



Republic of the Philippines

Philippine Statistics Authority



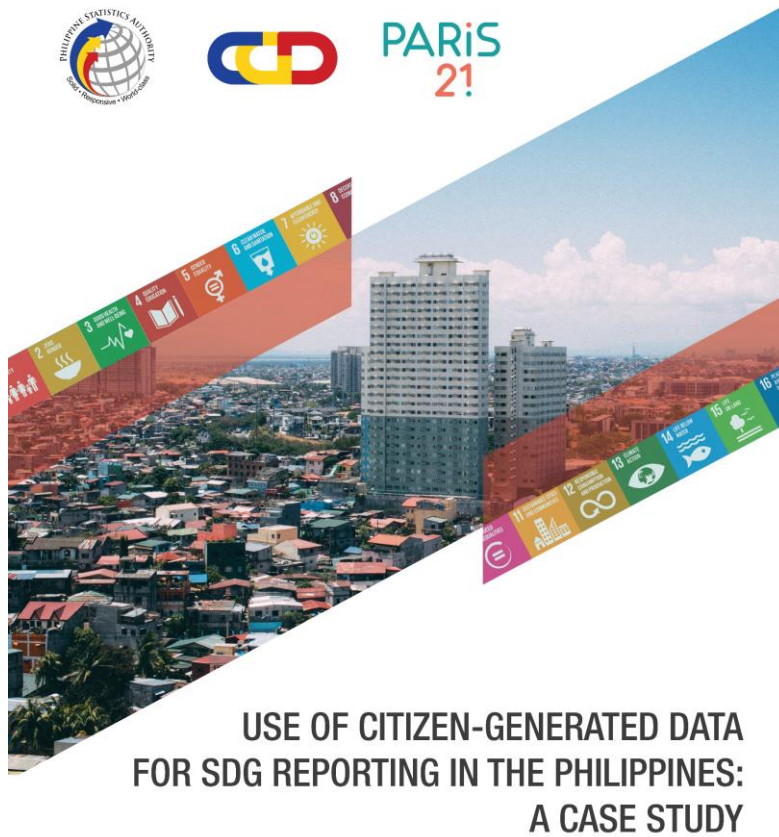
# **PSA's Experiences on Citizen-Generated Data and Other Non-Traditional Data in support of the Sustainable Development Goals**

**Claire Dennis S. Mapa, Ph.D.**

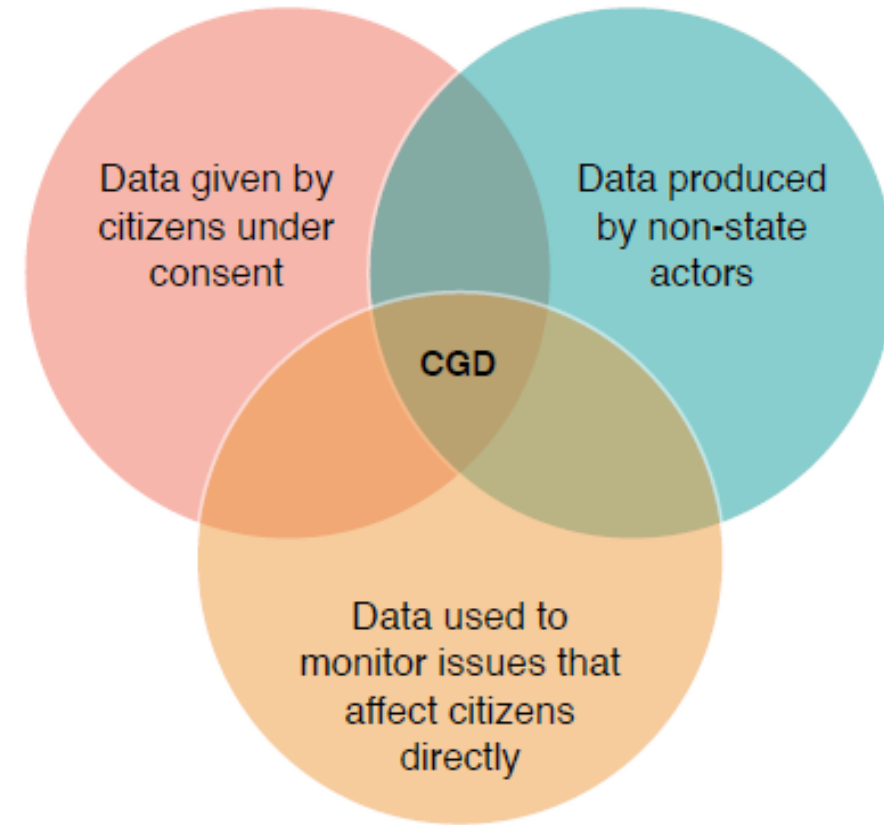
**Undersecretary, National Statistician and Civil Registrar General  
Philippine Statistics Authority (PSA)**

52<sup>nd</sup> Session of the UN STATCOM side event:  
BIG DATA FOR THE SDG – WHAT IS THE WAY FORWARD  
09 March 2021

# 1. Use of citizen-generated data (CGD) to address data gaps in SDG monitoring



JUNE 2020



*Source: Authors' own elaboration*

# 1. Use of citizen-generated data (CGD) to address data gaps in SDG monitoring



TIER 1

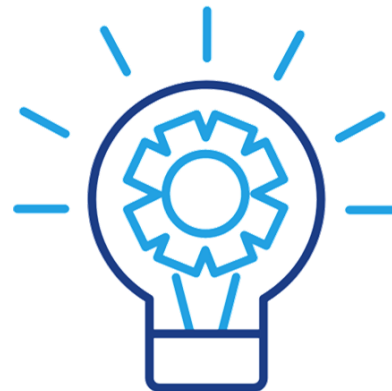
**36**

INDICATORS

TIER 2

**24**

INDICATORS

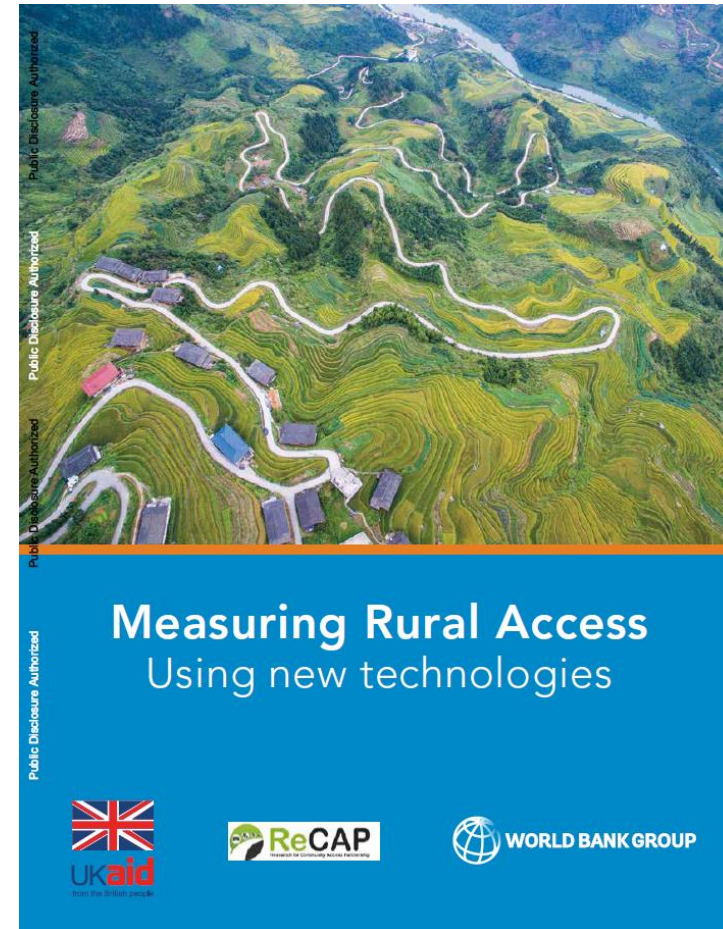
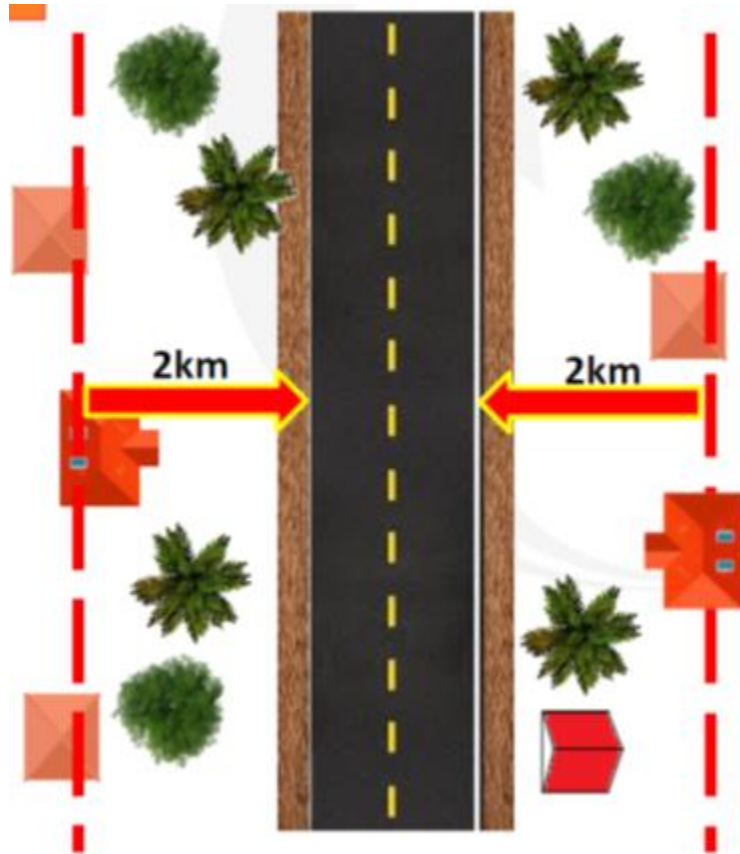


TIER 3

**21**

INDICATORS

## 2. Rural Access Index (RAI)



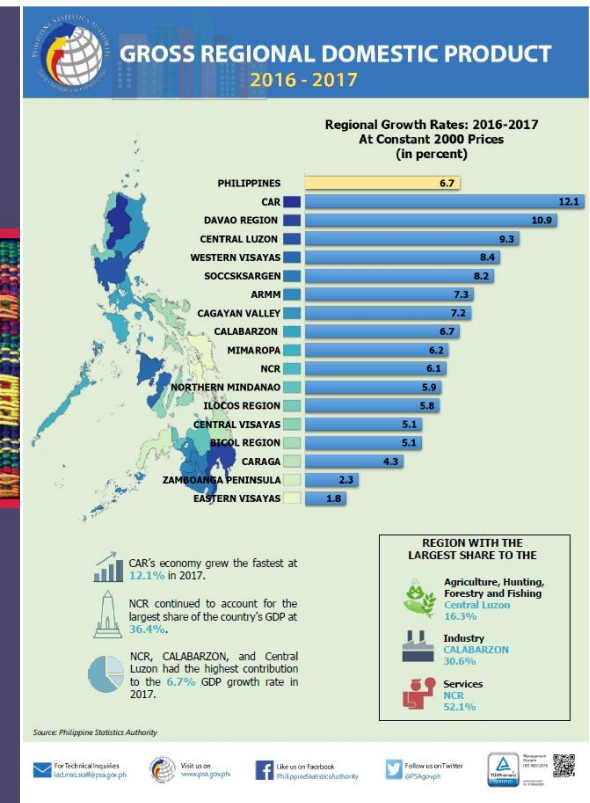
## 2. Rural Access Index (RAI)



**Philippines**

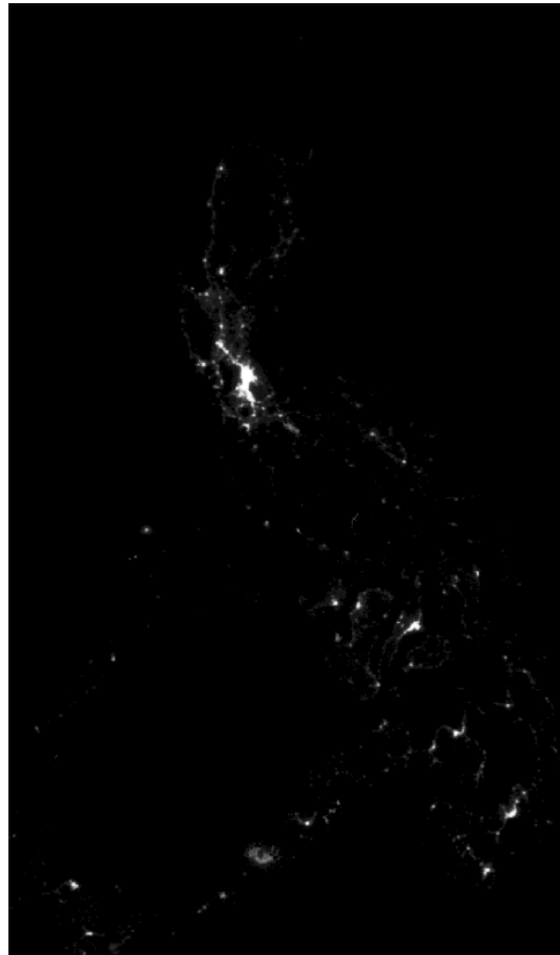


**National Demographic and Health Survey 2017**



### 3. Enhancement of SAE incorporating night time lights from satellite images

Philippines 2012



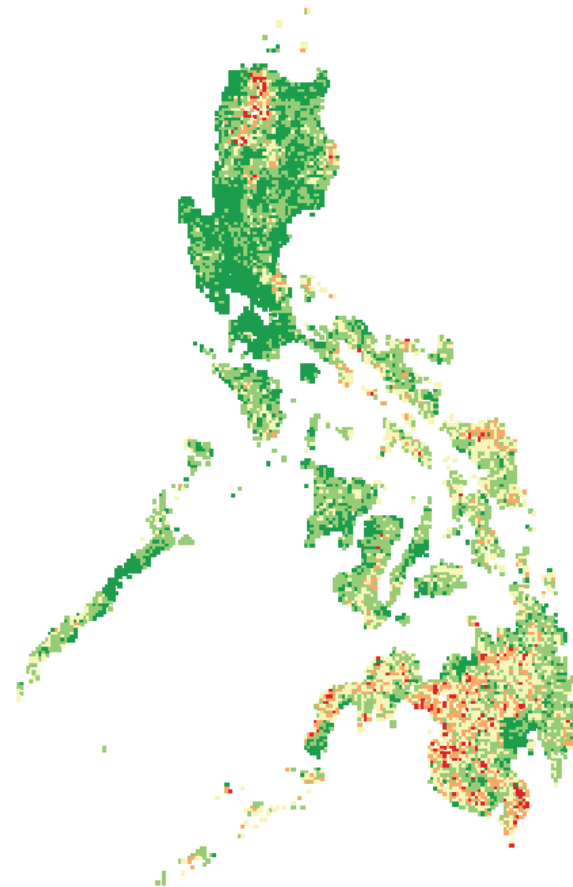
Philippines 2015



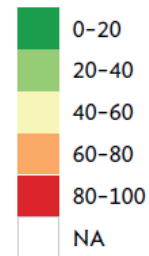
Night Light Image Tiles

### 3. Enhancement of SAE incorporating night time lights from satellite images

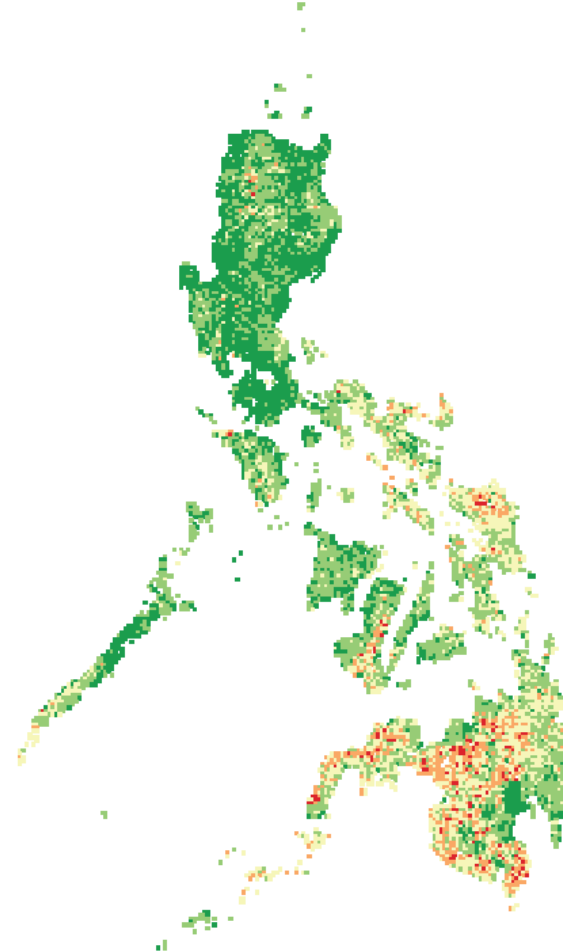
Philippines 2012



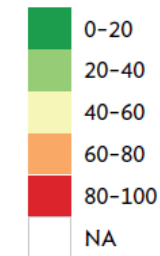
Poverty rate per 4km x 4km:



Philippines 2015

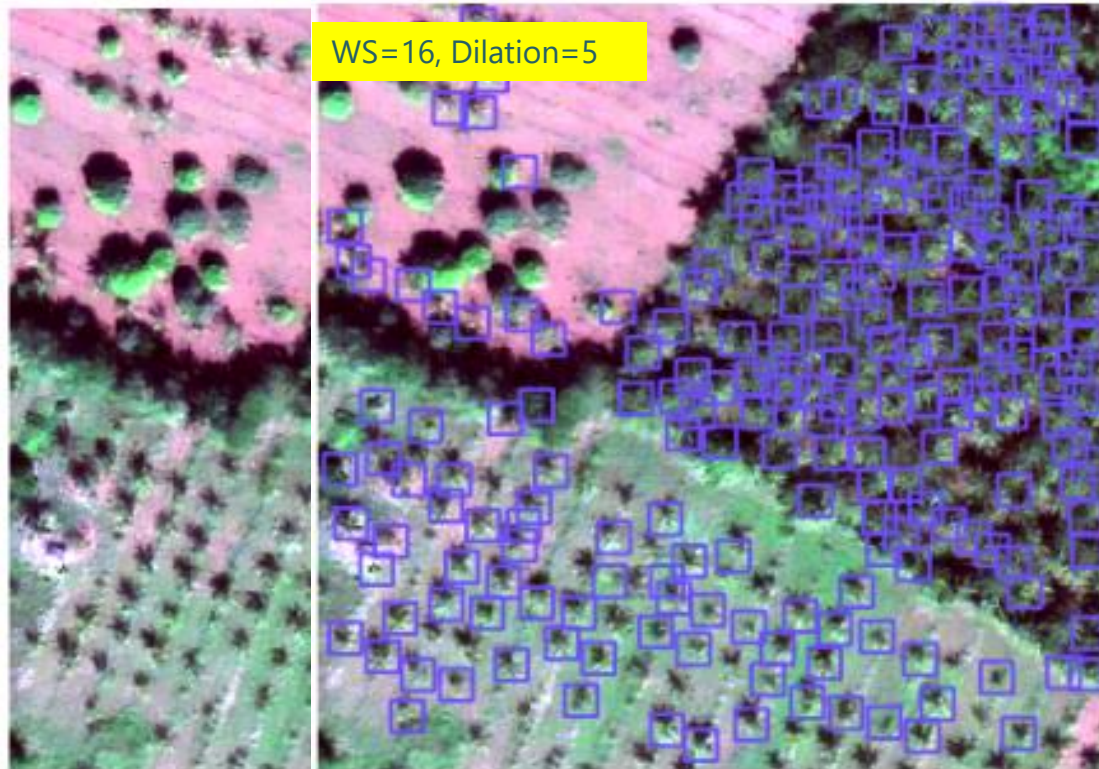


Poverty rate per 4km x 4km:



Calibrated Machine-Learning Poverty Predictions

## 4. Artificial Intelligence for the Census of Agriculture and Fisheries (AI4CAF)



### Accuracy Assessment from Ground Truthing

- Acacia and mahogany falsely detected as mango will be added as non-mango in the training data

**Mango (AI Model 4)**

95.95%  
Overall Accuracy

- Banana and palm trees falsely detected as coconut will be added as non-coconut in the training data

**Coconut (AI Model 4)**

85.35%  
Overall Accuracy

- Rice fields detected as fishponds will be removed in the final prediction files - rice mapping project of DOST-ASTI will be used as basis

**Fishpond (AI Model 3)**

85.86%  
Overall Accuracy

*Note: At least 85% accuracy rate is considered acceptable.*





## 4. Artificial Intelligence for the Census of Agriculture and Fisheries (AI4CAF)

1  
2  
3

PREDICTION  
MODELS

GROUND TRUTHING

CAPACITY BUILDING





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## References:

### **Relating Rural Access Index and Poverty in the Philippines**

Justin Angelo O. Bantang, Statistical Specialist II, Philippine Statistics Authority

### **Measuring the Rural Access Index (SDG 9.1.1) for the Philippines**

Candido J. Astrologo, Jr., Censuses and Technical Coordination Office, Philippine Statistics Authority

### **Going Beyond Measuring the Rural Access Index in the Philippines**

Justin Angelo O. Bantang; Patricia Anne R. San Buenaventura; Joy Angiela H. Garraez

Philippine Statistics Authority

### **Use of Citizen-Generated Data for SDG Reporting in the Philippines: A Case Study**

PARIS21, Philippine Statistics Authority, Philippine Statistical Research and Training Institute (PSRTI)

### **Mapping Poverty through Data Integration and Artificial Intelligence: A Special Supplement of the Key Indicators for Asia and the Pacific 2020**

Asian Development Bank

### **Artificial Intelligence for Census of Agriculture and Fisheries (AI4CAF) Project**

Erma A. Aquino, Chief Statistical Specialist

Philippine Statistics Authority

# Thank you



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