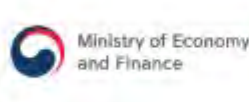


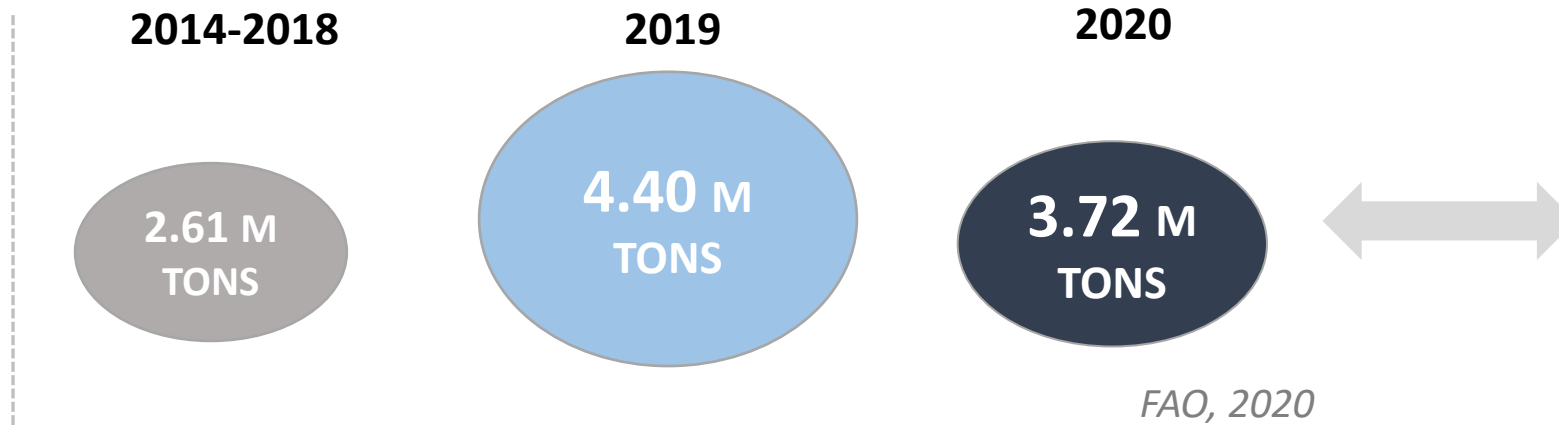
Brought to you by Geodata: Responsible **Banana** Supply Chains

Introduction of the **DT4D** Pilot Project



Banana production and sustainability context

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

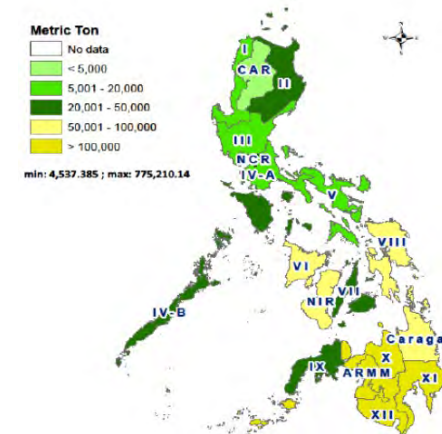


Prevalent Sustainability Risks and Concerns

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

Banana Production By region



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



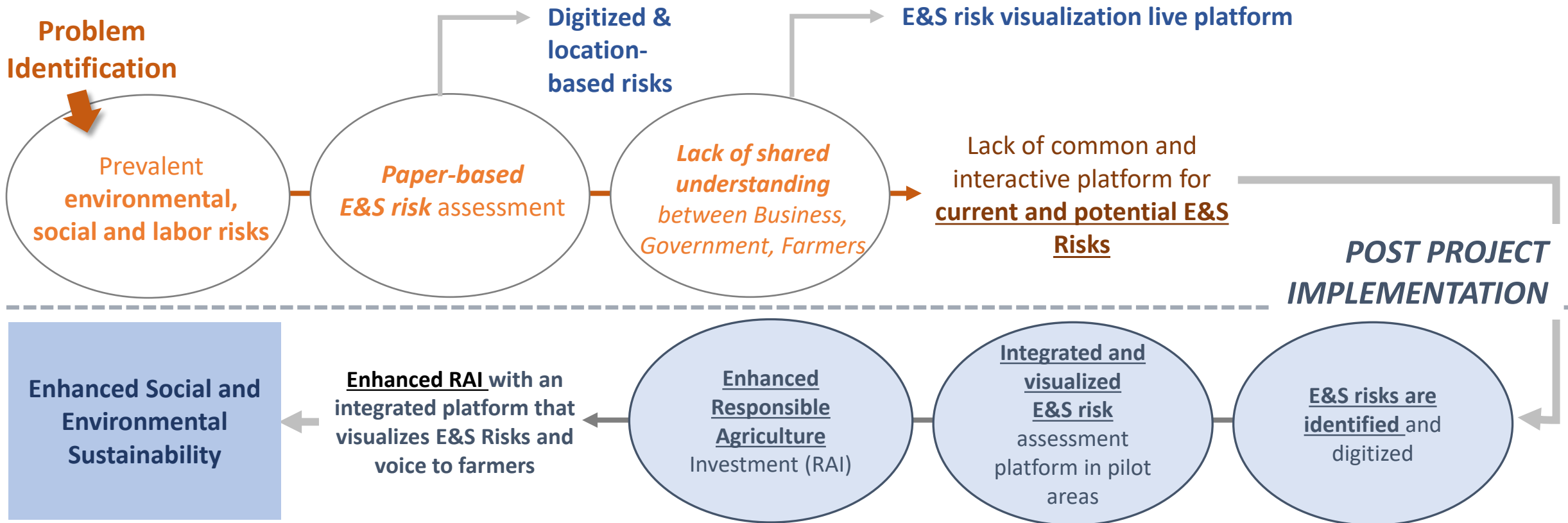
Philippine Banana Industry Roadmap (2019 – 2022)

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



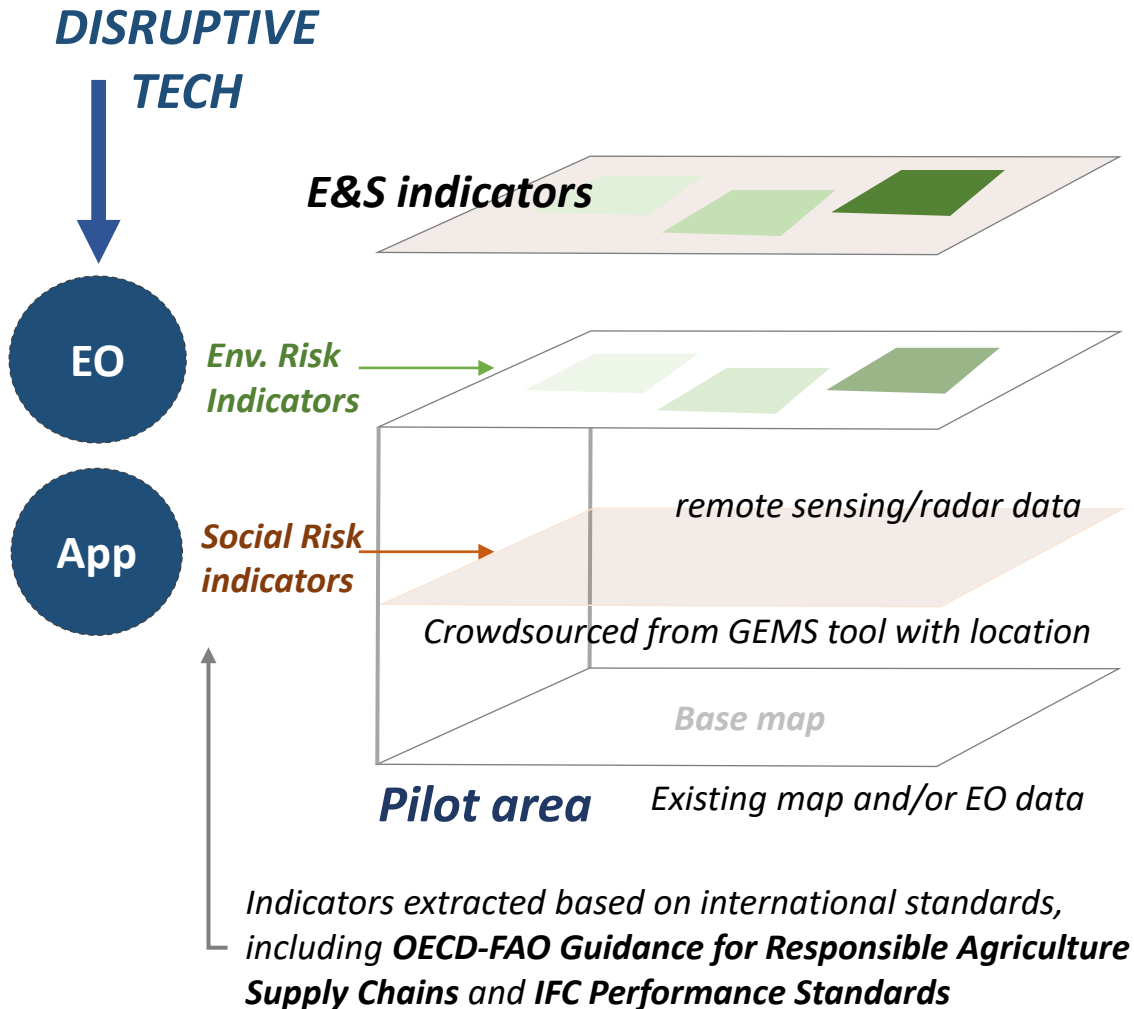
DT4D Grant Overview

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



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)

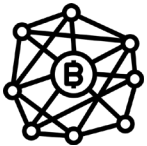
Agricultural enterprises and Disruptive Technology



- **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



- **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

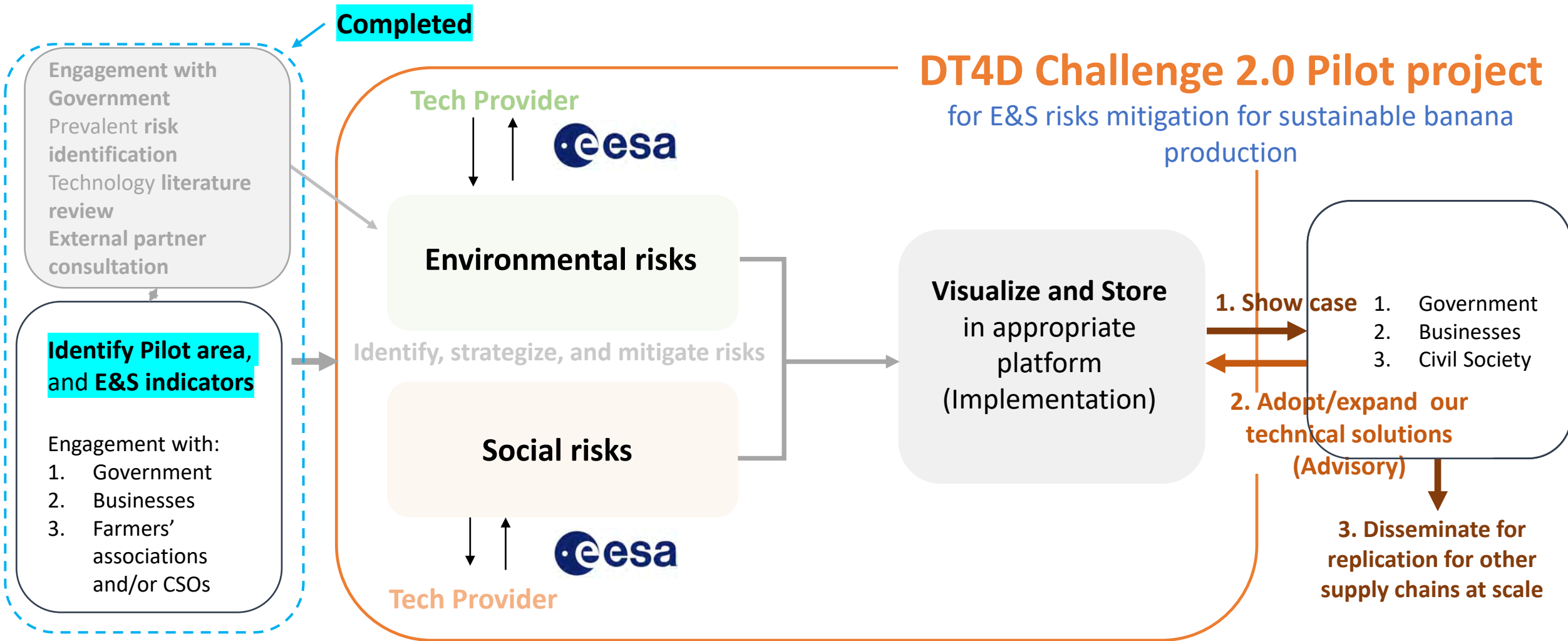


- **Blockchain** supports traceability of commodities from downstream to upstream production and allows decentralized real-time information to be gathered and shared within a 'network' of authorized users



- **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



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



Government

Counterpart: Department of Agriculture for Responsible Agricultural Supply Chains

Identification of most pressing challenges for the sustainability of banana production, and priority regions



Civil Society

Strategy for engaging with civil society organizations and relevant farmers' associations

Identifying modalities for the piloting of crowdsourced mobile data



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