

財團法人國際合作發展基金會

**International Cooperation and
Development Fund**

This is not an ADB material. The views expressed in this document are the views of the author/s and/or their organizations and do not necessarily reflect the views or policies of the Asian Development Bank, or its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy and/or completeness of the material's contents, and accepts no responsibility for any direct or indirect consequence of their use or reliance, whether wholly or partially. Please feel free to contact the authors directly should you have queries.

GIS/EO Development Strategy

Yunching Tseng
Director

Research, Development and Evaluation Department
International Cooperation and Development Fund

Contents

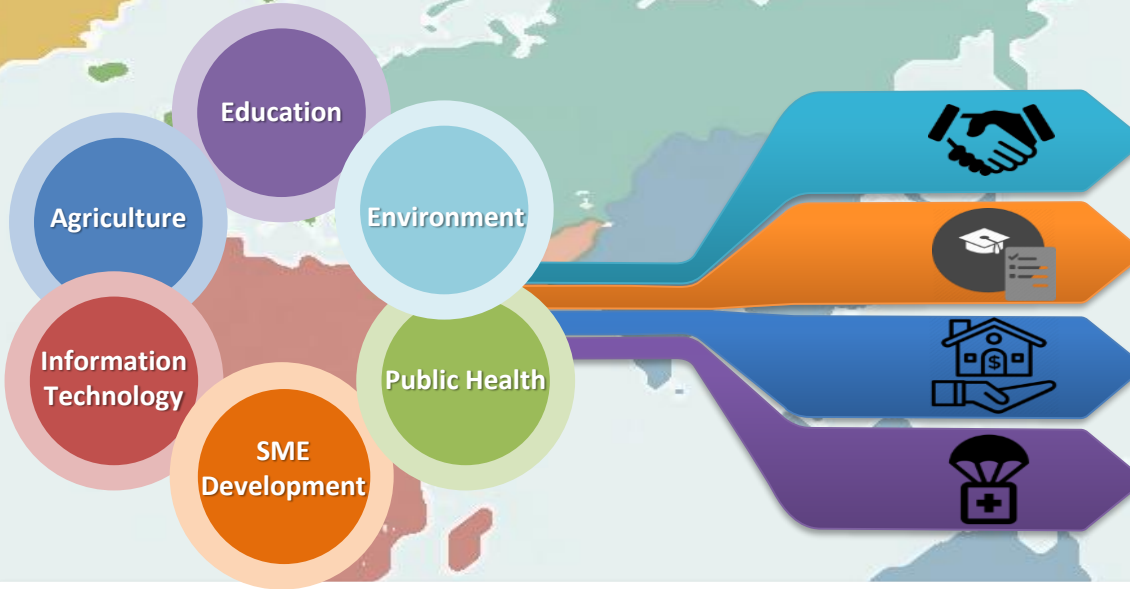
- **Introduction**

- **GIS/EO Key Development Strategy**

- **On-Going Projects & Case Studies**

Introduction

SUSTAINABLE DEVELOPMENT GOALS



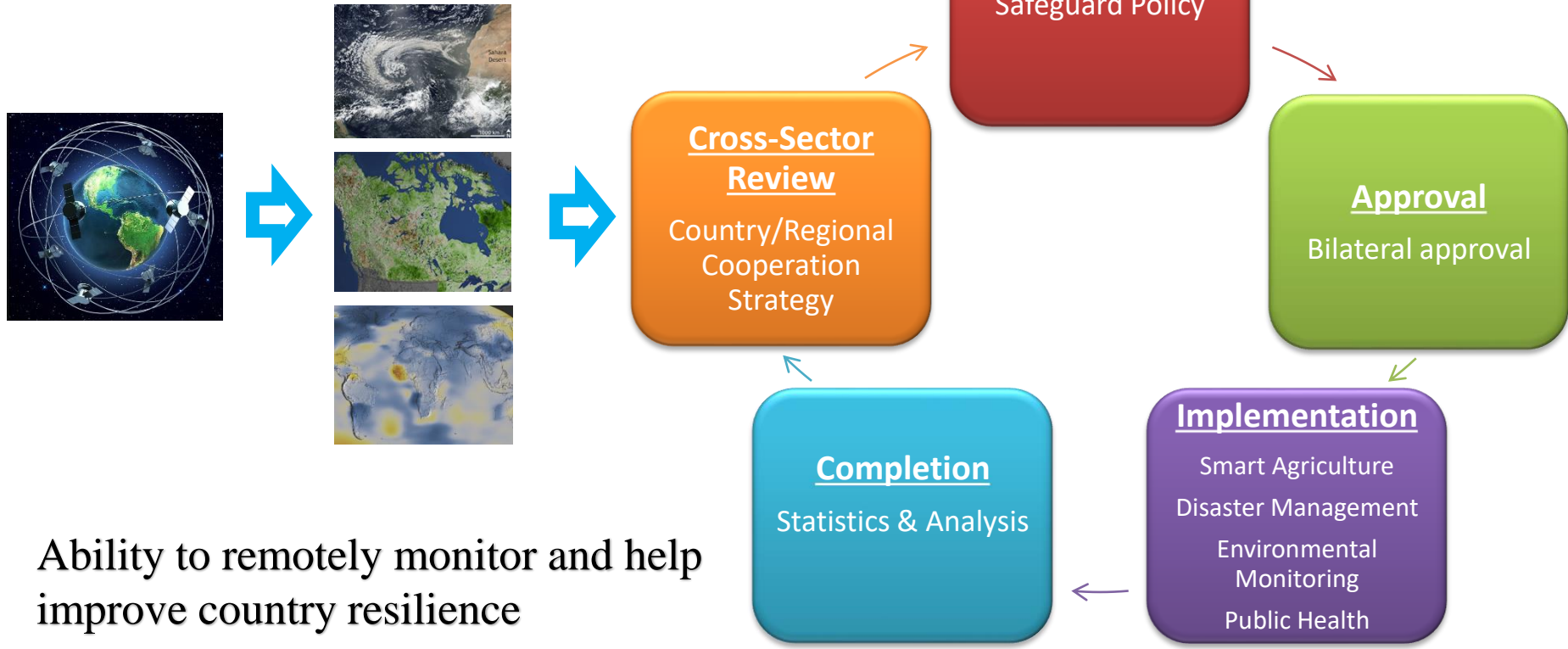
- Technical Cooperation**
 - Boosting socio-economic development
- Education and Training**
 - Enhancing human resources
- Lending and Investment**
 - Promoting economic expansion
- Humanitarian Assistance**
 - Building resilience

- 96 ongoing projects in 37 countries
- 22 technical missions with around 250 professionals in the field
- 18 overlapping countries between our project implementing areas and ADB's member countries

Strategy

GIS/EO

GIS/EO in Project Cycle



Ability to remotely monitor and help improve country resilience

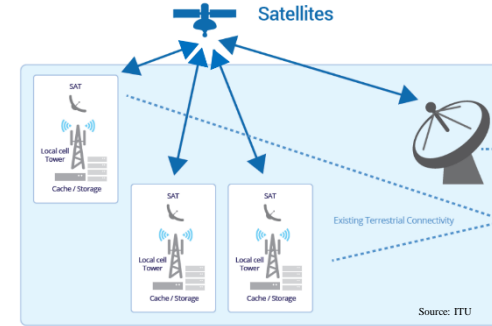
GIS/EO Innovation

Lessons Learned

- Traditional satellite technology may require significant amount of funds and time
- Integration with existing GIS/EO systems may also require lots of resources

Innovation

- Leverage on existing open source, technologies and platforms
 - Crowdsourcing, SAR, Data Cube, UAV, Cell Broadcast Service, and AI/IoT Technology
- More efficient & lower cost
- Similar accuracy



GIS/EO Key Development Strategy



On-Going Projects & Case Studies

GIS/EO AGRICULTURE & DISASTER MANAGEMENT DEVELOPMENT

GIS/EO Projects - Agriculture



**Nicaragua: Weedy Rice Distribution Map (2020-2021),
Rice and common bean planting integrated system (2021-2025)**

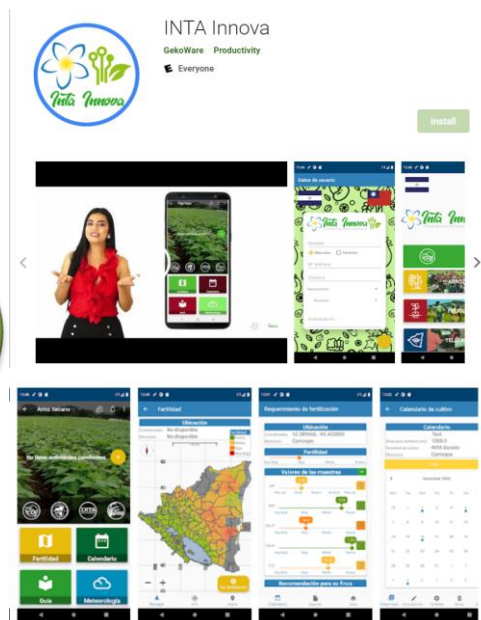
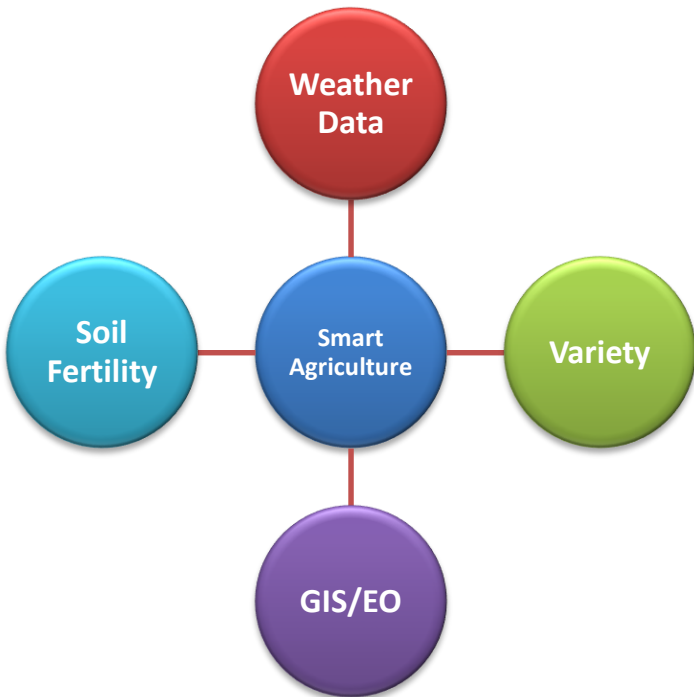
**Guatemala, Nicaragua, Honduras, Belize: Fusarium
Wilt of Banana Monitoring (2020-2021)**

Haiti: Irrigation Map for Les Cayes Plain (2018-2021)

**Eswatini: National Pig Farmers
Industry Analysis (2021-2025)**

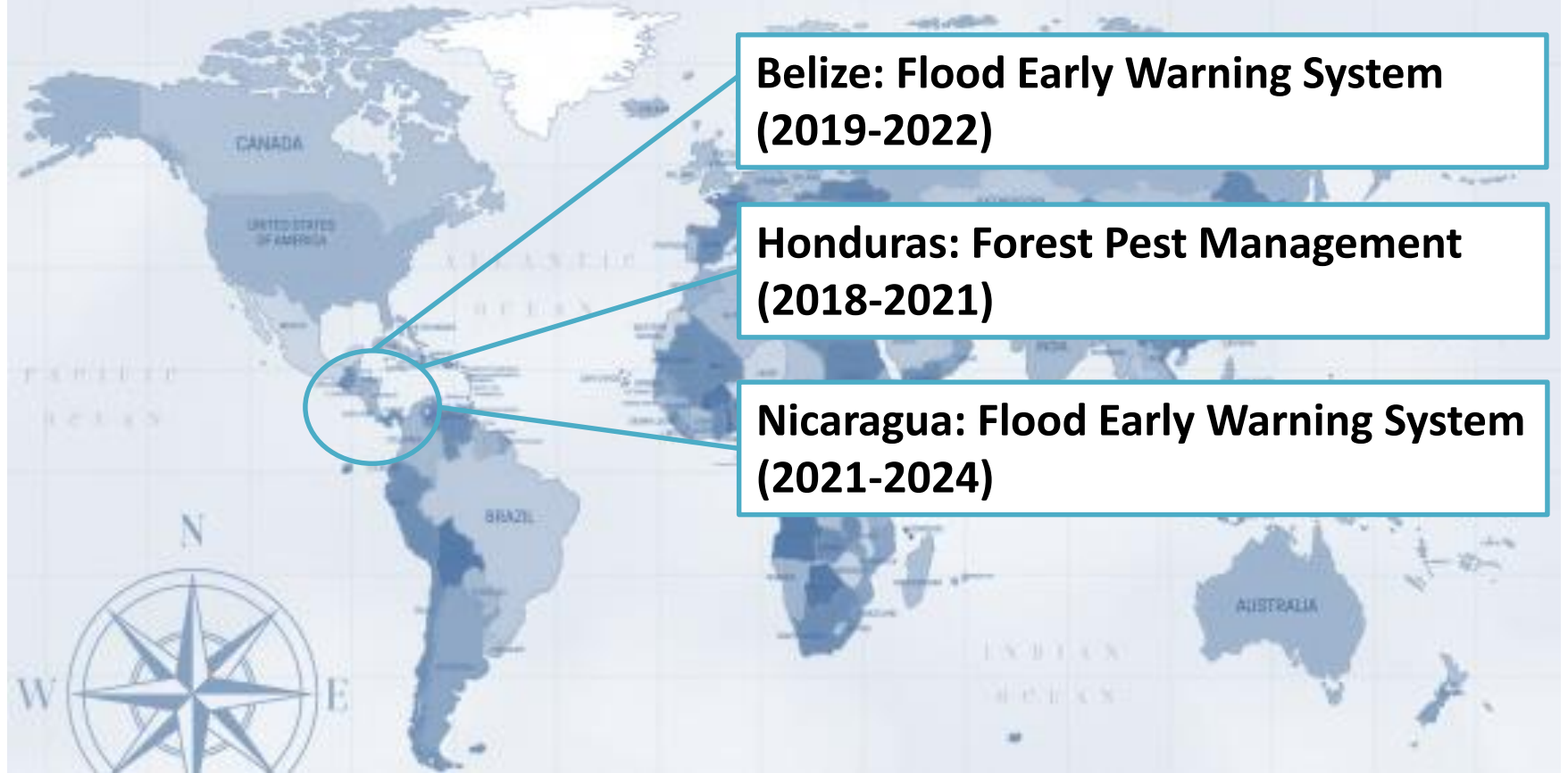
Case Study: Agriculture

Improve Productivity of Rice and Common Bean by implement Innovative Technologies Research in Nicaragua



- ✓ National Soil Fertility Map
- ✓ Fertilization recommendations
- ✓ Weather information
- ✓ Crowdsourcing mechanism
- ✓ Free to public

GIS/EO Projects - Disaster Management



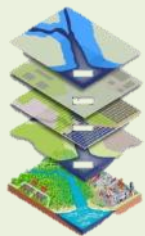
**Belize: Flood Early Warning System
(2019-2022)**

**Honduras: Forest Pest Management
(2018-2021)**

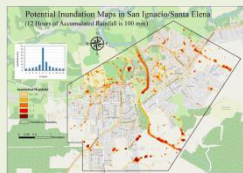
**Nicaragua: Flood Early Warning System
(2021-2024)**

Case Study: Disaster Management

Belize Urban Resilience and Disaster Prevention Project



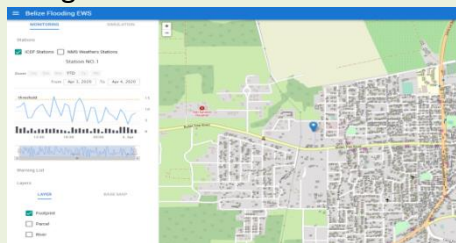
1. Updates basic maps from open data and public archives



2. Outlines the flooding potential maps



3. Establishes water regimen monitoring stations



FLOOD EARLY WARNING SYSTEM

	Before	After
Pre-disaster preparedness ability	Based on flooding experience, no precise location	Flooding potential map and Risk map
Scientific monitoring technology	1 monitoring station	5 automatic monitoring stations
Flood warning	Responding and recovering after a disaster	Warning 2~3 hours before flood
Disaster response process	Report the disaster manually	Automatic report

GIS/ EO in Agriculture & Disaster Management Development



Approach



Alignment with Sustainable Development Goals (SDGs)



Expand Partnerships with Like-Minded Organizations



Exchange of Best Practices and Technology and Knowledge Transfer to Partner Countries





Thank you!

**A Better
World,
A Brighter
Future**