# Geospatial Analysis in Project Sustainability Monitoring and Evaluation: BOAD's Pilot Experience

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May 2025

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# 1

# BOAD in brief

# ❑ Mission, ownership and impact-oriented strategy

| | |
|---|---|
| **1** **BOAD, the financial arm of WAEMU** | • **More than 50 years of development support:** created in 1973<br>• **Mission** : balanced development and integration; Financing key sectors of the economy in the eight WAEMU countries (Benin, Burkina Faso, Côte d'Ivoire, Niger, Guinea-Bissau, Mali, Senegal and Togo). Population : + 100 millions.<br>• **Number of projects funded** : 800+<br>• **Strong contribution to regional integration projects** : 27.7% of net commitments at end-December 2024 |
| **2** **Shareholding** | • **Regional shareholders:** BCEAO (Central Bank, majority shareholder), Benin, Burkina Faso, Côte d'Ivoire, Niger, Guinea-Bissau, Mali, Senegal, Togo<br>• **Non-regional shareholders:** France, Germany, Belgium, China, India, Kingdom of Morocco, AfDB, EIB, BADEA |
| **3** **Strategies focused on impact** | • **Strategy Plan (2024-2025)** : DJOLIBA Plan<br>• **Strategic Plan for Evaluation (2021-2025)**<br>• **Pilot program for the progressive integration of geospatial analysis and artificial intelligence in monitoring and impact evaluation (2023-2025)** |

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**Notes 1.Four-year achievement** /4-year target **2.** Cumulative achievement/5-year target.

# ❑ Achievements in progress 2021-2025

**Resource mobilization:**

**4.6 billion €**

**Financing:**

**€3.9 billion**

**Activities:**

**€2.7 billion**

**BOAD's Development results**

Outputs

Outcomes

**What are the impacts and sustainability of these impacts?**

- **Monitoring & evaluation questions on development results**

- **Satisfied (maximized) + Unsatisfied (minimized)**

- **Project area observations + analyses + decisions**

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# 2

# Issues

## ❑ 03 Major Challenges that Hampered the Evaluation and its Use

**1** Difficulties in conducting impact assessments for large scale projects + sustainability monitoring (~75% projects have sustainability issue within 5 years avec completion)

- Large Project area, including **some climate projects**
- The infrastructures set up by the projects are planned for a duration of more than 15 years. However, ex-post evaluations have identified short-term sustainability issues. It is important to **know frequency of infrastructure damage and dispersion damage over time and space** in order to find causes and solutions quickly.

**2** Constraints of accessibility to certain project areas and viewing project achievements

- Existence of **security challenges** make it difficult for Evaluators to move into project areas to conduct assessments (3 countries and the northren of 3 coastal countries in WAEMU).

**3** Difficulty in motivating decision-makers to take quick action when evaluation show durability issues

- About 75 % of projects encounter sustainability problems identified during ex-post evaluations.
- Sometimes rapid action by decision-makers is needed to correct these failures and revitalize project impact. But the **narratives from the texts do not encourage decision-makers to tavke quick action.** A map with evidences tell more that a report. We need to look for an approach that can show them the chaotic state of the situation sometimes in real/quasi-real time with images.

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# 3

# Solution approaches (cases studies)

## ❑ PILOT PROGRAM 1 (2023-2025) FOR THE PROGRESSIVE INTEGRATION OF GEO-SPATIAL ANALYSIS IN REMOTE MONITORING AND IMPACT EVALUATION OF THE BOAD FUNDED PROJECT PORTFOLIO

❑ **Components**

- Awareness, change management and capacity building
- Continuous data collection and geo-referencing oriented towards supervision, monitoring - impact assessment
- **Pilot implementation of durability monitoring+ M&E dashboard with geospatial analysis( PoC): Kobo ToolBox, ODK Collect, Power BI and ArcGIS**
- PoC about automated calls incorporating IA transcription and analysus for project particpative monitoring and evaluation (Twilio+ IA)
- Pilote program final evaluation
- Pilote Programme M&E

❑ **Duration**: 18 months for the pilot program (end: August 2025).

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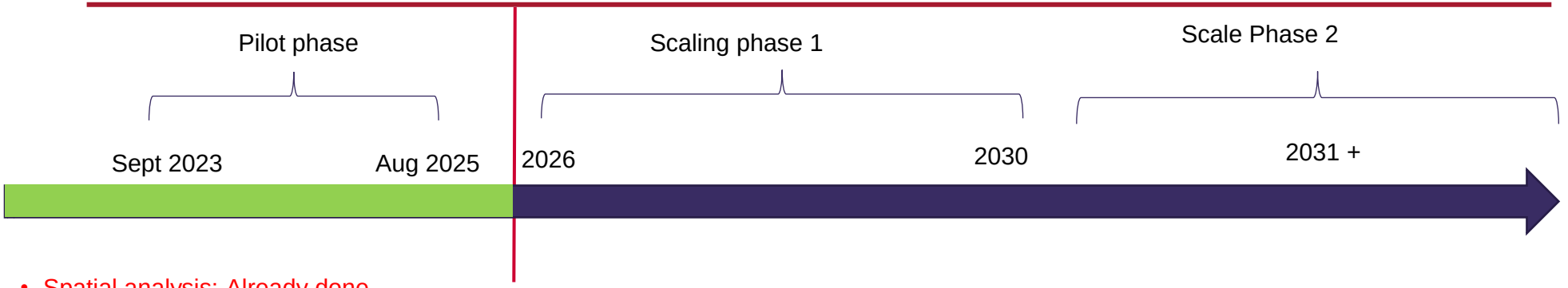
## ❑ PILOT PROGRAM 1 (2023-2025) FOR THE PROGRESSIVE INTEGRATION OF GEO-SPATIAL ANALYSIS IN THE REMOTE MONITORING AND IMPACT EVALUATION OF THE BOAD FUNDED PROJECT PORTFOLIO




- Spatial analysis: Already done
  - Capacity building: BOAD's operational staff, Project Management Unit's M&E Officers (Benin, Burkina Faso, Côte d'Ivoire, Togo)
  - Pilot implementation of the dashboard including geo-spatial analysis
  - Country portfolio effectiveness including geo-spatial analysis (Guinea-Bissau, Togo): submitted to the Board of Directors
  - Project impact assessment with satellite image : recovery of arid Saharan soils for agriculture (Niger) : will be submitted to the Board of Directors
- Geo-spatial analysis: ongoing
  - ✓ Country portfolio effectiveness including geo-spatial analysis (Benin, Burkina Faso)
  - ✓ Monitoring with satellite images (impact maximization on rice production)
  - ✓ Financed road network Mapping in Guinea Bissau and state of degradation analysis
  - ✓ degraded infrastructure Mapping (less than 5 years after delivery in Benin, Burkina Faso, Côte d'Ivoire, Togo)

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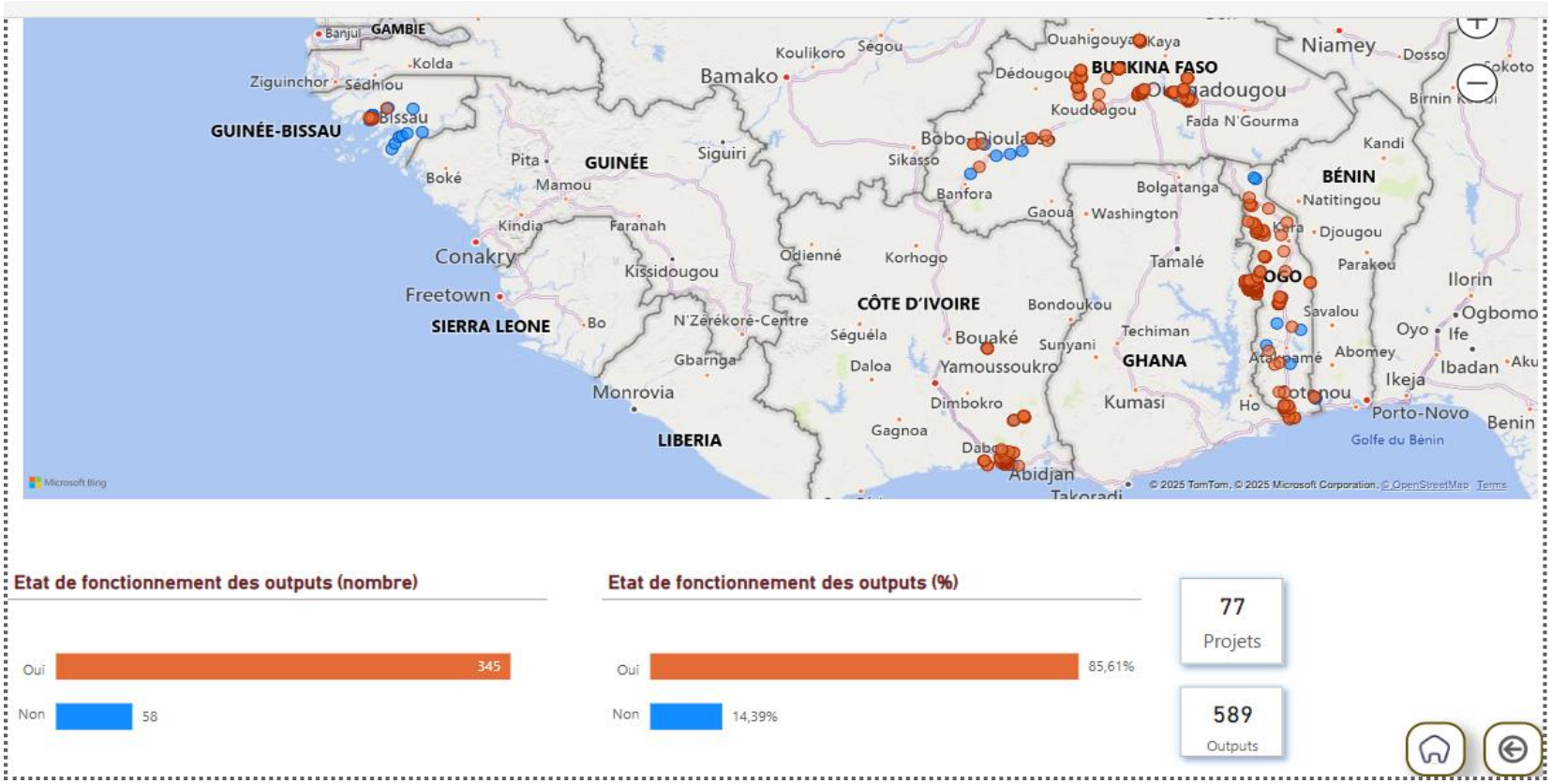
## ❑ Where are the infrastructures financed and degraded less than 5 years after commissioning?

**Example** : Spatial review of degraded infrastructures (less than 5 years after project completion)
(Work in collaboration with the World Bank Geo-Enabling initiative for Monitoring and Supervision (GEMS) Team)

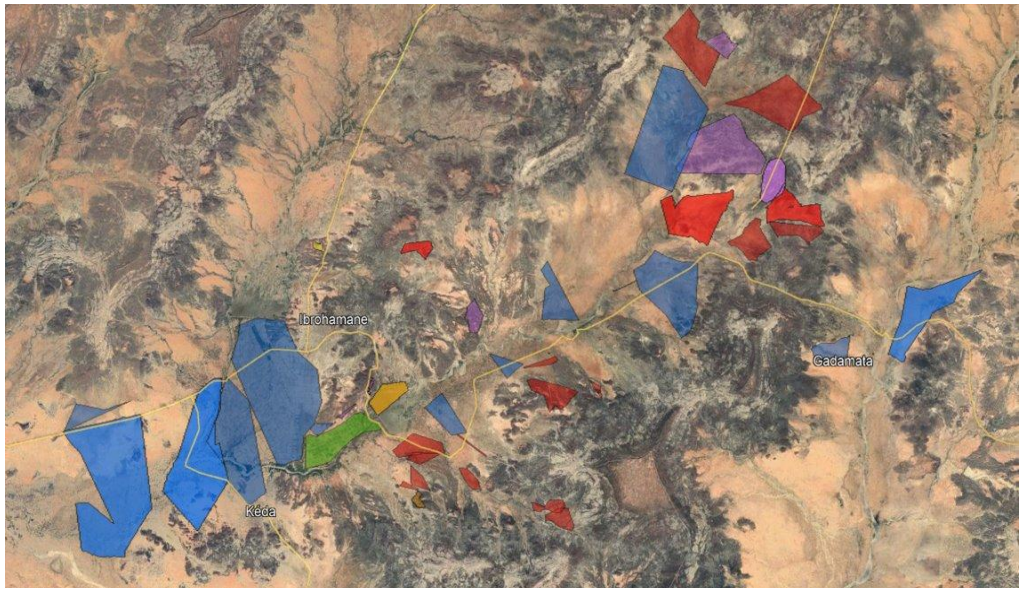
- **The analysis enables decision makers in BOAD and countries to make decisions on corrective actions and monitor implementation results thereafter**



## ❑ Where is the infrastructure funded on a large unaccessible area located?

- **<u>Example</u> of geo-spatial analysis of hydroagricultural project in Niger (work in collaboration with 3ie)**

○ ***Dune (blue); Irrigated perimeter (green); dune area recovered (red)***




✓ High altitude visualisation

✓ Medium altitude visualisation

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## ❑ Where are the areas of under-utilization of hydro-agricultural infrastructure funded by BOAD?

- **<u>Example</u> of geo-spatial analysis of hydroagricultural project in Togo**
- *Review of the optimal use of a rice field during a crop year*
  - *Land optimal use (**dark green**); Land not optimal use (light green)*
    - *Visualisation with satellite images*
    - *Participatory analysis: what are the factors contributing to sub-optimal use + What are quick solutions?*
    - *Solutions will maximize impact on rice production at the end of crop year*

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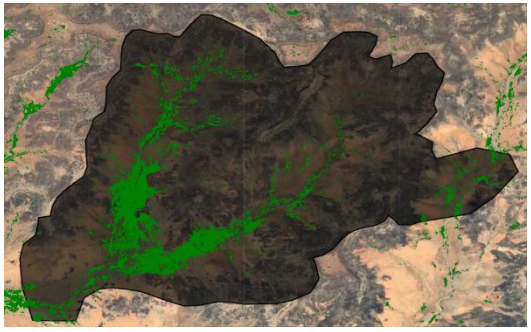
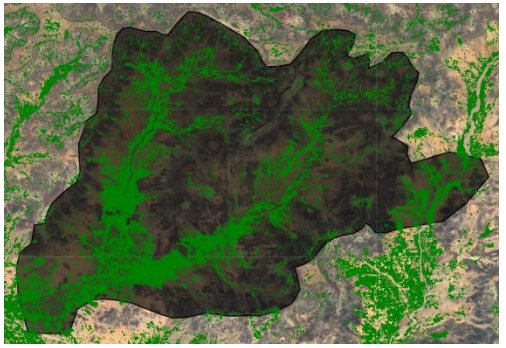
## ❑ Where are the impacts of a large-area land recovery project over a decade?

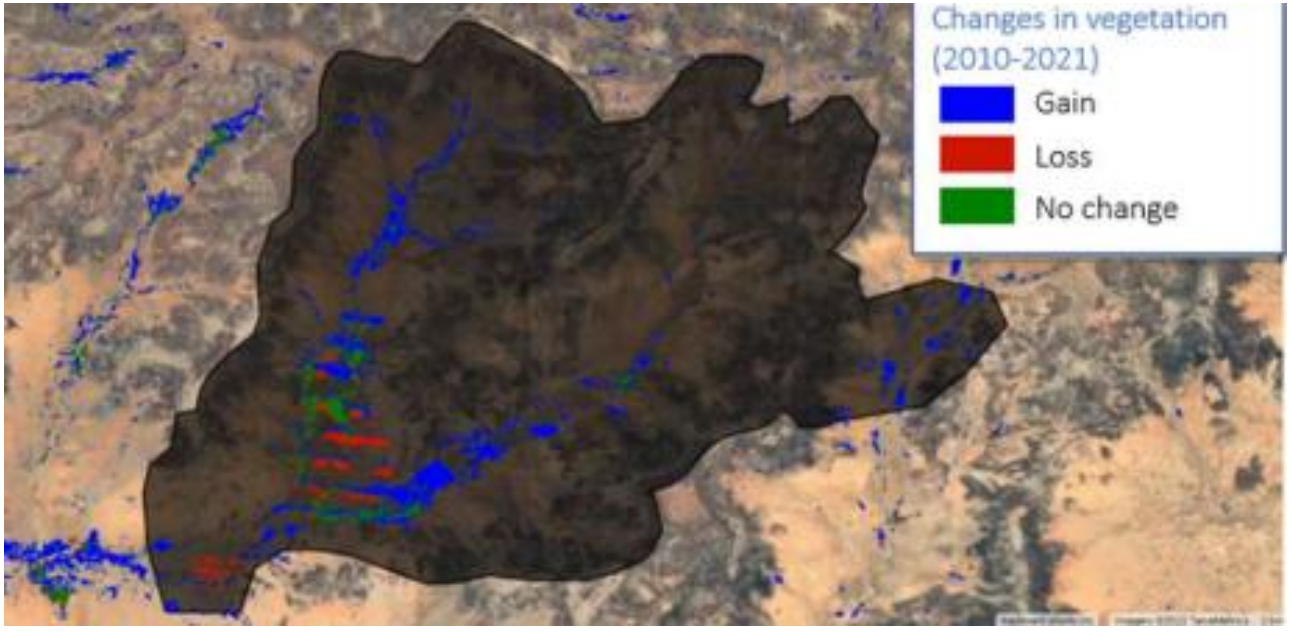
- **Example of geo-spatial analysis of hydroagricultural project in Niger (recovery of dunes for agriculture)**

✓ **Before the project**



✓ **With the project**



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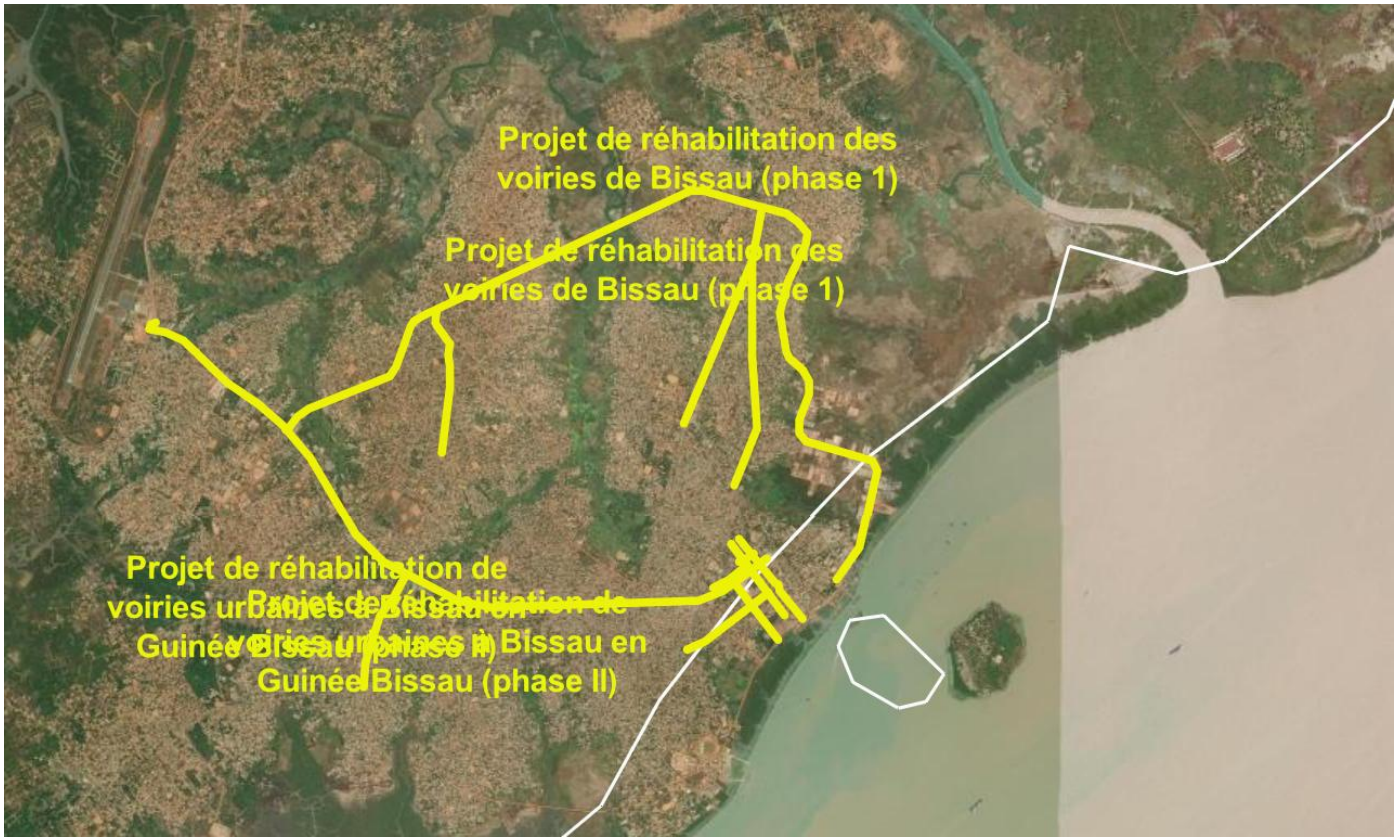
## ❑ Where are the paved and rehabilitated urban road network?

- **<u>Example</u> of geo-spatial analysis of several asphalt road projects in the city of Bissau, Guinea Bissau**

  - Is there an interconnection among the urban road networks financed from 2009 to 2017 ?
  - Are important economic areas of the city covered (ex: port)?
  - What is the state of degradation of road network?

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# Challenges

## ❑ What are the challenges?

- **Capacity building**

  - In the WAEMU zone, geospatial analysis is not yet disseminated to project managers. It is important to familiarize them with the techniques and usage applied to their projects. The same applies to the Ministries that are the projects designers and those financing infrastructure maintenance over time.
  - Training budgets are difficult to mobilise.

- **Access to high resolution satellite images**

  - Despite the existence of a number of free images, resolutions may be below those desired for some analyses.
  - Some project areas in WAEMU are not frequently covered by available satellite images (lack of monthly coverage).
  - High cost of high resolution images and lack of funding for their acquisitions.

- **Coordination between actors to be strengthened**

  - Several initiatives that result in high transaction costs for small teams such as BOAD's.
  - Search for minimum harmonization among different initiatives (GEMS, Geo4impact, Alliance sahel, etc).

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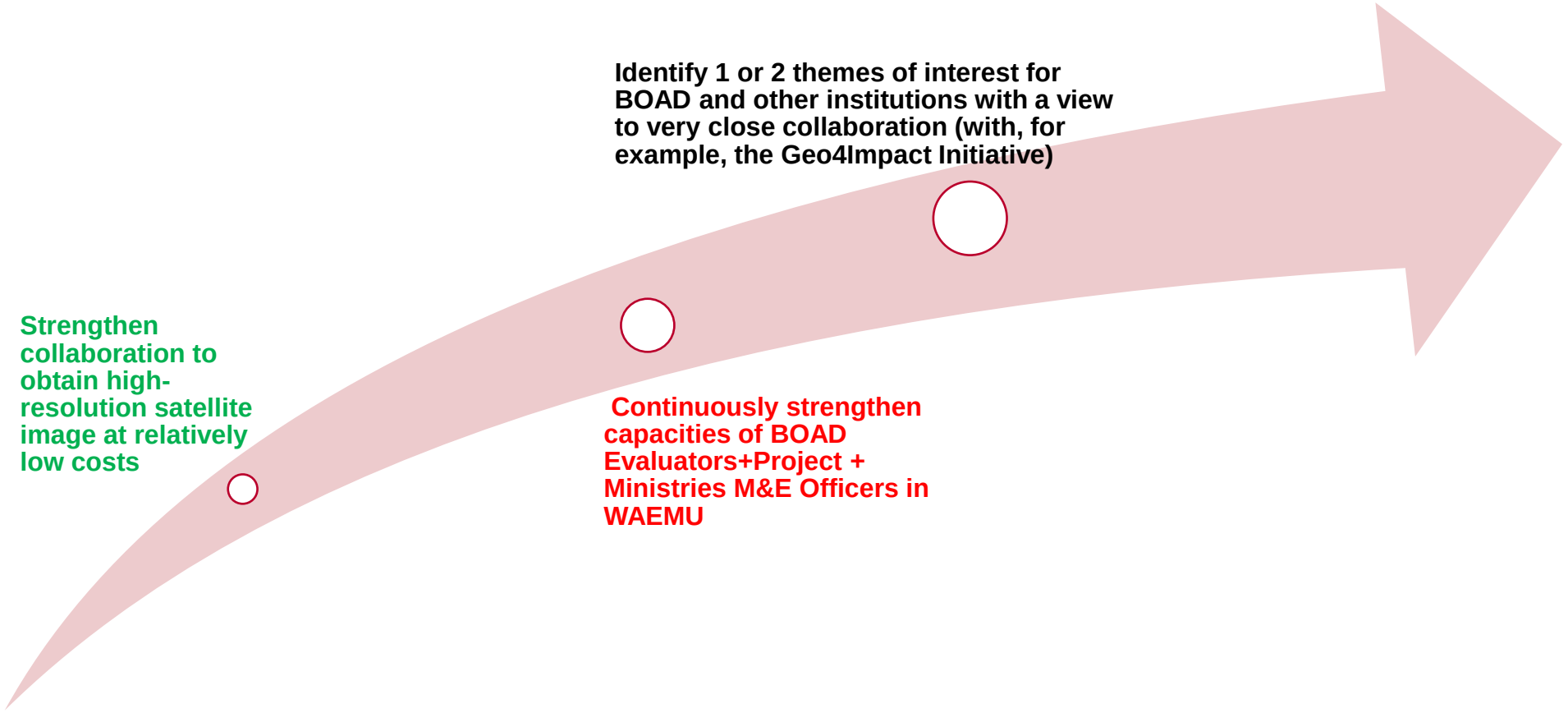
# Outlook

## ❑ What is the future?

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**THANK YOU**