

**The 3rd Joint Project Team Meeting for Sentinel Asia STEP-3 (JPTM2016)
(Draft Summary)**

Date: 19 - 21 January 2016

Venue: Mt. Lavinia Hotel, Colombo, Sri Lanka

Number of Participants: 70

Attendees: Attached Appendix-1

Agenda: Attached Appendix-2

Inauguration Ceremony (MC: Ms. Chulesha Geeganage, DMC)

14:00, Tuesday, 19 January 2016

1. Major General L.B.R Mark, Director General DMC

Welcomed all participants and he mentioned about opportunities of STEP 3 Sentinel Asia activities and he also said using satellite image we can identify disaster-affected area quickly.

2. Remark by Mr. Peter G. McCornick, Deputy Director General IWMI

Welcomed the participants and briefly mentioned about IWMI that has been contributing to many sectors such as agriculture, etc. In addition, he also mentioned the most important thing is how we should use the information from space technology for water management to reduce impact of flood and drought and also how we can recover it faster.

3. Remarks by Mr. Michio Ito, Executive Secretariat Sentinel Asia, JAXA

Welcomed the participants and mentioned about target of Sentinel Asia that is sustainable and affordable Asia platform for disaster management through win-win relationship of each member. He also mentioned challenge that should be addressed, like how and when the appropriate time to utilize space technology by closely communicate and good relationship.

4. Address by Mr. S.S. Miyanawala, Secretary of Ministry of Disaster Management

As representative of Minister Disaster Management who could not be attend, he welcomed the participants and he mentioned JICA assistance from 2004 tsunami to enhance weather prediction through automatic rain-gauges, to mitigate landslide and to improve early warning capacity. He also mentioned hope for success to this program.

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5. Key note speech by Dr. Lal Samarakoon, GIC/AIT

He talked about potential and opportunities of the use of space-based technologies for DRR to prevent and reduce hazard exposure and vulnerability to disaster, and to increase preparedness for response and recovery and thus to strengthen resilience. In addition, he also mentioned about IDC, Copernicus and Sentinel Asia related to space technology for emergency.

Session 1: Status Report (MC: Ms. Rio Tanabe, JAXA)

16:08, Tuesday, 19 January 2016

- 1.1 Adoption of agenda introduced by Dr. Giriraj, IWMI, and it is agreed by participants.
- 1.2 Overview of Sentinel Asia status: Mr. Michio Ito, JAXA explained briefly about Sentinel Asia and the relationship with other organization. And he also introduced new members of SA.
- 1.3 Dr. Abdul Muhari, MMAF introduced his self as new member of SA. He mentioned that he has joined as Data Analysis Node (DAN) since Tsunami WG meeting at APRSAF22 in Bali on 2015.12 and also said about the experience of tsunami 2004 in Aceh and many tsunami happened in the world especially in Asia Pacific region. Tsunami WG would to response not only EOR but also other phase of Disaster cycle, such as Recover and Preparedness.
- 1.4 Overview of emergency observation: Mr. Makoto Ikeda, ADRC, presented about statistic of emergency observation request trend and about questionnaire about utilization of satellite image by users.
- 1.5 Data provider Node (DPN) report
 - Mr. Bo Chen from Narlab mentioned about contribution of FORMOSAT to SA activities since 2010.
 - Dr. Pham Viet Hoa, STI, VAST, also mentioned about contribution of VNREDSat-1 to SA activities and UNESCAP.
- 1.6 Primary Data Analysis Node (P-DAN) report
 - Dr. Jagath Rajapaksha, GIC/AIT, mentioned about some problems in the product that should be solve quickly such as scale, overlays map information, printing paper size and other.
 - Dr. Masahiko Nagai, UT, Japan, mentioned about improvement of capacity building by provided e-Learning System of G-Space to learn how to processing and analyze satellite images.
- 1.7 (Report by Ms. Hla Hla Aung from MEC was canceled)
- 1.8 Asia-Pacific Regional Space Agency Forum (APRSAF) - 22 Report, Mt Masanabu Tsuji, JAXA mentioned about the result of APRSAF-22, and also mentioned activities of previous APRSAF

Session 2: Sentinel Asia Step 3 Evolution Progress Report (MC: Mr. Makoto Ikeda, ADRC)

09:00, Wednesday, 20 January 2016

- 2.1 Secretariat report on Sentinel Asia Step 3 progress report: Mr. Takehisa Chiba, JAXA, reported about new members in Sentinel Asia from and events in Sentinel Asia. He also mentioned some challenges should be address and some strategies should be implemented for Sentinel Asia Step 3 Evolution. He also inform Sentinel Asia is member of international disaster charter.

[Q&A]

- Mr. Lal Samarakoon asked how do we plan for strategical implementation in next activation items?

- Mr. Takehisa Chiba answered that we will start creating action plan for Sentinel Asia Step 3 Evolution for strategical implementation

2.2 Term of reference (TOR) of Steering Committee: Ms. Rio Tanabe, JAXA, introduced of Term of Reference of Sentinel Asia prepared by JAXA such as Establishment of Steering committee (SC), Role and purpose of SC, members, SC secretariat and other. And because no comment or suggestion from participants, TOR prepared by JAXA is decided and agreed to be official TOR of Sentinel Asia.

Session 3: Local Hosts Special Session (MC: Dr. Giriraj Amarnath, IWMI)

09:28, Wednesday, 20 January 2016

3.1 Coordinated by DMC & IWMI

- Mr. Srimal Samasiri introduced geospatial information as decision tool in Sri Lanka though Disaster Management Centre.

[Q&A]

- Mr. Michio Ito asked about how people will use disaster map after disseminating it especially people live in rural area?
- Mr. Srimal Samasiri answered that disaster map is very important for government to disseminate the information based on scientific approach. It can be disseminated by mobile phone application, etc.
- Mr. Masahiko Nagai ask how university can contribute/enhancing on your framework.
- Mr. Srimal Samasiri Answered that contribution on technical map such as capacity building.
- Vladimir Smakhtin, Theme Leader-water availability, Risk and Resilience, briefly overview about Sendai framework that has 4 priorities for action and its relationship with earth observation for disaster management. He also mentioned about research activities of IWMI in regard to flood and drought including its risk assessment
- Eng. S. P. C. Sugeshwara, Chief Engineer (RM&DM), Irrigation Department, mentioned about role of Irrigation Department (ID) of Sri Lanka in regard to flood situation in Sri Lanka, and key function of ID to flood management. He also mentioned about recent and current situation of flood in Sri Lanka.

[Q&A]

- Mr. Yusuke Muraki asked the challenge of ID to introduce flood model by SAR forecasting.
- Mr. Sugeshwara answered: ID still do not has enough skilled people and he hope JAXA, IWMI and ICHARM can help it in technical training.
- Suranga, DRM Expert, World Bank, mentioned about investment of world bank on disaster project and also said number of project different on each issue.
- Open Discussion
 - Mr. Michio Ito: on behalf of JAXA side, he mentioned about the struggling how to utilize information because although JAXA provide Sentinel Asia but it has no target yet. In

addition, he said JAXA want to support Sri Lanka activities such as capacity building, etc

- Ms. Anoja Seneviratne, Director Mitigation Research and Development gave a comment that we should be able to implement space technology not only nationally, but also translate knowledge of information map to local communities. She also suggested we should formulate a planning in the future to implement it on local communities.
 - Mr. Michio Ito: said strongly recommend to discuss that suggestion in Sentinel Asia
 - Mr. R. P. Samarakkody, Additional Director General,DMC: suggestion
 - Mr. Vladimir Smakhtin: he mention support what Ms. Anoja Seneviratne suggest, especially to promote disaster management and sustainable development goal.
 - Dr. Lal Samarakoon: AIT now is developing some tools that can be share to local communities and can be use very easy without know GIS knowledge.
 - Participant from Disaster Management Unit of Ministry of health, asked about possibility to get archive data imagery and capacity building by technical training from JAXA
 - Mr. Michio Ito: now JAXA is trying to establish academic system in near future
 - Mr. Kuma Kandanarachchi, Coordinating Secretary to the Deputy Minister of Disaster Management, asked any system that can be provided to combat flooding in Sri Lanka.
- Last remark by Mayor General L.B.R. Mark, Director General DMC, mentioned about important point on discussion.

Session 4: EOR Activities (MC: Mr. Makoto Ikeda, ADRC)

13:17, Wednesday, 20 January 2016

4.1 Emergency observation request activities report since JPTM2014 (6 events)

- Mr Yuji Takada mentioned about overview observation and explained about some example of analysis result of EO in some disaster-affected area.

[Q&A]

- Mr. Masahiko Nagai asked to JAXA the reason receiving data always on 4 pm in Japan time.
 - Mr. Takada answered that ALOS-2 can observe twice a day, noon and midnight, as for 4 pm delivery, which is because observation at noon. Mr. Michio Ito added that it is not always 4 pm, but depend on time observation and other factor.
 - Dr. Jagath Rajapaksha, GIC/AIT asked to JAXA the reason always receive data for post disaster first and 2 days later before disaster. Because actually we need both of data at the same time.
 - Mr. Michio Ito: not always post disaster first, because usually to provide EO data is very busy process. It can be possible also send data for before disaster.
- Dr. Giriraj Amarnath, IWMI explained about IWMI activities in 2015 especially about 2015 floods in Sri Lanka based on modelling platform using satellite rainfall estimates.
- Mr. Sha Mohammad Mizanur, SPARRSO, briefly overview of Bangladesh Space Agency and also

mention about disaster in Bangladesh and how to solve it. But he said that Bangladesh still face some problem such as difficulty to receive raw data.

[Comment]

- Mr. Michio Ito commented about password issue can be asked to Mr. Takada, JAXA. And for provide Geotiff data, it is possible but need time to process it because Geotiff data has big size.
- Mr. Suwarsono, LAPAN, briefly explained overview about Indonesia space agency (LAPAN) and the role of LAPAN in the field of remote sensing in Indonesia. He also mentioned about recent disaster in Indonesia such as forest fire and flood.
- Ms. Ma Flordeliza P. DelCastillo, MO, mentioned about disaster in Philippines that most dominated by storm disaster and about Manila Observatory activities.
- Mr. Than Zaw, DHM, mentioned about challenges faced by Myanmar on river forecasting system and also mentioned about some activities for disaster mitigation in Myanmar.

Session 5: Project Management (MC: Ms. Rio Tanabe, JAXA)

15:11, Wednesday, 20 January 2016

5.1 Sentinel Asia System Operation, WINDS/Regional Server: Mr. Yuji Takada explained about Sentinel Asia system including data transfer way and speed up of data transfer and also explain access procedure to use SA system. He also mentioned that the current problem of the system such as take a longer time at data processing in central server.

[Q&A]

- Dr. Jagath Rajapaksha asked the possibility to provide metadata of image in Sentinel Asia system.
- Mr. Yuji Takada answered for now it is not possible but if you need, please contact us.

5.2 (Report by ADB was canceled)

5.3 Member reports

- Ms. Vinany Semgtianthrs, MONRE, explained about status of space technology application in LAOS including overview of Remote Sensing Center of LAOS and its activities on disaster management.
- Mr. Li-Yu Chang, NCU, mentioned about data analysis node report in CSPSR and its activities including image processing for disaster monitoring and also mentioned about role of FORMOSAT in Sentinel Asia activities.
- Mr. Prasong Thammapala, DDPM, mentioned about geo-information of disaster management in Thailand.

5.4 Others

- New concept of regional Cooperation in Asia for water disaster management applying satellite precipitation measurement: Mr. Yusuke Muraki, JAXA, introduced and proposed new ideas to promote the use of satellite-based rainfall data for water issues management in Asia. They are

(i) Establishment of Asian Satellite Water Information Center to fill the gap of available data, research applications and practical applications, (ii) Establishment of Asian Satellite Precipitation Satellite Constellation by launching small satellite with reduced size and costs by multiple Asian countries, and (iii) ODA project to introduce the small precipitation satellite and ground components such as applications applying satellite rainfall data and ground data. These concepts were welcomed and supported by the participants.

[Q&A]

- Mr. Michio Ito asked about the comparison of cost benefits of satellite rainfall measurement and ground radar measurement..
- Mr. Yusuke Muraki answered combination of ground gauge/radar and satellite precipitation measurement is effective as ground radar can't cover areas such as mountains and oceans, and currently some countries have difficulty to collect reliable data from ground radar due to lack of capability to calibrate them and long time for recovery after damage caused by typhoons or thunders. .
- Mr. Lal Samarakoon of AIT and Mr. Srimal Samasiri of DMC, Sri Lanka commented that they support the idea and this concept will support on-going activities related to water issues management in each country..
- Mr. Lal Samarakoon asked if commercialization of applications can be an option.
- Mr. Yusuke Muraki answered that it would be possible to involve companies which use the freely provided satellite rainfall data for downstream application services. As the rainfall data is categorized to WMO type data which should be shared freely as public goods, using public funding from government or donor funding would be more suitable for realization of this concept.

Session 6: Mitigation and Preparation (MC: Mr. Srimal Samasiri, DMC)

09:00, Thursday, 21 January 2016

6.1 Capacity Development Activities

- Sentinel Asia mini project report: Dr. Lal Samarkoon reported about mini project conducted by AIT sponsored by JAXA in regard to capacity building of disaster management, such as: pre-disaster situation analysis, emergency response, dissemination system product and early warning. For 2015 year, he said 6 mini projects including flood hazard, landslide, and forest cover mapping have been being conducted in several countries

6.2 Sentinel Asia Success Story Project: Ms. Rio Tanabe presented Sentinel Asia success story in Philippines in 2015 on the activities for landslide warning system including establishment of rainfall sensor network, modelling landslide prediction, and prototype of landslide monitoring system. Though the success story she said it can promote utilization of Sentinel Asia.

Session 7: Working Group (MC: Dr. Giriraj Amarnath, IWMI)

16:53, Wednesday, 20 January 2016

7.1 Strategy of working group activity: Mr. Michio Ito, JAXA, presented establish/reconfigure disaster type dedicated 6 WGs to contribute to total cycle.

7.2 Water related disaster working group: represented by Dr. Giriraj Amarnath, IWMI, he mentioned about objective of water related disaster working group in Sentinel Asia for step 3. He also mentioned about result of kick meeting held yesterday that changing name of Flood WG to be Water related Disaster WG.

Comments:

Mr. Michio Ito comment that because more discussion is very important, so now JAXA is preparing to make web-based discussion system.

7.3 Wildfire Working Group: Dr. Koji Nakau, JAXA mentioned that name of wildfire WG will be discussed tomorrow. He also explained about main activity of wildfire working group last year, such as local meeting, CALET/CIRC, and Himawari 8.

7.4 Tsunami Working Group: Dr. Abdul Muhari, MMAF, presented about necessity of space based technology for tsunami disaster and also explained about tsunami working group activities and report of last December meeting.

[Comments]

- Mr. Srimal Samasiri commented that he is very interest on tsunami working group and want to contribute such as sharing data to Sentinel Asia.

Session 8: Emergency Response (IP sec4.3) (MC: Mr. Makoto Ikeda, ADRC)

09:35, Thursday, 21 January 2016

8.1 Emergency observation and response procedure: Mr. Makoto Ikeda explained about new format of emergency and response procedure and good example of EoR request made by IWMI.

8.2 Overview of enforcement of DAN's activity

- A system to enhance the DAN's DRR activities: Dr. Jagath Rajapaksha explained new system of PDAN and DAN and he said the new system is necessary to solve many difficulties found in the old-version process. New system target are enhance EoR process, systematic communication for coordination, disaster event management, interactive mapping, and other.

[Comments]

Mr. Michio Ito gave a confirmation to avoid misunderstand about EoR process. He said EoR must be submitted directly to Sentinel Asia or ADRC.