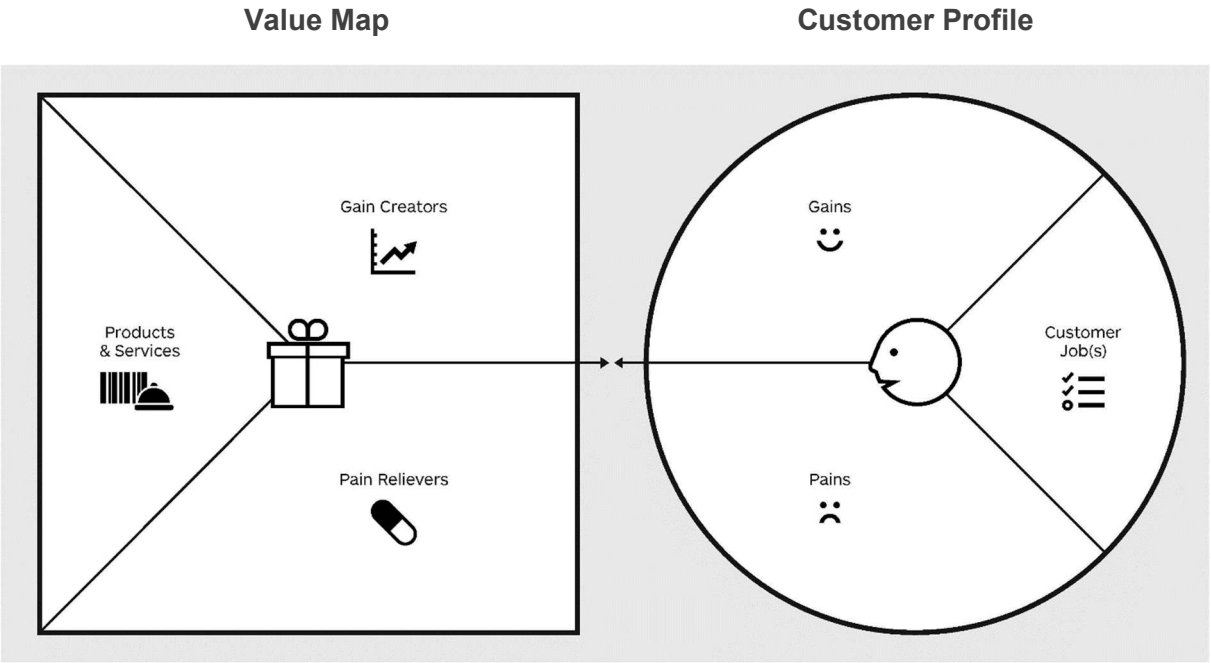

Figure 10. Conceptual representation of the Value Proposition Canvas.

Source: https://www.strategyzer.com/library/the-value-proposition-canvas

Annex III: Triple Layered Business Model Canvas

The Triple Layered Business Model Canvas (TLBMC)[6] is an advanced strategic tool that integrates economic, environmental, and social perspectives into a comprehensive business model. This multi-dimensional approach helps businesses and other organizations to create and capture value in a sustainable and inclusive manner. The TLBMC is composed of three interconnected layers: the Economic Layer, the Environmental Life Cycle Layer, and the Social Stakeholder Layer. Each layer addresses different aspects of the business model, ensuring a holistic view of its impact and value creation.

Economic Layer

The Economic Layer is similar to the traditional Business Model Canvas and focuses on the financial aspects of the business. It includes the following components:

- **Value Propositions**: The unique value that the business offers to its customers.
- **Customer Segments**: The specific groups of people or organizations that the business aims to serve.
- **Channels**: The means through which the business delivers its value propositions to customers.
- **Customer Relationships**: The types of relationships the business establishes with its customers.
- **Revenue Streams**: The ways in which the business generates income from its value propositions.
- **Key Resources**: The critical assets required to deliver the value propositions.
- **Key Activities**: The essential actions the business must take to operate successfully.
- **Key Partnerships**: The external organizations or individuals that the business collaborates with.
- **Cost Structure**: The financial costs involved in operating the business model

[6] Joyce, A. and Paquin, R.L., 2016. The triple layered business model canvas: A tool to design more sustainable business models. Journal of cleaner production, 135, pp.1474-1486.

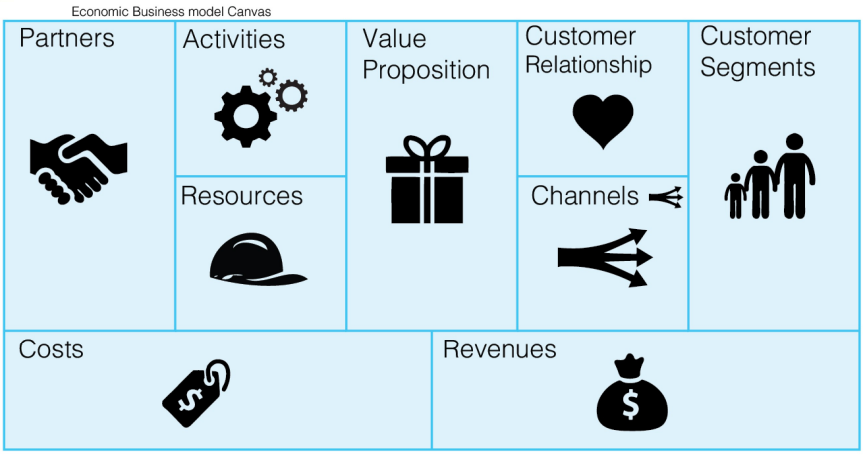

Figure 11. Economic Layer of the TLBMC

Source: https://sustainablebusinessmodel.org/2015/04/17/the-triple-layered-business-model-canvas-a-tool-to-design-more-sustainable-business-models/

Environmental Life Cycle Layer

The Environmental Layer adds a sustainability perspective, focusing on the environmental impact of the business. It includes the following components:

- **Functional Value:** The primary utility or function of the products or services offered**.**
- **Materials:** The raw materials used in the production process and their environmental impact.
- **Production:** The environmental effects of the production processes used.
- **Supply Chain:** The environmental impact of the supply chain, including transportation and logistics.
- **Distribution:** Analysis of the transportation modes, distances, packaging and delivery logistics to assess the distribution's environmental impact.
- **Use Phase:** The environmental impact during the usage of the products or services.
- **End-of-Life:** The environmental considerations for the disposal or recycling of the product.
- **Environmental Impact:** Assessment of the environmental impact of the business model.
- **Environmental Benefits:** The positive environmental outcomes associated with the business model.

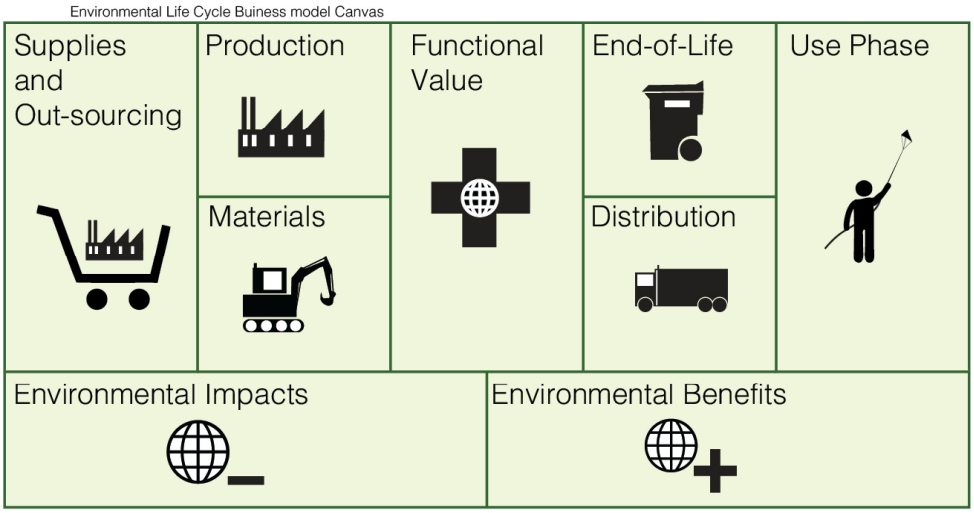

Figure 12. Environmental Life Cycle Layer of the TLBMC

Source: https://sustainablebusinessmodel.org/2015/04/17/the-triple-layered-business-model-canvas-a-tool-to-design-more-sustainable-business-models/

Social Stakeholder Layer

The Social Layer emphasizes the social impact of the business model, focusing on how it affects various stakeholders. It includes the following components:

- **Social value:** The value offered to different stakeholder groups.
- **Employees:** The impact on employees, including working conditions and benefits.
- **Governance:** The organizational structure and decision-making processes.
- **End-users:** Assessment on how the products or services contribute to the well-being of end-users and meet their needs.
- **Local Communities:** The impact on local communities, including economic and social contributions.
- **Scale of outreach:** Assessment of the reach and impact of the business model across different regions and demographics.
- **Societal Culture:** The influence on societal norms, values, and culture.
- **Social Impact:** The overall social outcomes and benefits generated by the business model.

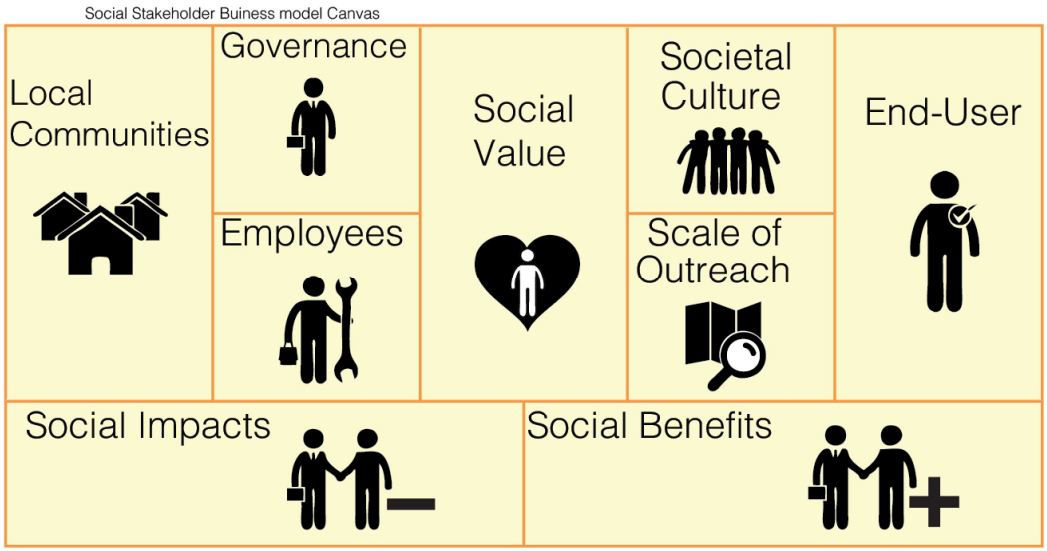

Figure 13. Social Stakeholder Layer of the TLBMC

Source: https://sustainablebusinessmodel.org/2015/04/17/the-triple-layered-business-model-canvas-a-tool-to-design-more-sustainable-business-models/

Achieving Integration

A successful Triple Layered Business Model Canvas ensures alignment and synergy between the economic, environmental, and social layers. This integration creates a balanced and sustainable business model that delivers value across multiple dimensions.

Annex IV: PARTICIPATORY GUARANTEE SYSTEMS (PGS)

What is PGS

According to IFOAM – Organics International[7], Participatory Guarantee Systems (PGS) are affordable, locally rooted quality assurance systems that emphasize social oversight and knowledge sharing. These systems rely on the active involvement of farmers, consumers, rural advisors, and local authorities, who collaborate to make decisions, visit farms, provide mutual support, and ensure that farmers adhere to organic standards.

What makes PGS a suitable certification system for smallholder farmers?

Participatory Guarantee Systems (PGS), like third-party certification systems, aim to provide consumers with a reliable assurance of organic produce. However, the key difference lies in the approach: PGS requires the direct involvement of farmers, consumers, and other stakeholders in the verification process, rather than just encouraging it. This model is particularly suited to smallholder farmers and local markets, as participation costs are low and typically involve voluntary time commitments rather than financial expenses. Additionally, the paperwork burden is minimized, making it more accessible for small-scale producers.

What are the benefits of PGS?

Empowerment, Knowledge Sharing and Relationship Building

The active participation of stakeholders in Participatory Guarantee Systems (PGS) fosters greater empowerment and shared responsibility. PGS places strong emphasis on knowledge and capacity building, where training sessions and farmer interactions enable farmers to enhance their practices and share insights with one another. This capacity-building effort extends beyond producers to include consumers, empowering them to make informed purchasing decisions, whether buying directly from farmers or through retail. Since PGS is founded on direct personal relationships, it encourages the development of direct or short-distance market connections between consumers and producers.

Improvement of Livelihoods and Innovative Food Systems

Participatory Guarantee Systems (PGS) have proven to be an effective way for smallholder farmers to gain access to organic markets, as their organic production methods are recognized at the product level. This recognition helps farmers achieve more stable, reliable, and increased incomes. Consumers, both in rural and urban areas, benefit from improved access to local, affordable organic food. PGS also supports traders who aim to attract specific customers by differentiating product categories to meet the demand for healthy organic foods. Additionally, PGS serves as a valuable tool for encouraging innovation and fostering the growth of sustainable food systems.[8]

[7] https://www.ifoam.bio/our-work/how/standards-certification/participatory-guarantee-systems
[8] Smith, M. & Barrow, S. 2016. Namibian Organic Association's Participatory Guarantee System. In Loconto, A., Poisot, A.S. & Santacoloma, P. (eds.). Innovative markets for sustainable agriculture –How innovations in market institutions encourage sustainable agriculture in developing countries. Joint publication FAO/INRA, pp. 39. Rome, Italy

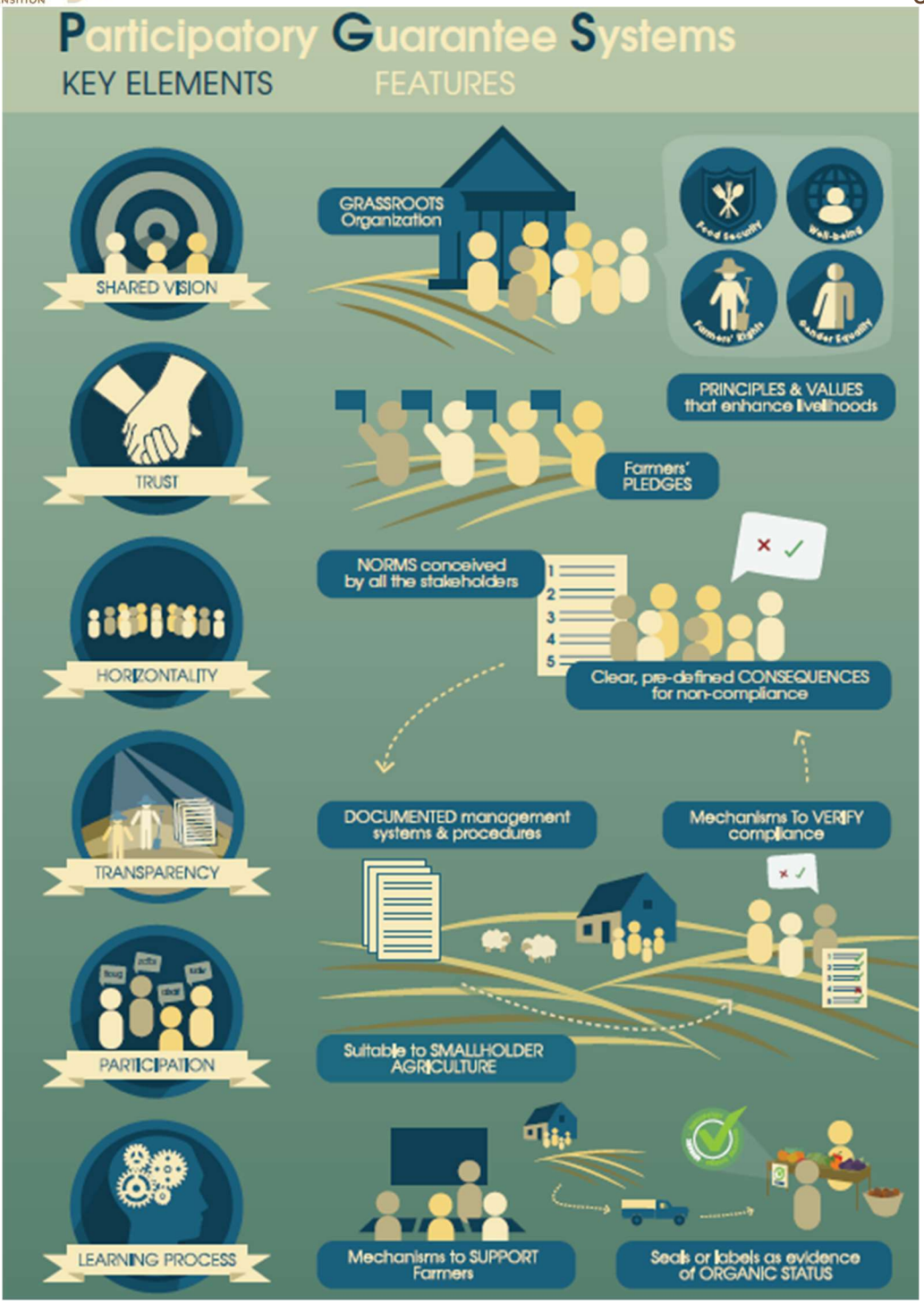

Figure 14. Participatory Guarantee Systems

Source: IFOAM – Organics International