

## **ANNEX 1: COLLABORATION**

### **1. THE COMMON GOAL**

The common goal of the Parties is to collaborate on building resilient, efficient, and scalable agri-food systems through the introduction and validation of controlled-environment agricultural production models, in alignment with Rwanda's Strategic Plan for Agriculture Transformation (PSTA 5).

### **2. AREAS OF COLLABORATION**

The Parties intend to achieve the Common Goal through the implementation of actions aimed at achieving outcomes aligned with PSTA5, particularly in the following areas:

#### **Priority Area I: Modernization of Agriculture and Animal Resources Production for Climate-Resilient Agri-Food Systems**

The Parties will collaborate to support modernized crop production and productivity through the introduction of aeroponic vertical farming systems. This will contribute to Output 1.1.1 (agricultural land management and production models improved), Output 1.1.3 Urban and peri-urban farming promoted. The overall pilot will be clearly identified under Output 1.1.5 (irrigation and water resource management improved) due to vertical farming relevance, as well as Output 1.1.7 (plant health management enhanced).

#### **Priority Area II: Inclusive Markets and Sustainable Agri-Food Systems**

The Parties will collaborate to support the production of high-value and export-oriented crops, contributing to Output 2.1.1 (export crops expanded). The Parties will also support the development of market linkages through structured buyer engagement, including Letters of Intent (LOIs) with identified buyers.

In addition, the collaboration will contribute to improved food security and nutrition, aligned with Output 2.3.1 (food security and nutrition improved) and Output 2.3.2 (households supported in nutrition-sensitive production).

### Priority Area III: Strengthening Agri-Food Systems Enablers for Effective and Efficient Delivery

The Parties will collaborate to support research and knowledge generation through the collection and sharing of pilot data, contributing to Output 3.1.1 (demand-driven research enhanced).

The collaboration will further contribute to strengthening agriculture de-risking for resilience through the demonstration of a scalable production model to be shared and used to educate, as mentioned in Output 3.4.1 (capacity for planning and knowledge management enhanced).

#### a) Pilot Implementation

The Parties will implement a pilot project consisting of 10 aeroponic towers in Gasabo District, City of Kigali. The pilot will involve the cultivation of up to 30 crop varieties and the collection of operational and production data.

The pilot will serve as a proof of concept to validate the technical and operational viability of aeroponic vertical farming systems and to inform future scaling and alignment with PSTA 5 objectives.

### ANNEX 2: STRATEGIC PLAN (2025-2030)

STA5 Outputs	UPGROW Outputs	Indicator	Baseline	Target					Means of verification	Budget allocated (Frw)	Source of funds
				2024/25	2025/26	2026/27	2027/28	2028/29			
<b>Priority Area I: Modernization of Agriculture and Animal Resources Production for Climate-Resilient Agri-Food Systems</b>											
Output 1.1.1: Agricultural land management and production models improved	Aeroponic production models	Number of operational aeroponic towers	0	10	10	100	100	150-200	Inspection report; Site verification	19-22M	Upgrow
Output 1.1.1: Agricultural land management and production models improved	Controlled Environment Agriculture (CEA) production sites	Number of Controlled operational production sites	0	1(Pilot)	1(Pilot)	2	2	3	Site Inspections; Pilot reports; Installation Reports	17.4M - sourcing funds	Upgrow + Partners/ Government

Output 1.1.3: Urban and peri-urban farming promoted	Urban & peri-urban vertical farming pilot (CEA)	Number of CEA/ vertical farming systems demonstrated	0	1( Pilot)	1(Pilot)	2	2	3	Site Inspections; Pilot reports; MINAGRI field visits	Included in Pilot Budget	Upgrow
Output 1.1.5: Irrigation and water resource management improved	Water-efficient production system optimised	Reduction in water use (%) versus conventional farming methods	0%	90%	92%	93%	95%	95%	System Sensor Data Logs; Water use records; Comparative production analyses	Included in Pilot Budget	Upgrow
Output 1.1.7: Plan health management enhanced	Controlled - environment plant health system established	Crop loss rate attributable to pests, disease, and system stress (%)	0%	10%	10%	8%	5%	5%	Monitoring logs; Agronomy reports; Crop health records	Included in Pilot Budget	Upgrow
<b>Priority Area II: Inclusive Markets and Sustainable Agri-Food Systems</b>											
Output 2.1.1: Export crops expanded	Export-oriented crop production	Number of tested export crop varieties	0	3	5	8	8	8	Production records; Sale invoices; Delivery records	Included in Pilot Budget	Upgrow
Output 2.3.1: Food security and nutrition improved	Year-round crop production	Quantity of crop productions (Tons)	0	2.5	2.5	25	25	50	Production records	Operational	Upgrow
Output 2.3.2: Households supported in nutrition-sensitive production	Nutrition-dense crops produced year-round	Number of nutritious variety crops produced	0	6	6	6-8	6-8	6-8	Crop records, Nutritional assessments	Operational	Upgrow
<b>Priority Area III: Strengthening Agri-Food Systems Enablers for Effective and Efficient Delivery</b>											
Output 3.1.1: Demand-driven research enhanced	Crop trials & Research per year	Number of crop varieties tested per year	0	10	10	10-12	6-8	5-6	Research reports; Performance summaries; Trial reports	Included	Upgrow
Output: 3.4.1 Capacity for planning and knowledge management enhanced	CEA knowledge generation and sharing	Number of reports and knowledge products produced and shared	0	2	4	6	8	10	Quarterly reports submitted via MINAGRI; Workshops completed; Trainings held	Included	Upgrow + Partners

**Note:**

(1)Output 1.1.3: Added per PSTA5 Priority Area I, which explicitly promotes vertical farming systems, hydroponics, and controlled environment agriculture (CEA) in urban and peri-urban areas. Upgrow Rwanda Ltd's Gasabo pilot directly delivers on this output.

(2)Output 2.1.1: Export crop variety count reflects progression from pilot validation (5 varieties tested, 2025/26) to focused commercial export production (2-3 validated varieties from 2027/28), selected based on yield performance, confirmed buyer demand, and export volume viability.

(3)Output 2.3.2: Variety count reflects deliberate progression from pilot trial phase (15 varieties, 2025/26) to optimized commercial production (5-6 core varieties from 2027/28 onwards), informed by yield performance data, buyer demand, and operational efficiency at scale.

**ANNEX 3: ANNUAL ACTION PLAN 2025/2026**

Output	Indicator	Baseline	Target	Activities to Deliver Output	Areas of Intervention	Budget Allocated (Frw)	Sources of Funds
Aeroponic pilot infrastructure established	Number of aeroponic towers installed	0	10	Site preparation; Greenhouse installation; Water & Electricity setup; Tower installation; System testing	Gasabo	22,000,000	Upgrow
Urban & Peri-urban Vertical Farming Demonstration Pilot Established	Number of CEA demonstration sites established	0	1	Establish pilot as CEA demonstration site; Organize MINAGRI/RAB field visits; Document production model	Gasabo	Included in Pilot Budget	Upgrow
Greenhouse Installation	1 Greenhouse Structure Installed	Not acquired; Not installed	Acquired and Installed	Greenhouse procurement or fabrication & Installation	Gasabo	17.4M Quoted + Shipping included; (Installation labour budget TBD)	Upgrow + Partners/ Government
Pilot system activated and initial production cycle operational	Operational status of the pilot system	0	Fully operational with first production cycle	Nutrient preparation; Initial planting; Site preparation; Routine system monitoring; Adjustment of nutrient	Gasabo	3M (1.5 Included in pilot budget)	Upgrow

			launched	and water flow			
Crop testing and performance validation completed	Number of crop varieties tested under aeroponic conditions	0	At least 5 crop varieties tested and documented	Seed sourcing; Nursery/Rockwool preparation; Growth monitoring; Recording survival and yield performance	Gasabo	1,200,000	Uppgrow
Pilot performance data captured and reported	Number of pilot performance reports produced	0	1 consolidated pilot performance report produced	Yield tracking; Performance analysis; Lessons learned documentation; Reporting	Gasabo	300,000	Uppgrow

**Note:** The greenhouse installation is semi-dependent on external support. We are seeking some assistance from government partners or funding programs to ensure timely acquisition and implementation during the pilot phase.