

# STATISTICS FROM SPACE

Next-Generation Agricultural Production Information for Enhanced Monitoring of Food Security in Mozambique



Progress Report | 2025.01.01 – 2025.06.30

## 1. Progress Overview

1.1. Budget Execution Overview – *available upon request*

1.2. Performance Indicators Overview

Indicator		Performance			
		Target	Baseline	Current As of 2025.6.30	Endline Goal
1	# of stakeholder engagement meetings	8	-	12 <sup>1</sup>	8
2	# of stakeholders participated in events	60	-	82 <sup>2</sup>	60
3	# of SDG-relevant reporting document that uses the project-produced data	3	-	<i>(To be published in H2)</i>	3
4	# of strata maps developed from satellite remote sensing data analysis	3 (one per province)	-	3 <sup>3</sup>	3
5	# of crop type maps developed from satellite remote sensing data analysis	12	-	30 <sup>4</sup>	12
6	% of strata whose sampling error is lower than the threshold level (e.g., 15%)	100%	-	<i>(To be analyzed in H2)</i>	100%
7	% of strata where groundtruthing data was collected	100%	-	62% <sup>5</sup>	100%
8	% of crop type and yield maps whose error is within a threshold level (e.g., 20%)	100%	-	<i>(To be analyzed in H2)</i>	100%
9	# of days between the harvest date and the public release of maps (note: the lower the better)	15	-	14 <sup>6</sup>	15
10	# of analysts in local institutions trained to use the analytical framework	10	-	51 <sup>7</sup>	10

<sup>1</sup> Groundtruthing Data Collection and Stakeholder Engagement Report (May 2025).

<sup>2</sup> Inception Meeting Report (Apr 2023), Stakeholder Engagement Report (Jul 2024).

<sup>3</sup> Select [Strata] from the Explore Data menu of the online platform (<https://mapfra.itc.utwente.nl>).

<sup>4</sup> See the [Crops] from the Map menu of the online platform (<https://mapfra.itc.utwente.nl>): beans, cabbage, cassava, corn, cotton, eggplant, garlic, ginger, kidney potato, peanut, leaf tea, lettuce, millet, sweet potato, okra, onion, paprika, pepper, piri piri, rice, sesame, sisal, sorghum, soybean, squash, sugarcane, sunflower, tomato, wheat, yam

<sup>5</sup> Groundtruthing Data Collection and Stakeholder Engagement Report (May 2025).

<sup>6</sup> Harvesting of the main season was complete by June 30, 2025. Maps were publicly released through the MAPFRA platform (<https://mapfra.itc.utwente.nl>) on July 13, 2025.

<sup>7</sup> Groundtruthing Data Collection and Stakeholder Engagement Report (Dec 2023), Enumerators Training Report (March 2025)

## 2. Main Performance of 2025 H1 & Plan for 2025 H2

Component	Performance of 2025 H1	Plan for 2025 H2
<b>1. Stakeholder Engagement</b>	Organized <b>3</b> local stakeholder engagement meetings to introduce the project and request cooperations.	Will publish <b>2</b> SDG-relevant publications, including a MADER working paper and a policy brief on complementarity of the existing approach and the new satellite-based approach, and organize <b>1</b> final workshop to report on the project progress, disseminate findings.
<b>2. Enhanced Area Frames</b>	Developed and incorporated <b>3</b> new satellite-based strata maps.	Will publish new satellite-based crop area statistics data and maps to the online platform, develop <b>1</b> training manual for MADER to internalize the workflow, and organize <b>1</b> training workshop to transfer the workflow to MADER.
<b>3. Groundtruth Data</b>	A total of <b>36</b> enumerators were trained to use a mobile app for identifying sampling sites and collecting groundtruth data. Additionally, <b>3</b> MSc level students of UEM were trained to use AI for land cover mapping.	Will clean all field-collected groundtruth data for subsequent analyses and jointly publish <b>1</b> technical report with MADER on the methodology, result, and main findings.
<b>4. Crop Analytics</b>	Continuing the research of developing subnational-level mapping of area and yield forecasts for rice, maize, and soybean.	Will publish <b>2</b> technical reports on crop model parameter calibration using farm-level data and the subnational mapping of crop area and yield forecasts.
<b>Events</b>	<b>In-region Local Stakeholders Workshops</b> <ul style="list-style-type: none"> <li>- Objective: To introduce the project activities and elicit feedback from the local government officials and technical stakeholders and to train enumerators for collecting groundtruth data.</li> <li>- Locations/Dates: <ul style="list-style-type: none"> <li>1) Maputo on Feb 4-6</li> <li>2) Chimoio, Manica on Feb 12-14</li> <li>3) Mocuba, Zambezia on Mar 6-8</li> </ul> </li> <li>- Location: Chimoio Hotel, Chimoio City, Manica Province</li> </ul>	<b>Final Workshop</b> <ul style="list-style-type: none"> <li>- Objective: To present the overall project progress and disseminate outputs to the National Institute of Statistics (INE) and the Directorate of Planning and Policies (DPP) of the Ministry of Agriculture and Rural Development (MADER).</li> <li>- Date: December 3, 2025</li> <li>- Location: VIP Grand Hotel, Maputo, Mozambique</li> </ul>

## 3. Issues, Challenges and Recovery Measures

Challenges	Recovery Measures
Cyclone Jude caused heavy rain and flooding, especially in Zambezia, making roads impassable and damaging infrastructure.	Incorporate high-resolution remote sensing data (satellite, drone) to fill spatial gaps in inaccessible areas.
Only 62% (186 of 301) of the planned Sampling Areas	Collaborate with partner organizations like the World

(SAs) were accessed due to environmental, political, and logistical barriers.	Bank and FAO to complement and share crop analytics data.
Political instability and violence, particularly in Lioma (Gurué, Zambezia), prevented access; military interventions occurred.	Use data triangulation methods combining limited field data, partner data, and remote sensing to enhance validity.

## 4. Major Event in 2025

Event Name	Objectives	Date	Location
The “Statistics from Space” Final Project Stakeholders Workshop	To present the overall project outputs to the National Institute of Statistics (INE) and the Directorate of Planning and Policies (DPP) of the Ministry of Agriculture and Rural Development (MADER).	December 3, 2025	VIP Grand Hotel, Maputo, Mozambique

## 5. Plans for Each Quarter

### Component 1. Stakeholder Engagement

	Q1	Q2	Q3	Q4
Details	Organized local stakeholder engagement meetings to introduce the project and request cooperations.	Developed the stakeholder engagement report.	Publish a MADER working paper and a policy brief on the complementarity of the existing approach and the new satellite-based approach.	Organize the final workshop to report on the project progress, disseminate findings.

### Component 2. Enhanced Area Frames

	Q1	Q2	Q3	Q4
Details	Incorporated new satellite-based strata maps to the data collection mobile app.	Incorporated new satellite-based strata maps to the online data platform.	Publish new satellite-based crop area statistics data and maps to the online platform.	Develop a training manual for MADER to internalize the workflow and organize training workshops to transfer the workflow to MADER.

### Component 3. Groundtruth Data

	Q1	Q2	Q3	Q4
Details	Enumerators trained to use a mobile app for identifying sampling sites and collecting groundtruth data.	Groundtruthing data collected across three provinces (Gaza, Manica, and Zambezia).	Clean all field-collected groundtruth data for subsequent analyses.	Jointly publish a technical report with MADER on the methodology, result, and main findings.

### Component 4. Crop Analytics

	Q1	Q2	Q3	Q4
Details	-	-	Publish a technical report on crop model parameter calibration using farm-level data.	Publish a technical report and dataset on the subnational mapping of crop area and yield forecasts.

## Annex 1: Photos (2023)



Figure 1 Meeting at the Ministry of Agriculture (April 20, 2023)



Figure 2 Group photo with the Ministry of Agriculture and the project team (April 20, 2023)



Figure 3 Group photo at the Inception Workshop (April 20, 2023)



Figure 4 Opening of the Inception Workshop (April 20, 2023)

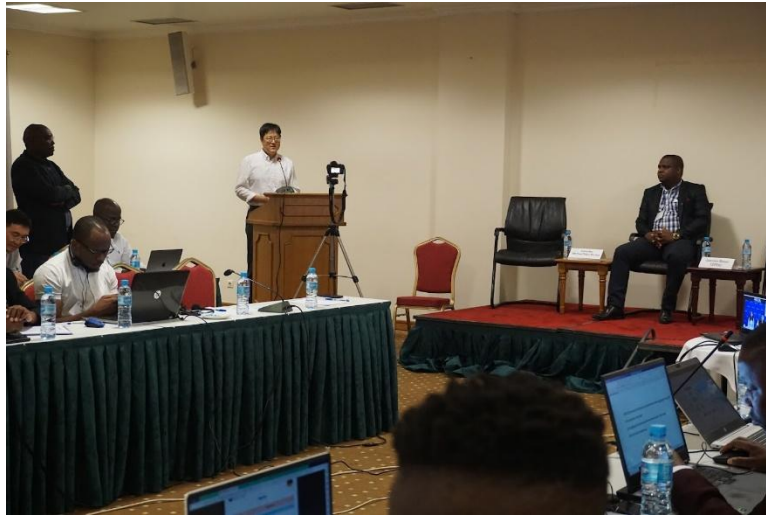


Figure 5 Welcome message from the project lead at the Inception Workshop (April 20, 2023)



Figure 6 Participant from the National Institute of Statistics at the Inception Workshop (April 20, 2023)



Figure 7 Participant from FAO at the Inception Workshop (April 20, 2023)



Figure 8 Panelists at the Inception Workshop (April 20, 2023)



Figure 9 Meeting at the National Institute of Statistics (April 21, 2023)



Figure 10. Enumerators who are trained to collect groundtruth data in Gaza Province (November 13, 2023)



Figure 11. Opening session at the training workshop (November 13, 2023)



Figure 12. Field testing of the data collection app with the enumerators (November 17, 2023)



Figure 13. Fieldwork pre-test in Chokwe district (November 17, 2023)

## Annex 2: Photos (2024)



Figure 14 Group photo at the Stakeholder Workshop (June 18, 2024)



Figure 15 Opening of the Stakeholder Workshop (June 18, 2024)



Figure 16 Presentation of the project progress by Lourenco Manuel, CEPPAG (June 18, 2024)



Figure 17 Stakeholder meeting at MADER (June 19, 2024)



Figure 18 Stakeholder meeting at INE (June 19, 2024)

### Annex 3: Photos (2025 H1)



Figure 19 Enumerators training workshop (February 4, 2025)



Figure 20 Enumerators training workshop (February 12, 2025)



Figure 21 Trained enumerator pre-test the data collection app in Mocuba District (February 20, 2025)



Figure 22 Field team with an extension agent in Derre District (March 2025)



Figure 23 River Mola blocking access to one of the Sampling Areas in Mongue (March 2025)