8th International Conference on BIG DATA
& Data Science for Official Statistics

BILBAO 2024
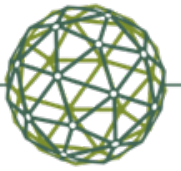
Informing Climate Change and Sustainable Development Policies with Integrated Data

BILBAO. SPAIN | 10-14 JUNE 2024 | #UNBigData2024

Regional Hub on Big Data and Data Science for Asia and The Pacific in Indonesia

LUTFI RAHMATUTI MAGHFIROH
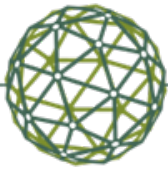
BPS–STATISTICS INDONESIA

UN HUBS for BIG DATA and DATA SCIENCE

Regional Hub
on Big Data and
Data Science
for Asia and The Pacific

- GLOBAL HUBS are centers of excellence specializing in innovative fields.

- UN ARIES for SEEA Sector Hub: environmental-economic accounting and sustainability

- Global Hub in China: remote sensing for agriculture statistics and measurement of e-commerce

- REGIONAL HUBS facilitate innovation projects, the sharing of methods, algorithms and tools, and the provision of training in the use of data science for the community of official statisticians in their respective regions.
  - Regional Hub in Brazil
  - Regional Hub in UAE
  - Regional Hub in Rwanda
  - Regional Hub in Indonesia

REGIONAL HUB PARTNERSHIP
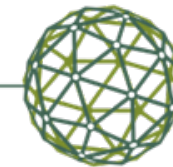
Regional Hub on Big Data and Data Science

for Asia and The Pacific

The main objectives of the Regional Hub for Asia and the Pacific are the **facilitation of projects in the use of Big Data and data science for official statistics and SDG indicators**, **the sharing of knowledge** on newly developed methods, algorithms and tools, and **the provision of training** in the use of **Big Data** and **data science** for the **community of official statisticians in Asia and the Pacific**.
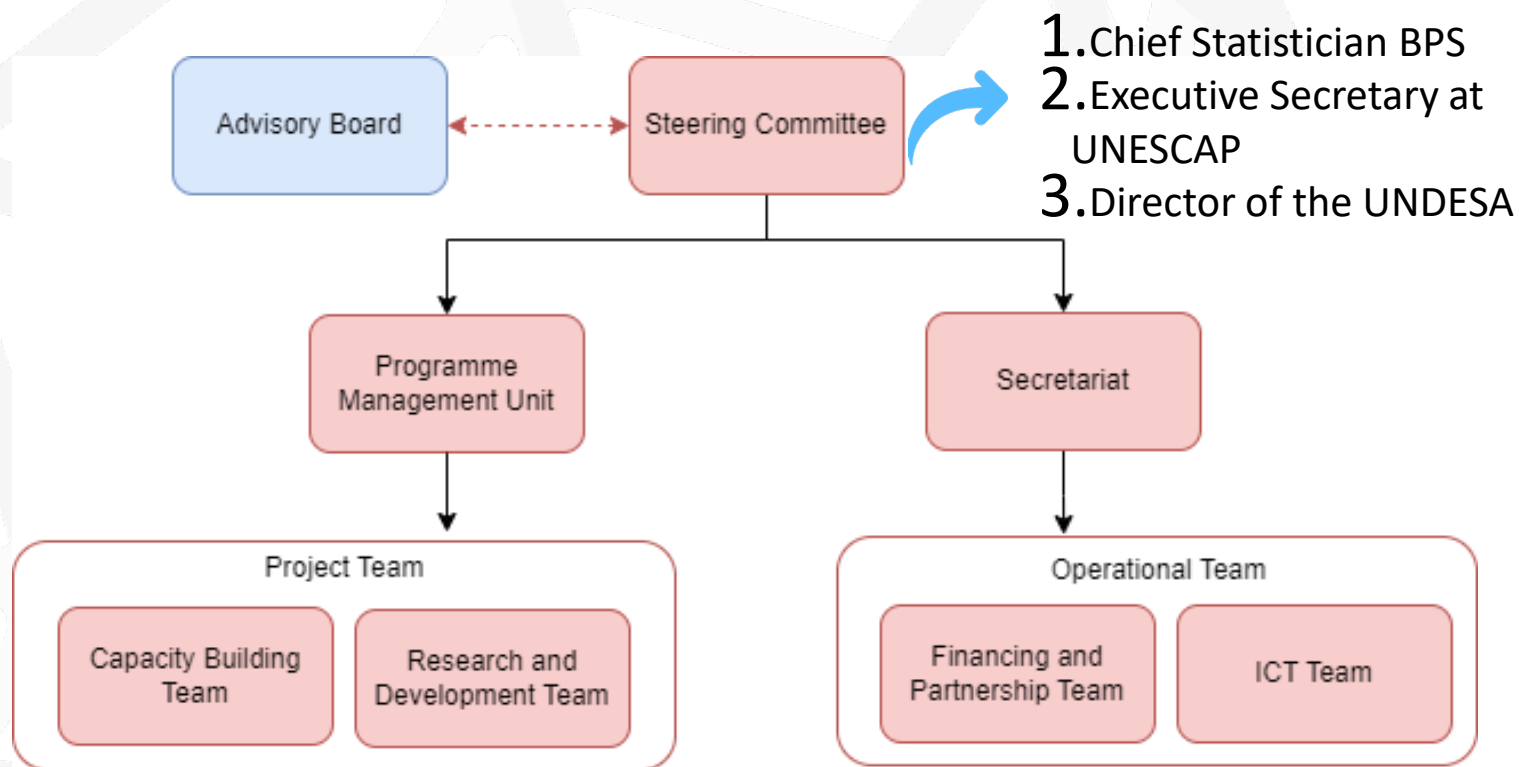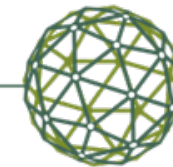
STRUCTURE

1. Mr. Alfian Manulang, VP Data Solution **Telkomsel**
2. Mr. Ahmed Alsaeed, Focal Area Lead, Innovation Scaling (**United Nations Global Pulse Asia Pacific**)
3. Prof. Dr. Ir. Bustanul Arifin, M.Sc., Chairman of **Indonesia Statistical Society Forum (FMS)**
4. Prof. Kerrie Mengersen (**Australian Data Science Network**)
5. Dr. **Anders Holmberg,** Chief Methodologist and General Manager, Methodology & Data Science Division (**Australian Bureau of Statistics**)
6. Ms. Oyunbileg Delgersaikhan, Director of Data, Research and Analysis Division of Census and Data Analysis Department (**NSO Mongolia**)
7. Mr. Akrom Sultanov (**The Statistics Agency under the President of the Republic of Uzbekistan**)
8. Ms. Jamaliah Jaafar (**Department of Statistics Malaysia**)
9. Mr. **Andy Calo,** Chief Statistician (**Vanuatu Bureau of Statistics**)
10. Mr. Karim Ghalaini, Regional Chief of ICT (**UNICEF**)
11. Mr. **Peter Ellis**, **Secretariat for Pacific Community (SPC)**
12. Mr. Shri Amit Kumar, Joint Director, Computer Centre, **MOSPI India**

We have scheduled a June meeting of the advisory board.

1. Chief Statistician BPS
2. Executive Secretary at UNESCAP
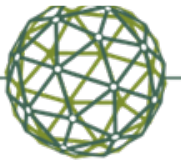3. Director of the UNDESA

ACTIVITIES

- **Coordination of institutions and groups working** on Big Data and data science across Asia and the Pacific;

- **Research on the use of Big Data and data science** for the development of new statistical methods and techniques;

- **Capacity-building and training** of statisticians and data scientists from national, regional and global statistical offices;

- **International seminars and workshops** on data science and modernization of official statistics;

- **Advocacy for Big Data and data science** in official statistics and help to **attract support and funding** for Big Data and data science and for the work of the Regional Hub for Asia and the Pacific;

- **Further collaboration** with UN Global Platform and other regional hubs in sharing new statistical methods, techniques, and learning of Big Data and data science among the community of official statistics and its stakeholders.
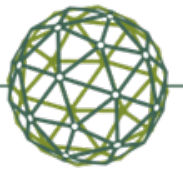
The Establishment of Regional Hub on Big Data and Data Science for Asia and the Pacific

24 November 2023, Jakarta

Deliverables to date

WORKSHOP: Introduction to Remote Sensing and Land Cover Classification"

- **21-24 Nov 2023**, Politeknik Statistika STIS
- **Objective**: **help** participants better **understand** the utilization of Remote Sensing for Land Cover Classification supporting the Agricultural Statistics.
- **Participants**: Lao People's Democratic Republic, Union of Myanmar, Sri Lanka, Timor Leste, Viet Nam, Cambodia

R&D: Agriculture Monitoring Using Satellite Imagery Analytics

- **6 Feb 2024**→ **webinar** on rice estimation using earth observation data in Indonesia→ **Overview** of mixed method development and Feedback from Global expert
- **4-8 Mar 2024**→ **Technical assistance** from ESCAP and FAO→ **review** of mixed method for the mapping of rice in Indonesia
- **7 Jun 2024**→ **expert** round table – **webinar** (online).
- **2 Jul 2024**→ data cube **training**, **field visit** (to west java), technical **discussion**→ technical report, promotion video, use case story write up, publish an official paper.

CAPACITY BUILDING: Agriculture Monitoring Using Satellite Imagery Analytics, Technical **Webinar** "One Rice Data"

- **6 Feb 2024**, Online
- **Objective**: discuss progress of the Earth Observation data utilization for One Rice Data in Indonesia
- **Participants**: mixed method team (The Ministry of National Development Planning/Bappenas, the National Research and Innovation Agency/BRIN, Statistics Indonesia, Indonesian Ministry of Agriculture/Kementan, FAO, UNSW, UNBD China)

CAPACITY BUILDING: Agriculture Monitoring Using Satellite Imagery Analytics, Technical Workshop "One Rice Data"
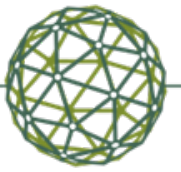
- **4-8 Mar 2024**, Jakarta
- **Objective**: expert assistance of the Earth Observation data utilization for One Rice Data in Indonesia
- **Participants**: mixed method team (The Ministry of National Development Planning/Bappenas, the National Research and Innovation Agency/BRIN, Statistics Indonesia, Indonesian Ministry of Agriculture/Kementan, FAO)

CAPACITY BUILDING: Mobile Positioning Data (MPD) for Official Statistics

- **22 Mar 2024**, Online → **Webinar** "From MPD to Official Statistics: A Journey"
- **Objective**: sharing success story of MPD implementation for official statistics
- Target **Participants**: staff of NSOs from Asia and the Pacific

CAPACITY BUILDING: Web Scraping Prices for Consumer Price Index (CPI)

- **May - Sept 2024**
- Web Scraping Prices for CPI Training Program
- Objective: develop skills to scrape price data from relevant websites and understand how it can be utilized to produce consumer price indices (CPI)
- In Collaboration with UNESCAP
- Remote training sessions during May-August 2024, as well as an in-person workshop, to be held in Bangkok, Thailand, 16 - 20 September 2024.
- The Regional Hub will participate in providing mentors.

FUTURE PLAN

CAPACITY BUILDING: Web Scraping Prices for Consumer Price Index (CPI)

- Web Scraping Prices for CPI **Training** Program
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- The Regional Hub will participate in **providing mentors**.

CAPACITY BUILDING: Mobile Positioning Data (MPD) for Official Statistics

- **Workshop** "MPD Processing and Analytic for Official Statistics"
- **29 Jul-2 Aug 2024**, Jakarta
- **Objective**: develop technical skill of MPD utilization for official statistics.
- Target **participants**: technical-level staff members of NSOs from Asia and the Pacific, including Bangladesh, Kazakhstan, Papua New Guinea, Timor Leste, etc.,
- In **collaboration** with Mobile Network Operator: Telkomsel Indonesia

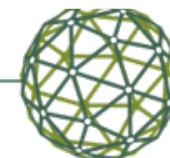## CAPACITY BUILDING: Small Area Estimation (SAE) for SDGs

- **Workshop** on "SDG Data Disaggregation Using Small Area Estimation and Machine Learning"
- **11-13 June** 2024, Jakarta
- **Objective**: develop technical skills to produce disaggregated data of SDGs through small area estimation and machine learning techniques
- In **collaboration** with ADB and ASEAN Statistics
- Target **participants**: ASEAN countries (Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Thailand and Viet Nam)

CAPACITY BUILDING: Machine Learning for Official Statistics

- **Oct 2024**
- Provide participants better **understand** the **use** of Machine Learning in the production of Official Statistics.
- In **Collaboration** with UNSD
- **Workshop** will be held at Politeknik Statistika STIS
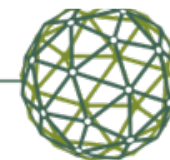- Resource **persons** from BPS Statistics Indonesia in Collaboration with SIAP

COMPETITION: Indonesia Datathon

- Data Science for Policy Making Datathon
- **Jun-Sept 2024**, Indonesia and Australia
- Data Science for Policy Making Datathon
- in **Collaboration** with Australia Indonesia Partnership for Economic Development (Prospera) and ABS
- **Objective**: encourage government officers to contribute solutions to to enhance policy making through data science, related to: (1) Population mobility, Civil registration and vital statistics, and migration and (2) Understanding the role of the business sector in the economy – Importance of business registers
- Target **participants**: Indonesia government officers from different ministries

NEXT STEP

- CAPACITY BUILDING: Mobile Positioning Data (MPD) for Official Statistics Seminar "Introduction of MPD for Official Statistics"
  - 21-23 May 2025, Jakarta
  - **Objective**: discuss the latest innovations of MPD utilization for official statistics.
  - Target **participants**: managerial-level staff members of NSOs from Asia and the Pacific, including Timor Leste

- CAPACITY BUILDING: Short course "MPD Processing and Analytic for Official Statistics"
  - 28 Jul - 13 Aug 2025, Bali
  - **Objective**: develop technical skill of MPD utilization for official statistics.
  - Target participants: technical-level staff members of NSOs from Asia and the Pacific, including Timor Leste

- RESEARCH & DEVELOPMENT: Mobile Positioning Data (MPD) for Official Statistics
  - Aug - Dec 2025, Timor Leste
  - Pilot Project "MPD for Tourism Statistics"
  - **Objective**: assistance in preparation for implementing MPD for official statistics
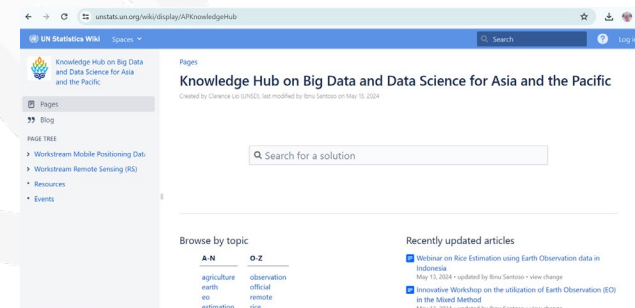 - Target **participants**: Timor Leste

Challenges

- Persuade funders candidate the event will be beneficial to them.
    - ESCAP
    - Indonesian Aid: limited available recipient country,
    - Private Party (e.g: Mobile Network Operator): need MoU or third party to manage funding

- Bringing together the voices of UNESCAP and Funders.

- Finding topics that suitable for general and custom purpose.

- Limited Resource: expert, computational resource (HPC) etc
    - Implementation in other countries
    - currently developing HPC, already have command and data center.

- Maintaining sustainability of workstream/activity.

- Data source for training.

Terima kasih - Gracias

https://hub.bps.go.id/

https://unstats.un.org/wiki/display/APKnowledgeHub

#UNBigData2024