Brought to you by Geodata: Responsible Banana Supply Chains

Introduction of the DT4D Pilot Project
Banana production and sustainability context

The Philippines is the 2nd largest exporter of bananas in the World

<table>
<thead>
<tr>
<th>2014-2018</th>
<th>2019</th>
<th>2020</th>
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<td>2.61 M TONS</td>
<td>4.40 M TONS</td>
<td>3.72 M TONS</td>
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**Prevalent Sustainability Risks and Concerns**

**Environment** – Deforestation | Land-use conversion | Climate change issues | Soil degradation | Biodiversity loss | Proliferation & use of illegal chemicals | Pest and disease | High Pesticide use | Water resources

**Social and Labor** – Land disputes | Decent wages | Child labor | Forced labor | Operational Health and Safety | Gender discrimination and sexual harassment

Source: FAO, 2020

www.trademark.org; 2018

Source: Philippines Statistics Authority, 2014-2017
The case for Responsible Banana Supply Chains

Philippines’ Banana Industry Challenges and Opportunities

• **Access to markets and impacts of regulatory compliance**
  **E&S Standards are Common Requirements for Agricultural enterprises**
  Access to markets - obtain financing from investors - maintain a strong brand and reputation – rising consumer demands for responsibly-sourced products
  **Countries around the world (see EU Member States) are increasingly introducing new E&S legal requirements**

• **Unlocking opportunities for local economic development**
  For Smallholder farmers, adherence to E&S standards increase business opportunities, give access to international markets & higher returns

Philippine Banana Industry Roadmap (2019 – 2022)

Promote inclusive growth through a value chain approach | Increase quality and sustainability levels | Upscaling strategies for sustainability | Improvement in Productivity Level | Moving up in the value chain | Ensuring Market Awareness | Resource generation and Financing Strategies | R&D
**Objective:** provide government, private sector, farmers and other stakeholders with improved information on actual and potential social and environmental adverse impacts for banana production in Mindanao.

**Problem Identification**
- Prevalent environmental, social and labor risks
- Lack of shared understanding between Business, Government, Farmers

**Digitized & location-based risks**

**Lack of shared understanding between Business, Government, Farmers**

**E&S risk visualization live platform**

**POST PROJECT IMPLEMENTATION**
- Enhanced RAI with an integrated platform that visualizes E&S Risks and voice to farmers
- Enhanced Responsible Agriculture Investment (RAI)
- Integrated and visualized E&S risk assessment platform in pilot areas
- E&S risks are identified and digitized
Disruptive Technology and List of Potential Indicators

**Disruptive Technology & Potential E&S indicators**

**ENV indicator**
- % change of land surface used for banana cultivation
- % change in forested area
- Volume of pesticides used
- Volume of fertilizer used
- Water quality measurement results
- % change in availability of water for agricultural purposes
- % change in availability of water for community use
- Soil testing results

**Social and Labor indicator**
- Number of workers (including by gender)
- % of workers who are unionized
- Number of grievances reported by workers
- Number of training and refresher sessions held on OHS
- Number of stakeholder engagement meetings held
- Number of grievances reported by communities
- Number of children reportedly working on site
- Number of security incidents reported
- Number of OHS incidents, accidents, illnesses reported
- Number of households physically displaced
- Number of community members economically displaced
- Wages paid to workers (minimum, maximum and average, including by gender)
- Smallholder income (minimum, maximum and average, including by gender)

Indicators extracted based on international standards, including OECD-FAO Guidance for Responsible Agriculture Supply Chains and IFC Performance Standards.
Agricultural enterprises and Disruptive Technology

• **Satellite imagery & geospatial information** uses images captured by satellites to monitor environmental risks and impacts related to land use change, deforestation, landscape changes. Often relies on other tools to support the analysis and reporting of what the satellite images are capturing.

• **Blockchain** supports traceability of commodities from downstream to upstream production and allows decentralized real-time information to be gathered and shared within a ‘network’ of authorized users.

• **Mobile technology** is increasingly used by companies to support the monitoring of social risks, in particular labor and working conditions, all the way to the farm level. It is often used to support access to grievance mechanisms.

• **Data visualization methods** Dashboards are commonly used by businesses to obtain an overview of both E&S risks in their supply chains and inform responsible sourcing decisions.
DT4D Pilot Sequencing

DT4D Challenge 2.0 Pilot project for E&S risks mitigation for sustainable banana production

1. Showcase
2. Adopt/expand our technical solutions (Advisory)
3. Disseminate for replication for other supply chains at scale

Completed

Engagement with Government Prevalent risk identification Technology literature review External partner consultation

Identify Pilot area, and E&S indicators

Engagement with:
1. Government
2. Businesses
3. Farmers’ associations and/or CSOs

Identify, strategize, and mitigate risks

Tech Provider

Environmental risks

Social risks

Tech Provider

Visualize and Store in appropriate platform (Implementation)
Next steps

**Businesses**
- Strategy for engaging with business stakeholders in the Philippines and abroad (business associations and enterprises)
- Current uses of disruptive technologies for responsible agricultural supply chains

**Civil Society**
- Strategy for engaging with civil society organizations and relevant farmers’ associations
- Identifying modalities for the piloting of crowdsourced mobile data

**Government**
- Counterpart: Department of Agriculture for Responsible Agricultural Supply Chains
- Identification of most pressing challenges for the sustainability of banana production, and priority regions

**External Partnerships**
- European Space Agency Earth Observation Clinic and procurement of satellite imagery for environmental risk monitoring
- Technical consultations with FAO and World Banana Forum
Thank you