



1st JPTM for Sentinel Asia STEP3

Summary

27 November 2013, Bangkok, Thailand

Sentinel Asia STEP3, Joint Project Team

Preamble

The 1st Joint Project Team Meeting (JPTM) for Sentinel Asia STEP-3 jointly organized by the Asian Institute of Technology (AIT) and JAXA, successfully concluded on 27 November 2013 with several achievements ;

**➤ Number of Participants : 82 persons
(15 countries and region)**

**➤ Number of Organization : 51 organizations
(inc. 11 international organizations)**

2.2 Overview of Sentinel Asia Status

Dr. Kazuya Kaku of JAXA (JPT Secretariat) reported status of Sentinel Asia as follows:

(1) Sentinel Asia transferred to Step3 from January 2013, and the 1st version of “Sentinel Asia Step3 Implementation Plan (IP)” was established in April 2013.

(2) Concerning support for all disaster management cycle (pre-disaster, response, and recovery phase) in Step3, JAXA expressed that JAXA would support this within a certain limit, under condition that other DP members support this.

(3) As a new activity, Emergency Observation (EO) Success Story by JAXA/AIT Mini-Project in Sri Lanka, the Philippines, Bangladesh, and Myanmar from 2013 was introduced.

(4) JAXA proposed to establish a Task Force Team (TFT) to study the goal for Step3 in order to enhance Sentinel Asia activities much more as “Sentinel Asia Evolution”.

2.3 Introduction of new members

Joint Project Team (JPT) members welcomed new participation from following organizations and they explained their background and future contribution to the Sentinel Asia.

(1). MEC: Ms. Hla HlaAung of MEC Introduced Hazard profile map for various kind of disaster which occurs in Myanmar every year .

(2). PSU(Prince of Songkla Univ): Dr Chinnawat Surussavadee of PSU introduced development of satellite passive millimeter-wave precipitation retrieval algorithm and other disaster related applications. Collaboration is welcome.

(3). MPC: Dr. Kyaw Sann Oo of MPC introduced government structure and activities Geospatial technology, how they apply satellite images for DRR.

2.4 Overview of Emergency Observation

Mr Sugiura of ADRC reported the present situation of emergency observation. As a result of time series analysis according to emergency observation, ADRC confirmed the decreasing trend of EOR after 2010 and the increase of CHARTER request. Also ADRC confirmed how much time to take delivering the post-disaster images and analyzed products.

2.5/6 Node Report (1/2)

There were 2 kinds of node report such as “Data Provider Node Report” and “Data Analysis Node Report”, have reported as follows;

➤ Data Provider Node

(1) JAXA: Mr. Kengo Aizawa of JAXA reported ALOS-2 status and BOS(Basic observation Stragety) . JAXA is making efforts to meet various observation request.

(2) NARL: Dr.Franz M.C.Cheng of NARL introduced NARL organizartion structure and NARlabs. explains satellite programs and sentinelasia step3 implimentation.

(3) CRISP: Mr.CHIA Aik Song of CRISP introduced organization and histry. reported data recieving status and XSAT , and introduced new satellite program.

(4) GISTDA: Dr Preesan Rakawatin of GISTDA introduced satellites that they recieves and thier tasks. GISTDA explained flooding monitoring system and result of estimation . New traial are introduced such as MMS, field server , UAV .

➤ Data Analysis Node

(1) AIT: Dr. Nagai of AIT introduced DAN activity and survay results of DAN and DPN, AIT also introduced procedure to create products and format of products , IDC escalation cases are increasing , therefore PM role is important. AIT explained scenario of sentinel Asia Activation and explained how to expand DAN activities.

2.5 / 2.6 Node Report (2/2)

(2)MO: Dr. May Celine T.M. Vicente of MO explained their Emergency Observation and Mapping protocol. Also introduced disaster case and future plan.

(3) SD: Mr. S. K. Wijayasinghe of SD introduced disaster case. For flood and landslide satellite image are very important and introduced success case of sentinel asia.

(4) MONRE: Dr. Chu Hai Tung of MONRE introduced history of their organization, structure and functions. And introduced GS and satellites they receive. VAST operates VNREDSat-1 and image is processed MONRE. MONRE shows necessity of extension of WINDS operation after Feb 2014. MONRE also requires the activation status of Sentinel Asia and Disaster Charter should be shared within DAN community to prevent duplicate work and to enforce information gathering during the disaster operation.

2.7 Local Organization Report (1/1)

There were 4 local organization / body have reported related with Sentinel Asia as follows;

(1) BFRD: Dr. Keerati Sripramai of BFRD introduced their organization and activities. And explained future plan especially focus to GIS technologies.

(2) TMD: Dr. Kamol Promasakha Na Sakolnakhon of TMD introduced their satellite ,and system and GsMap datasets. Relation between GsMap and observation are high Future work rader mapping , estimate precipitation from satellite.

(3) NECTEC: Dr. Kanokvate tungpimolrut of NECTEC introduced organization and structure. Also introduced reserch programs of landslide monitoring ,DAM safty monitoring, Seismic monitoring system.

(4) NSO: Ms. Ruamporn Sirratrakul of NSO introduced Statistical Geographic Information system for flood analysis.

2.8 International Organization Report (1/2)

There were 5 international organization / body have reported related with Sentinel Asia as follows;

(1) UNOSAT : Mr. Olivier van Damme of UNOSAT introduced their organization and functions. Also introduced some of disaster case of reported and explained how they prepare satellite image and process them.

(2) ADPC: Ms. Anggraini Devi of ADPC introduced organization, history, and mission. And explain Disaster Risk Assessment and Monitoring. To support DRR adopting science approach. ADPC also shows strong interest to contribute Sentinel Asia, and to be involved further discussion.

(3) CEOS : Mr. Chu Ichida of JAXA as CEOS secretariat introduced CEOS history, organization and structure. CEOS interested in DRR activity. 3 pilot programs and recovery observatory are proceeding. Mr. Chu expressed further information exchange should be effective both CEOS and Sentinel Asia, Mr. Kaku expressed Sentinel Asia's benefit to collaborate with CEOS for the area of pre-disaster and recovery phase. Sentinel Asia acknowledged that further information exchange should be occurred.

2.8 International Organization Report (2/2)

(4) ADB: Mr. Yusuke Muraki of ADB introduced their organization and structure. Mr. Muraki also introduced flood prediction management project, post disaster needs assessment in the case of typhoon Yolanda. Mr. Muraki expresses Quick Satellite information provision is pretty important. Mr. Muraki proposed the necessity of based-GIS should be provided by DPN to enhance developing products by DAN and also expand the number of DAN. Mr. Muraki expressed ADB will contribute to strengthen the work of Sentinel Asia.

(5) Disaster Charter: Ms. Eiko Yamamoto of executive secretariat explained how to activate the Charter via sentinelasia and a new scheme as universal access . Ms. Yamamoto also reported PM activity and PM training status.

(6) UNESCAP: Mr. Ito of UNESCAP introduced organization and role. And ESCAP explained Strategy of regional cooperation to broaden and deepen the contribution of space and GIS to address issues related to disaster risk reduction and management, environment and development by increasing relevant activities at the national, sub-regional and regional levels.

3.1 Sentinelasia evolution

JAXA :Dr. Kazuya kaku, JPT Secretariat, explained about Sentinel Asia Evolution and JAXA/CSIRO proposed to establish a Task Force Team (TFT) to study the goal for Step3 in order to enhance Sentinel Asia activities much more as “Sentinel Asia Evolution”. No objection was obtained.

3.2 Data sharing/Dessimation system

JAXA : Mr. Kengo Aizawa as for the secretariat of Sentinel Asia, proposed to use Facebook for communication of public information. Some members shows concern sharing personal information using personal account, and also activity info of the Sentinel Asia would be public. AIT recommends to create new account to log-in for this activity, and a secretariat will consider the Facebook to be closed community. JPT agrees to perform the trial for three months with usage of Facebook. After the trial, continuing use and/or operation procedure should be clarified.

3.3 Collaboration with Other initiatives

(1) UNISDR: Mr. Sujit Mohanty of UNISDR explained a plan of WCDRR in 2015. 6th AMCDRR will be held 22-26 June 2014 in Bangkok and this ministerial conference will endorse the input of HFA-2 from Asian region by ministry level. Therefore, to influence to the framework, take opportunity its drafting process until April 2014. ADRC is a partner of Sec 5 & 7 of HFA. And, ADPC is also in charge of a partner.

(2) JAXA: Ms. Eiko Yamamoto, as for the secretariat of Sentinel Asia, proposed Sentinel Asia develop a report and recommendations to WCDRR. ADRC will play a key role of this activity and interfaces to relevant agencies.

4.1 Capacity building

(1) JAXA: Kengo Aizawa of JAXA explained needs of capacity building and reviewed needs. JAXA starts new training but JAXA thinks not enough, JAXA continue to consider training. Volunteers are welcome.

4.2 Sentinelasia Success Story

(1) JAXA: Dr. Kazuya Kaku of JAXA explained about status of Sentinel Asia Success Story, introducing a new Sentinel Asia Emergency Observation Success Story by JAXA/AIT Mini-Project started from this year in Sri Lanka, Philippines, Myanmar, and Bangladesh, as well as the Success Story in the Philippines from 2009.

(2) PHIVOLCS: Dr. Arturo Daag of PHIVOLCS introduced success story summary activities in Philippine during 2009 -2013. Dr. Daag explained volcano ,typhoon case and Landslide early warning system by using GSMap.

(3) AIT: Dr. Manzul of AIT introduced how to estimate risks and explained how to create hazard maps. AIT performs Mini-Project in 4 countries and showed implimantation plan.

(4) SD: Mr S.K. Wijayasinghe of SD introduced histry of mini-project. And explained landslide, flood, coastal management and change detection case.

4.3 Predisaster Monitoring

(1)NARL: Dr.Franz M.C.Cheng introduced NARL organization for disaster mitigation. NARL explained satellite program and related technologies of Formosat series. and proposed to extend observation supports by continuous monitoring by multi-sensors in SA step-3 for pre-identified disaster prone areas by Optical/Radar image data fusion.

(2) SPARCO: Mr.Wazir Khan of SPARCO introduced History and statistics of River Indus. and SPARCO explains role and contribution in monitoring and flood fanagement activities.

5.1 Overall activity of Working group

(1) SPARCO :Mr.Wazir Khan of SPARCO proposed landslide and earthquake WG. Some member supports to have such WG. Mr. Khan will prepare the outline and implementation plan of proposal on this WG and distribute it to JPT for review until next JPTM.

(2) SPARRSO: Dr. Hufizur Rahman proposed the activity of Working Group. Dr. Hufizur will prepare a concrete proposal and distribute it to JPT and discuss at next JPTM.

5.2 / 5.3 / 5.4 Working Group Report (1/3)

(1) Flood Monitoring Working Group

MC introduced that the chairperson of the Flood WG was switched to Mr Iwami from Dr Fukami, and Dr. Giriraj Amamath of IWMI was invited to be a co-chairperson of the Flood WG. They are approved..

- Mr. Iwami of ICHARM reported recent activities in step 1 and step 2 and directions for step 3 in the Flood WG including some technical measures of using satellite based data to apply hydrological simulation models.
- Mr. Yusuke Muraki of ADB introduced ADB's activities to apply satellite rainfall data (GSMAP) for flood management in Bangladesh, Viet Nam and the Philippines and introduced the planned calibration methods of GSMaP. He also pointed out the importance of the accessibility of the outputs of flood models and capacity development of end-users in interpretation of outputs.
- Dr. Amamath of IWMI presented the applications of using satellite data and flood mapping models for management of flood risks in South Asia and Southeast Asia. He also recommended opportunities of mapping applications in Africa. In step 3, we would like to work closely with SAS, JAXA and ICHARM to apply RRI model in one of the highly flood risk basin in Sri Lanka and also capacity building programme on flood mapping and inundation modelling. IWMI would like to work with ICHARM to test the potential of GSMaP in flood and drought prediction studies and IWMI is also interested to work with JPTM members to share the knowledge and outreach activities.

5.2 / 5.3 / 5.4 Working Group Report (2/3)

(2) Wildfire Working Group

Prof. Masami Fukuda of Fukuyama City University, chair of Wildfire WG, explained about the WG status as follows:

- Fire Danger Rating System (FDRS) in Asia by improving Canadian system seems not to be easy to develop. Instead, Water Stress Trend (WST) provided by JAXA Satellite Monitoring for Environment Studies (JASMES) expresses soil moisture, which can be indirect information for fire danger.
- Annual reports on wildfire occurrence from Thailand, India, Indonesia, Honking show that its occurrence is decreasing except for Australia.
- Hotspot detection by new satellites and sensors such as ALOS-2/CIRC, ISS/CIRC, GCOM-C1/SGLI is expected.
- Sentinel Africa, as an expansion of results of Sentinel Asia to Africa, has started as JICA project.

Prof. Toshihisa Honma, Hokkaido University, explained about progress of JICA/JST Project for Peat and Carbon Management in Kalimantan, Indonesia. The project is in the final fiscal year, and end-to-end demonstration test including firefighters was conducted successfully in Kalimantan last September.

5.2 / 5.3 / 5.4 Working Group Report (3/3)

(3) GLOF monitoring Working Group

Prof. Hiromichi Fukui of Chubu University introduced background and objectives of GLOF-WG. and explained relations between global warming and Glacial lake expansion.

CU reported inventory of glacial lake of HKH region in place of ICIMOD.

There are several of dangerous glacial lakes in HKH, It requires early warning system.

Towards to step3, GLOF-WG will study following items.

- Regular mapping and monitoring by Satellite image and Field work
 - Detailed survey physical measurement and UAV at moraine area
- Information Sharing by Cloud GIS
 - Glacial Lake Inventory by the end of 2014fy
 - Hazard and Risk Mapping by the end of 2015fy
- Mitigation and Adaptation: Early Warning System
 - Case study on some lakes by the end of 2015fy
- Regional and Global cooperation
 - South – South cooperation (Andean-Himalayas) by the end of 2016fy

6. Emergency Response

(1) ADRC: Mr. Sugiura of ADRC, explained the analysis of user feedback from the questionnaire of each activation. Mr. Sugiura also explained updated questionnaire form to enhance the feedback gathering.

(2) AIT: Dr. Nagai, explained the idea of strengthen of DAN activity including, to train PM of the Charter, utilization of Academy DAN, increasing P-DAN.

(3) Phivolcs: Dr. Daag of Phivolcs introduced Charter PM roles. explained flow of escalation and each procedure.

(4) JAXA : Ms Eiko Yamamoto of JAXA explained Charter Project Manager training. introduced its curriculum and the training was held 2 times.

7. Recovery (1/3)

Member report, the success story using the space data and the issues of Recovery phase

(1) DSLR: Mr. Samdrup Dorji of DSLR Introduced Geographic Location, Physical Features, climate of Bhutan. DSLR explains current hazards and each disaster case study. Also explained functions of disaster management department and their challenges.

(2) GD: Mr. Chharom Chin of GD introduced natural disaster and each cases.

GD explained arrangement of DRR among disaster management agencies on response phase and success story through flooding case.

Through experience, learn, share, and awake the usefulness of satellite images contributing to disaster management. Many activities were focused on disaster responses and emergency relief assistances rather than disaster prevention and awareness.

(3) RSC: Ms. Virany Semgtianthrs of RSC introduced roles, vision, activities and organization of RSC. RSC explained the success story by using the space data and the issues of recovery phase on the flood disaster case and future work.

7. Recovery (2/3)

(4) NRSC: Mr. Odbayar Mishigdorj of NRSC introduced disaster situation and activities of National remote sensing center. NRSC reported the number of dead people lost in the disaster are increasing in past 10 years. Also NRSC introduced operational monitoring activities for various disaster case and each web site.

(5) DMH: Mr. Hla Saw of DMH introduced organization, data collection forecasting & warning system. DMH explained status of hydrological forecast and information service. DMH introduced flood simulation for the flood hazard map & detail landuse map and future plan.

7. Recovery (3/3)

7.2 Discussion on How to Enhance using Space Data on Recovery Phase, Comments and suggestion are as follows.

(1) Comments:

- Researches are very important for future predictions and preparedness for disaster so SA should support such activities.
- DPN need particular policies. For example, each should make a proposal describing purposes of the request, focused areas and data utilization so that DPN can easily discuss and make a decision for data provision in preparedness phase.
- Satellite data provision in DPN should be top-down. However, it is easy to go on with collaboration from both give and take perspectives.
- DPN and each research topic should be separately discussed, as data provision require discussions at much higher level.
- Data provision is very important issue for disasters-related capacity development. Therefore, possible data provision can be suggested as follows; 1) provision of data for emergency observation cases by free of charge; and 2) provision of previous data with minimum cost for further researches.

(2) Suggestion:

- Establishment of possible projects in the regional scope under Step 3.

8. Multiple use of Satellite

(1) JAXA: Mr. Kengo Aizawa of JAXA introduced JAXA's satellite in operation. And also introduced one of datasets of JAXA provide which will useful for disaster management.

(2) JAXA: Mr. Hideshi Kakimoto of JAXA introduced QZSS satellite. The Quasi-Zenith Satellite System (QZSS) is a Japanese satellite positioning system that stays at high elevation in Asia Oceania region. It is possible to improve the accuracy of positioning up to cm-level by using the augmentation signal from QZSS, and there are many candidate applications for disaster mitigation, such as Tsunami monitoring buoy.

8. summary of closing

Mr. Kengo Aizawa of JAXA request to review IP for step-3 and send comments to sentinelasia secretariat until end of Dec. E-mail address will be informed soon. Regarding the next JPTM, MEC of Myanmar kindly proposed to host . JPT members agree the proposal.



1st JPTM, Sentinel Asia Step-3



Thank you very much.