

# 8th Joint Project Team Meeting for Sentinel Asia STEP3 (JPTM2023)

## Summary

17-18 September, 2023



The 8<sup>th</sup> JPTM consisted of 6 sessions plus 4 training workshops, and 37 presentations were made during the 2 days meeting. The training session offered opportunities to learn about the studies by Sentinel Asia members. **In total, 85 Participants, 35 Organizations.**



## Day One (17th September, 2023)

### Opening Ceremony

Attendees had opening ceremony of the 8<sup>th</sup> JPTM (JPTM 2023), with the presence of Dr. Robertus Heru, Chairman of the ORPA-BRIN and Dr. Shirou Kawakita, Acting Executive Secretary of Sentinel Asia.

Dr. Robertus welcomed the participants and noted importance of the disaster management including Sentinel Asia activities.

Dr. Kawakita, acting executive secretary of Sentinel Asia expressed his pleasure to have Sentinel Asia members at JPTM 2023, after almost four years of absence of the meeting.

## Session 1: Overview

- **Recent Activities of Sentinel Asia Since 2020**

Mr. Goro Takei, Deputy Executive Secretariat of Sentinel Asia reported the activities of Sentinel Asia since last JPTM 2019 in Thailand, including addition of new members. He introduced several cases of the past Sentinel Asia's Emergency Observation Requests (EOR), and the efforts promoting Sentinel Asia activities. Also, Sentinel Asia established Standard Operation Procedures (SOP) with several countries to expedite EOR activations.

- **Report of the Steering Committee and APRSAF28**

Mr. Koji Suzuki, Co-chair of Sentinel Asia Steering Committee, reported the overview of the discussion by Sentinel Asia Steering Committee including last two Face-to-Face meetings.

## Session 2: New membership

### Presentation by new members

- Mr. A M Mustofa Sorwar of Bangladesh Water Development Board (BWDB)
- Mr. Noel Jerome B. Borlongan of Philippine Space Agency (PhilSA)
- Ms. Seher Turan of Disaster and Emergency Management Presidency (AFAD)
- Mr. Michael Manalili of UN World Food Programme (WFP)

The representatives from new Sentinel Asia members introduced their institutions and its activities.

Ms. Yuki Tanaka from Sentinel Asia secretariat informed organizational changes of the member organizations in recent years, and Sentinel Asia Members approved the continuation of the membership of referred organizations.

## Session 3: User's Session

### Presentation on good practices of Sentinel Asia or expectation towards Sentinel Asia

- **Sentinel Asia in CA: Lessons learned of 2020-2023 and Search Potential Solutions**  
Mr. Ulan Abdybachaev of CAIAG presented the good practice and the missed opportunity of EOR in Central Asia region. He identified that restrictions in accessing diverse sources of information weakens the solidity within the Sentinel Asia community in the Central Asia region.
- **Regional Earth Observations Infrastructure**  
Mr. Kaliopate Tavola of SPC introduced Digital Earth Pacific, providing remote sensed data accessible to 26 member states of SPC. Also, he presented Pacific Risk Information System that provides exposure database of buildings, infrastructures, utilities, crops and livestock, used risk assessment and risk informed urban planning.

## Session 3: User's Session (Continued)

Presentation on good practices of Sentinel Asia or expectation towards Sentinel Asia

- **Utilization of satellite data in the recent volcanic disaster at Mt. Semeru, Indonesia**  
Dr. Yoshito Kikumori of BNPB introduced the case study on the Semeru Volcano eruption, where the satellite data was used.
- **Near Real Time Space based Support to NDMA/PDMAS during Flood 2022**  
Dr. Mohammad Farooq of SUPARCO reported about the flood in Pakistan in 2022. He also introduced other cases including forest fire.
- **Disaster Management Activities in Bangladesh**  
Mr. Mohammad Imrul Islam of SPARRSO, reported about the disaster management in Bangladesh.
- **Remotely Sensed Satellite-based Disaster Monitoring in Lao PDR**  
Mr. Soukanh Lathsavong of MONRE, Lao PDR reported the satellite data-based disaster monitoring in his country. They will follow further cooperation with Sentinel Asia.

## Special Session : Indonesia session

### Accelerating Satellite-based Data and Information for Disaster Risk Management in Indonesia

Prof. Dr. Erna Sri Adiningsih of INASA-BRIN, moderated the panel.

1. Dr. Ir. Udrekh of BNPB introduced his research on the past tsunami cases. Five recommendations are presented.
2. Mr. Bambang Surya Putra of BNPB introduced some of his analysis on the past disasters.
3. Dr. Jamal of Center of Geological Survey, ESDM reported the importance of satellite-based data and information for disaster management. He introduced some past cases of disasters.
4. Dr. Firman Hadi of Diponegoro University reported his experience at GIC-AIT on the assessment of the disasters.
5. Dr. Yenni Verita of BRIN introduced her and her team's work as RSO of UN-SPIDER including past disaster management cases.

Dr. Erna summarized the session mentioning importance of Sentinel Asia, not only for disaster quick response purposes, but also for updating the basemap data used on a platform for disaster risk reduction.



## Session 4 : Discussion session

5 panelists discussed on the further promotion of the Sentinel Asia STEP3 activities with Mr. Koji Suzuki, the co-chair of the Sentinel Asia Steering Committee from ADRC, as a facilitator.

1. Dr. Makoto Ikeda of ADRC reported the result of the questionnaires collected upon completion of Sentinel Asia EORs.
2. Dr. Peeranan Towashiraporn of ADPC introduced good practices of Sentinel Asia STEP3. He introduced SERVIR Southeast Asia as one of their activities for water-related disaster.
3. Dr. Niranga Alahacoon of IWMI talked about early warning and monitoring system, introducing systems like Southeast Asia Drought Monitoring System (SADMS) and others.
4. Mr. Michael Manalili of WFP presented WFPs geospatial innovation. He introduced their new systems including “ImpactAI”.
5. Mr. Lukmanul Hakim of BNPB reported their post disaster recovery management and its challenges.

## Session 4 : Discussion session (continued)

Questions from floor:

Q1: Does Sentinel Asia provide satellite data for various phase of disasters other than response phase?

Dr. Shiro Kawakita replied as a Sentinel Asia Secretariat: The current data provision policy of Sentinel Asia is limited to emergency observation request. There is ongoing discussion in the Sentinel Asia Steering Committee about expanding this scope, and we aim to establish a framework for it.

Q2: Which satellites are used for digitizing the images?

Mr. Micakel Manalili from WFP answered: Mainly, Digital Globe's open data is used.

After this session, Dr. Kawakita wrapped up the first day of JPTM 2023.

## Day Two (18th September, 2023)

### Training Workshop I: Emergency Observation

- **How to Request Emergency Observation Using OPTEMIS**

Mr. Goro Takei, Deputy Executive Secretariat, presented the procedure of Emergency Observation Requests (EOR) of Sentinel Asia, including the escalation process to the International Disasters Charter (IDC) using OPTEMIS, EOR Data Management System of Sentinel Asia

- **Standard Operation Procedure (SOP) for Smooth EOR**

Dr. Makoto Ikeda and Dr. Chihiro Tatebe of ADRC reported about the effectiveness of establishment of SOP based on the current status of process of EORs.

## Training Workshop II: Water Related Disaster Management/ Hazard map

- **Potential Flood Hazard Zonation and Flood Shelter Suitability Mapping for Disaster Risk Mitigation in Bangladesh Using Geospatial Technology**  
Mr. Kabir Uddin of ICIMOD reported their activities against flood hazard in cooperation with Sentinel Asia. He introduced several tools to manage flood damage and Flood Shelter Suitability Map.
- **Flood Monitoring Using GSMaP-IF**  
Dr. Morimasa Tsuda of BWDB introduced their use of GSMaP-IF, a result of UNESCO-Pakistan project with a fund by JICA.
- **Promoting Anticipatory Action for Disaster Mitigation Response through an Innovative CGIAR AWARE Platform (Early Warning to Action and Finance)**  
Dr. Niranga Alahacoon of IWMI introduced their early warning platform, AWARE, which has a function of early finance.

## Training Workshop III: Developed Systems

### \*Showcase developed systems for Disaster Management

- Promoting Anticipatory Action for Disaster Mitigation Response through an Innovative CGIAR AWARE Platform (Early Warning to Action and Finance)  
Dr. Niranga Alahacoon of IWMI demonstrated their AWARE platform introduced in the previous session. He showed an example in Zambia.
- Spatial Flood Early Warning  
Mr. Amanpreet Singh of ISRO reported his study on flood including development of flood early warning system.
- Rapid Mapping and Damage Assessment Based on Optical Satellite Data  
Dr. Mohammad Farooq of SUPARCO introduced the role of his institution concerning disaster management with examples of damage assessments for flood, earthquakes, and landslides.

## Data Analysis Node Session \*Practical workshop on analysis method

- **Using SAR data for Rapid Disaster Response Support in the EOS Remote Sensing Lab**  
Ms. Shi Tong Chin with Daniel and Chris of EOS introduced their analysis of SAR and optical data for rapid response, including an earthquake in Turkiye-Syria, Typhoon Doksuri, and wildfires in Hawaii.
- **DInSAR to Map the Land Deformation after the Earthquake Using Sentinel-1**  
Mr. Udhi Catur Nugroho of BRIN introduced his examples of DInSAR damage analysis with Sentinel-1 SAR data.

## Data Analysis Node Session (continued)

- **Improving Sentinel Asia's Emergency Response Activities: SAR Data Analysis and Mobile App Development**  
Mr. Syams Nashrullah Suprijatna of AIT reported AIT's response to Sentinel Asia EORs in 2022 and 2023. He also talked about the processing for flood mapping, and he introduced their "Disaster Survey Mobile App" for ground data collection.
- **Analysis Method Using Optical Satellite Data**  
Prof. Masahiko Nagai of Yamaguchi University talked about the analysis methods of optical satellite data, showing examples of satellite data harmonization. He introduced several ways of the calibration, including Inflight Point Spread Function using Mirror Arrays . He also introduced improvement of machine learning analysis.

## Training Workshop IV: Data Analysis Method (Chaired by BRIN)

### \*Practical workshop on analysis method

- **Automatic Analysis Method**

Ms. Yuki Takakura of JAXA introduced developing analysis systems that automatically extracts inundated area for flood hazards using SAR and optical satellite images. JAXA have already provided VAPs using this system to Sentinel Asia EORs.

- **Analysis of Satellite Images for Disaster Detection Using Customized Tools Built in QGIS**

Dr. Li-Yu Chang of TASA introduced their data analysis tool, Emergent Value-Added Product (EVAP) utilizing QGIS graphical modeler. It improved the efficiency and conveniency to create products and shared some case studies using them.



## Closing Session (Chaired by JAXA)

- **Summary of JPTM 2023 by Sentinel Asia Secretariat**  
The summary of the 8<sup>th</sup> JPTM hosted by BRIN is presented by Ms. Yuki Tanaka, the secretariat of Sentinel Asia.
- **Announcement of next JPTM host organization by Sentinel Asia Secretariat**  
Dr. Kawakita announced that the next host organization is not yet determined. The secretariat will announce when it is fixed.
- **Closing Remarks by BRIN**  
Dr. Adrin Tohari, Director for Research Center for Geological Disaster, BRIN expressed his pleasure that JPTM2023 was conducted successfully and appreciated all speakers and participants for their active contribution. He hoped further enhancement of capacity and collaboration through Sentinel Asia for the better disaster management in the Asia-Pacific region.