
5-3. Promoting Cooperation with Member Countries, International Organizations and NGOs

ADRC places high priority on the development of institutional and human networks to share disaster information in Asia. Developing networks between professionals and their counterparts in member countries, adviser countries, and observer organizations is vital to promoting cooperation on disaster reduction efforts in Asia. Therefore, ADRC invites high level and management level officials, including deputy directors, directors, and managers, to its annual ADRC International meeting to encourage interpersonal exchanges.

(1) Pre-Disaster Recovery Planning Orientation Workshop

Upon request of the Manila Observatory, and in collaboration with the SM Prime Property Company and the Philippine Disaster Resilience Foundation (PDRF), the International Recovery Platform/Asian Disaster Reduction Center (IRP/ADRC) facilitated an orientation workshop on pre-disaster recovery planning (PDRP), 29 April 2016 at the Asian Institute of Management, Makati City, Philippines. The event gathered about 90 recovery decision-makers, planners, and implementers from public and private sectors, including civil society, scientific community, academe, media, and representatives of local communities to learn the essence of pre-disaster recovery planning. The composition of participants was diverse to effectively simulate the PDRP exercise and to facilitate complementarity of recovery support functions.

The workshop explored various approaches of formulating a PDRP based on existing tools and experiences, including strategies, actions, and case studies from global experiences and highlighting Japan's pre-disaster recovery agreements as observed during the recovery from the Great Hanshin-Awaji Earthquake 1995, the Great East Japan Earthquake 2011, and the Kumamoto Earthquake 2016. The importance of the PDRP was emphasized by prominent speakers, namely: Ms. Antonia Loyzaga of the Manila Observatory, Ms. Liza Silerio of the SM Prime, Mr. Guillermo Luz of the PDRF, Gen. Alexander Pama of the Office of Civil Defense, and Ms. Remedios Endencia of the National Economic Development Authority (NEDA). The speakers generally recognized that PDRP is essential because all governments and communities face similar organizational and policy issues in a disaster recovery (e.g. governance, financial management, effective operations, redevelopment standards, infrastructure, transportation, health, and livelihoods), so it pays to plan in advance. Firstly, it increases the "speed" of recovery when all stakeholders (i.e. multi-sectoral, multi-disciplinary, and inter-ministerial/departmental) plan in advance. It facilitates coordinated planning and implementation that minimizes uncertainties, overlaps, and bottlenecks. Secondly, it builds stronger relationship among all stakeholders that limits poor decision taken under post-disaster stress. It prepares stakeholders' full participation in recovery - making it easy to engage and reach a risk-informed decision. Finally, it establishes beforehand the modalities for financing recovery process, including pre-agreements and contracting services.

Using the Metro Manila earthquake scenario shared by Dr. Renato Solidum of the Philippine

Institute of Volcanology and Seismology (Phivolcs), the workshop came up with two main outputs. One was a Checklist for Pre-Disaster Recovery Planning and the other was a Template on Pre-Agreement for Disaster Recovery. As way forward, the participants agreed to scale up discussions on PDRP with National Disaster Risk Reduction Management Council (NDRRMC) and explore the options for pre-agreements in disaster recovery, rehabilitation, and reconstruction.



Fig. 5-3-1 Workshop

(2) Build-Back-Better through Pre-Disaster Recovery Planning: An Orientation Workshop

The academic network comprising the Universiti Utara Malaysia (UUM), the Universiti Teknologi Malaysia (UTM), the Universiti Teknologi Mara (UiTM), the Universiti Tenaga Nasional (UNITEN), the Universiti Sains Malaysia (USM), and the Universiti Sains Islam Malaysia (USIM) requested the orientation-workshop to: (i) gain greater understanding of build-back-better through pre-disaster recovery planning for flood as well as the possibility of integrating this concept in the academic courses; (ii) enhance the capacities of faculty members to train other lecturers, students, and practitioners on build back better through pre-disaster recovery planning, and (iii) explore the application of PDRP to achieve a more effective flood management.

About 35 academic professors, lecturers, and officials from the National Government participated the workshop - including representation from all members of the academic network, the Malaysia Civil Defence Department (JPAM), the Ministry of Education (KPM), Fire and Rescue Department (JBP), District of Kemaman, and Mercy Malaysia. Two keynote speeches were delivered to set the tone of the workshop. The first speech was delivered by Mr. Rosman Roslan, District of Officer of Kemaman, Terengganu, highlighting the district's initiative on pre-disaster recovery planning for flood. In particular, the district officer described how Kemaman facilitated the pre-arrangements with hotels and hospitals in case of floods. The second speech was delivered by Mr. Saiful Effendi of the Ministry of Education, where he described the proposed guidelines on disaster risk reduction for public schools. The group exercises of participants came up with two outputs. One was a checklist for pre-disaster recovery planning for Malaysia and the other was a set of strategies and actions for livelihoods recovery.

As for the next steps, the participants agreed to continue the discussions, either physically or virtually. Among the recommended follow-up actions were: (i) documentation of Kemaman flood recovery case and share the report to IRP/ADRC; (ii) review the IRP/ADRC materials on pre-disaster recovery planning and proposed possible module/syllabus for inclusion in academic

course; and (iii) production of knowledge products on disaster recovery for flood, including handbooks designed for practitioners and policymakers. The academic network for flood management research in Malaysia is closely working with the Majlis Keselamatan Negara (National Security Council), the Meteorological Department and Department of Irrigation and Drainage (DID), the Kemaman Land and District Office, and the Ministry of Higher Education.

(3) The 11th Meeting of Typhoon Committee Working Group on Disaster Risk Reduction

ADRC participated in the 11th Meeting of Typhoon Committee (TC) Working Group on Disaster Risk Reduction (WGDRR) which was jointly organized by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), the World Meteorological Organization (WMO) TC Secretariat and the National Disaster Management Research Institute (NDMI) of the Republic of Korea in Ulsan on 24-27 May 2016.

The meeting was attended by 40 persons including representatives of China, Malaysia, Vietnam, Laos, Hong Kong and Macao Special Administrative Regions of China, as well as advisors of the Working Group of Meteorology (WGM) and the Working Group of Hydrology (WGH); and was held four days as follows;

First day: 24th May

Keynote presentations were delivered by the TC secretariat and the experts from WMO and UNESCAP, who have served as advisors for many years on the ongoing implementation (SSOP-II) of Synergized Standard Operating Procedure (SSOP) for Coastal Multi-Hazard Early Warning System and the Strategic Plans of TC, followed by discussion.

Second day: 25th May

Two parallel meetings took place; a country report meeting by the member countries of TC, and another meeting of Advisory Working Group (AWG) by advisors of WMO, UNESCAP, WGM and WGH. In the country report meeting, participant countries presented the reports on recent disasters that occurred in each country, and the initiatives to build disaster information system that facilitates information collection, reporting and provision. ADRC made a presentation about recent disasters in Japan by focusing on the efforts in Hyogo prefecture on the evacuation warning of sediment disaster caused by typhoon and heavy rain. ADRC reported also about the Asian Conference on Disaster Reduction 2016, and basic information of the Kumamoto Earthquake that had occurred in April 2016.

Third day: 26th May

In the morning, Chair, NDMI first briefed about reconsideration of 7 Key Result Areas (KRAs), and explained the future Annual Operating Plans (AOPs) and its budget in WGDRR based on the recognition that DRR is the Cross-Cutting Issue, followed by discussion. In the afternoon, a site visit was organized and conference participants visited a shipyard and an automobile manufacturing plant of the Hyundai Group based in this venue, Ulsan, which is carrying on business worldwide.

Fourth day: 27th May

TC Secretariat summarized this WGDRR and participants agreed to continue discussion intensively on the reconsideration of AOPs, and so on, preparing for the Integrated Workshop, which will be held in the Philippines in October 2016.

(4) The 7th UN-SPIDER Regional Support Offices (RSO) Meeting

In accordance with the cooperation agreement between the United Nations Office for Outer Space Affairs (UNOOSA) and ADRC signed on June 2009 on the establishment of the ADRC UN-SPIDER Regional Support Office (RSO), said RSO has been established on the ADRC premises and is being operated by ADRC staff members as coordinators of the ADRC UN-SPIDER RSO. There are currently 20 regional support offices worldwide.

In its capacity as an RSO, ADRC participated in the 7th UN Platform for Space-based Information for Disaster Management and Emergency Response RSO Meeting, which was held in conjunction with the UN-SPIDER+10 Anniversary Conference. Held from 6 June, the meeting was attended by more than 20 participants from RSOs around the world. During the meeting, the following topics were discussed:

1. Reports on activities of each RSO in 2015
2. Planning activities of each RSO in 2016
3. Discussion of the implementation of TAM recommendations
4. Regional breakout groups: work planning 2016-17
5. Feedback from breakout groups
6. Collaboration for the ongoing implementation of knowledge management



Fig. 5-3-2 Conference

At this meeting, ADRC gave a presentation on its 2015 activities and accomplishments as well as its plans for 2016, and discussed many ideas with the secretariat and other RSOs.

(5) APEC Emergency Preparedness Working Group and other relevant meetings

APEC emergency preparedness working group meeting was held during August 15-16, in Lima, Peru and ED of ADRC attended it as one of the co-chairs. The second meeting of EPWG of the year 2016 hosted by Peru discussed first, preparation of the upcoming SDMOF meeting scheduled on 8th and 9th October in Iquitos. EPWG elaborated the main theme of SDMOF, which will highlight food security by focusing on emergency meal delivery, public-private collaboration towards increasing resilience, and so on.

EPWG also discussed the draft Action Plan based on the APEC Disaster Reduction Framework endorsed last year by APEC leaders. Many of the economies reported also about

recent disasters and DRR policy development including Indonesia, Vietnam, China, USA, Russia, Chinese Taipei, Philippines, Korea, Thailand, and so on. ADRC briefed about the damages by the earthquakes in Kumamoto in April and the status of recovery.

It also reported about a new proposal of project on infrastructure development at reconstruction and BBB stage in rural area by Vietnam and Japan.

After the Day 2 of EPWG meeting, on August 16th in the afternoon, ADRC in collaboration with INDECI, Peru, organized an APEC workshop on Tsunami Disaster Reduction, supported by Cabinet Office, Japan. USA, Vietnam, Chile, Philippines, Chinese Taipei as well as Peru and Japan joined and discussed a wide range of tsunami DRR policies, challenges and transborder effects through supply chain. Private sector in Peru and JICA also provided inputs on their tsunami DRR efforts. APEC covering majority of tsunami affected areas is one of the best fora to explore tsunami DRR in close collaboration with the private sector, since a huge tsunami could bring about significant indirect damages on the world economy through global value chain, while a tsunami of significant magnitude could physically affect many economies directly, as did the 2004 Indian Ocean Tsunami. Further collaboration bridging both sides of the Pacific should be pursued based on the outcomes.

On 17th and 18th August, FEMA, USA held an APEC workshop on appropriate donation and ADRC attended it on 17th. On 18th and 19th, meetings of APEC Chief Science Advisors and Equivalents, CSAE took place and raised the theme of “Science advice in and around emergencies” on the 1st day. The recommendation by CSAE to APEC leaders and senior officials suggests importance of appropriate scientific advisory input as a core part of economy’s disaster preparedness and response systems.

1) The 10TH APEC Senior Disaster Management Officials Forum, held 8-9 October Iquitos, Peru

The 10th APEC Senior Disaster Management Officials Forum (SDMOF) was held in Iquitos, Peru on 8th and 9th, October 2016. As one of the co-chairs of EPWG, ED of ADRC attended the meetings and the APEC Workshop organized by FEMA on Strengthening Public Alert and Early Warning Capacity on 6th and 7th October, prior to the SDMOF.

The 10th SDMOF, hosted by INDECI Peru was opened by National Institute of Civil Defense, the Honorable Mr. Alberto Manuel Lozada Frias, Head of National Institute of Civil Defense (INDECI), and Mrs. Adela Esmeralda Jimenez, Provincial Municipality of Maynas.

The meeting focused on “Emergency Preparedness for Supply Chain and Emergency Food Security” as the theme and explored the issue of food delivery targeting, in particular, at the poor in emergency, effective public-private collaboration for this purpose, and policy challenges throughout four sessions.

The forum was attended by senior disaster management officials and delegates of Australia, China, Japan, Peru, Philippines, Chinese Taipei, United States and Viet Nam as well as representatives from ABAC (APEC Business Advisory Council) and other relevant organizations.

From Japan, Mr. Yasuyuki Ishii, Policy Advisor, Disaster Management Bureau Cabinet Office, made a presentation on the experience of Kumamoto earthquakes in April 2016 by highlighting the support initiated by the national government targeting at the disaster affected local governments facing difficulties in immediately procuring the necessary supplies by themselves and arranging the transportation.

Participants of SDMOF welcomed the draft Action Plan that EPWG had been discussing, as instructed by APEC Leaders in 2015 as guidance for implementation of the APEC Disaster Risk Reduction Framework (DRRF). The Action Plan, as a living document, will be discussed and updated as needed.

(6) The 6th Annual UN-SPIDER Conference

The 6th Annual UN-SPIDER Conference, jointly organized by the United Nations Office for Outer Space Affairs (UNOOSA) and the Ministry of Civil Affairs of the People's Republic of China, was held in Beijing on 19-21 September 2016. The event gathered about 130 participants, including representatives of Space Agencies and Disaster Management Organizations from 35 countries, who visited relevant organizations as part of the three-day program.

First Day: 19th September

Mr. Benjie Yin (Deputy Director, General Office of China National Commission on Disaster Reduction) delivered the opening remarks. Ms. Mei Chai (Deputy Director-General, Department of International Cooperation, Ministry of Civil Affairs) served as moderator; and Dr. Shirish Ravan (Secretary-General, UN-SPIDER Beijing Office) provided an overview of sessions to be covered in the three-day program.

The sessions of the first day were "Building on UN-SPIDER 10 Years' Achievements" and "Risk Assessment and Mapping Using Earth Observation Data". There was a presentation prior to each of these topics' discussions. In second session for instance, the value of radar sensing on satellite technology was highly evaluated, and the accuracy of drought prediction was discussed, which needs to be improved through observation and data accumulation.

Second Day: 20th September

The morning sessions of the second day were "Access to Data and Information for Risk Assessment" and "National Spatial Data Infrastructure and Data Framework to Support Disaster Management". These sessions highlighted the contribution of satellite data for flood and drought monitoring and prediction. Hence, the initiatives such as "GAOFEN", with series of high resolution earth observation satellite system in China was introduced, In the afternoon, three breakout sessions were organized, namely: "Monitoring indicators against the global targets of the Sendai Framework", "Procedural guidelines for sharing space-based information during emergency response", and "Crowd-source Mapping for risk assessment

and emergency response". ADRC representative participated in the second breakout session, and reported the importance of proactive participation in learning events and capacity building enhancement in each country to facilitate sharing of space-based information.

Third Day: 21th September

The morning session of the third day was about "Networking and Engagement with the UN-SPIDER Network", where Offices (RSOs) reports from Regional Support, including ADRC, as well as country reports were presented. In the afternoon, two separate site visits were organized - one group visiting the National Disaster Reduction Center of China (NDRCC) and the other group visiting the Yungang Satellite Earth Station.

(7) The 11th Integrated Workshop of Typhoon Committee

ADRC participated in the 11th Integrated Workshop of Typhoon Committee (TC) which was jointly organized by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), World Meteorological Organization (WMO) TC Secretariat in collaboration with the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) and the Local Organizing Committee of Cebu at Waterfront Cebu Hotel on October 24-26, 2016.

ADRC attended the workshop during its Breakout Session on Disaster Risk Reduction in the second day and presented the member's report in the morning and discussed on the progress of the Annual Operation Plan (AOP) by the Working Group on Disaster Risk Reduction (WGDRR) as well as its initiatives and budgets towards the following year.

The member's report covered the disaster overview focusing on typhoons in 2016, the progress of projects related Typhoon Committee and the initiatives on Disaster Reduction by 10 member-countries including the People's Republic of China, the Democratic People's Republic of Korea, the Hong Kong Special Administrative Region of China, Japan, the Lao People's Democratic Republic, Malaysia, the Kingdom of Thailand, the Republic of Korea, the United States of America and the Socialist Republic of Vietnam.

ADRC explained the characteristics of typhoons that landed Japan this year and reported on the enormous damage these had brought to areas that have not frequently been hit by typhoon such as Kanto, Tohoku regions and Hokkaido from the Pacific side. Further, the need to accumulate the contents of these disasters' characteristics and damages as the analyzable dataset was suggested.

During the consultation about the AOP in the afternoon, a useful report was made regarding the 4th project of the year 2016 entitled, "Benefit Evaluation of Typhoon Disaster Prevention and Preparedness" of which China has become the implementing country. In the report, a Chinese Representative stressed that reducing typhoon track forecast error could lead to a reduction of considerable economic losses.

Although the stay was quite brief, the flow of the activities was unbelievably smooth and the travel was comfortable thanks to the support by the Local Organizing Committee. Finally,

ADRC would like to express its sincere appreciation for everyone's effort which contributed to the success of this conference.

(8) Thematic event on "Partnerships and Innovations for improving Disaster Loss Accounting" and a session on "Build Back Better" during the Asian Ministerial Conference on Disaster Risk Reduction" at the 7th AMCDRR

ADRC participated in AMCDRR held in Delhi during November 3-5th and the pre-conference held on 2nd Nov. The Conference was opened by the Prime Minister Modi, India and attended by almost 60 countries.

1) Thematic event on "Partnerships and Innovations for improving Disaster Loss Accounting"

ADRC co-organised a thematic event “Partnerships and Innovations for improving Disaster Loss Accounting”. Mr. S. Jegillos, Senior Advisor, UNDP Bangkok Regional Hub made an opening remark on the purpose of the event, and Professor Yuichi Ono, Tohoku University reported first about the Global Centre for Disaster Statistics, followed by a presentation on the use of drone for DRR by Ms. C. Briggert, Head of Stakeholder Relations, DJI, a report on innovation regarding DRR by the government of Maldives, and a presentation on disaster losses estimation focusing on that of private sector by Mr. A. Perwaiz, Head, Disaster Risk Management Systems, Asian Disaster Preparedness Centre (ADPC).



Fig. 5-3-3 Thematic event “Partnerships and Innovations for improving Disaster Loss Accounting”

ADRC contributed to the event by the presentation titled “GLIDE, GLObal unique disaster IDentifier number to Support Evidence Based Disaster Reduction Strategy at National & Local Levels -A Simple but Innovative Tool for Effective Disaster Information Sharing-“, delivered by Dr.S. Nishikawa, former Executive Director of ADRC. Mr. Nishikawa raised the extensive potential contribution of GLIDE as basic tool to facilitate disaster information sharing at national and sub-national DRR organizations towards upgrading DRR activities including those against mega disasters beyond national borders. Many questions on the use of GLIDE were raised from the floor and after the event. In addition to the useful comments on GLIDE, AMCDRR provided us throughout the Conference period diverse opportunities of exchange with our counterparts from ADRC member countries, which has facilitated us reshaping GLIDE and redefining other activities more adapted to the future needs of Asia.

As the outcome of the AMCDRR, the New Delhi Declaration was endorsed, and an “Asia

Regional Plan for Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030”s was agreed as one of the main outcome documents. Prior to AMCDRR, a Special Session dedicated to the tsunami DRR was organized by UNISDR, while a commemoration event of the World Tsunami Awareness Day took place on 5th November at the Closing Ceremony. During the special session, many speakers referred to the good practices of Inamurano-hi, on which ADRC published brochures in more than 10 languages.
(<http://www.adrc.asia/publications/inamura/top.html>)

2) Thematic session on "Build Back Better"

The International Recovery Platform, where ADRC is pioneering member, coordinated a thematic session at the Asian Ministerial Conference on Disaster Risk Reduction, 3-5 November 2016 in New Delhi, India. The session was entitled "Strategies and Actions on Build Back Better" held on 4 November 2016, 13:00-14:30. Six high-level speakers of the session shared their respective experiences and lessons relative to: (i) policies and strategies, (ii) institutional arrangements, (iii) financing mechanisms, and (iv) implementation arrangements and recovery management - the key elements relevant to build back better. About 150 individuals participated in the session, where each speaker outlined key strategies and actions for build back better ranging from the areas of governance, gender, pre-investment, social inclusion, and sustainable development.

After active discussions, Mr. Stefan Kohler of UNOPS and chair of the session offered the summary. First, recovery phase is an opportunity to build back better, which is essential to reduce vulnerability and make the development gains more sustainable. It can be more successful if done with inclusion of the weak and marginalized. Second, pre-investment is an important element for build back better to ensure development continuity, such as promoting risk-informed land use planning. Third, awareness, knowledge, and capacity such as in reference to gender and marginalized groups are essential in facilitating effective preparation to build back better in recovery, rehabilitation, and reconstruction. Finally, build back better in recovery is a large-scale institutional and technical effort, which requires all the stakeholders--government, civil societies, and private sector --to collaborate and work together such as the whole-of-government approach of the Philippines.

(9) The Regional Forum on Post-Disaster Recovery

During the "Regional Knowledge Forum on Risk-informed Land Use Planning in the Context of Post-Disaster Recovery", which was organized by the Asian Development Bank (ADB) on 17-18 November 2016 in Manila, the IRP Secretariat was invited to send one recovery expert to share global experiences. The forum was attended by over 100 decision-makers and specialists with expertise in land use management, disaster risk management, and post-disaster recovery. The key speakers were from Canada, Indonesia, Japan, Myanmar, New Zealand, the Philippines, and Thailand who discussed how disaster risk related issues can be addressed through land use/spatial planning in the context of post-disaster

recovery.

The forum recognized that large-scale disasters often result in changing spatial structures due to corresponding large-scale reconstruction activities. Hence, the recovery process that follows provide opportunities to address both the pre-existing spatial development related challenges as well as the new ones. Some actions that may be introduced to address the issues associated with land use and housing in the post-disaster phase, may include: (i) introducing new land use strategies; (ii) regulating and providing incentives to rebuild away from hazard-prone areas; (iii) proposing new spatial growth models that factor in changing hazard patterns; (iv) addressing issues related to land title and rights; (v) adopting participatory approaches towards rebuilding thereby improving social cohesion; and (vi) undertaking a combination of structural and nonstructural investments to manage future disaster risk.

The forum covered three thematic sessions, where key messages and recommended actions were presented. The first session dealt with recovery policies, wherein policy actions may be focused on addressing the challenges related to the availability of land, risk information, local capacity, finances, and in meeting the speed required to implement activities on the ground. The second session dealt with the horizontal and vertical coordination issues, especially between national and local governments. The suggestion that came up from this session was to revisit and address the underlying causes of disaster risk. Adoption of a system-wide approach (such as focusing on watersheds) and design recovery measures that strengthens vertical and horizontal linkages may help contribute in addressing the issue. The final session dealt with good practices and innovative tools. It is in this session that IRP shared some of the international experiences. The recommendations from IRP included: reviewing past disaster experiences by specifically performing "failure analysis" and "build back better"; selecting from "menu of options" of strategies and actions from global experiences to address recovery issues and challenges - including land use and housing issues; and conducting pre-disaster recovery planning (pre-event research, pre-agreements) to help hasten the effectiveness of land use planning in post-disaster context (i.e. strengthening institutional arrangements, policies, laws, and programs).

(10) The 23rd Session of the Asia-Pacific Regional Space Agency Forum (APRSAF-23)

The 23rd Session of the Asia-Pacific Regional Space Agency Forum (APRSAF) was held from 15 to 18 November in Manila, Philippines. It was co-organized by the Philippine Council for Industry, Energy and Emerging Technology Research and Development - Department of Science and Technology of the Philippines (DOST-PCIEERD), Ministry of Education, Culture, Sports, Science and Technology (MEXT) and Japan Aerospace Exploration Agency (JAXA).

The APRSAF was established in 1993 to enhance space activities in the Asia-Pacific region. Attended by space agencies, governments, and international organizations such as the United Nations as well as companies, universities and research institutes, this Forum is the largest space-related conference in the Asia-Pacific region. Now APRSAF has 4 Working Groups;

Space Applications Working Group (SAWG), Space Technology Working Group (STWG), Space Environment Utilization Working Group (SEUWG) and Space Education Working Group (SEWG). The participants of APRSAF share information about their activities and the future plans for their countries and regions in each working group APRSAF also supports international projects designed to find solutions to common issues such as disaster management and environmental protection.

ADRC joined Space Applications Working Group (SAWG) and reported activity of Sentinel Asia. The Sentinel Asia initiative is one such activity, and involves the use of space-based information in the form of satellite images for disaster management in the Asia-Pacific region. ADRC has been tasked with the responsibility of receiving emergency observation requests from ADRC member countries and Joint Project Team (JPT) members

Sentinel Asia marks 10 years anniversary in 2016. ADRC reported a trend of Emergency Observation Request in the past decade. It was highlighted that the number of EOR is increasing in the recent year. Also ADRC introduced two good practices in Vietnam and in Myanmar. Provided satellite images and product were utilized for DRR activity in both country. However it remains some points to be discussed such as data sharing in each country.

(11) The 2nd Steering Committee Meeting of Sentinel Asia and Joint Project Team Meeting

1) The 2nd Steering Committee Meeting of Sentinel Asia

ADRC attended the 2nd meeting of Sentinel Asia Steering Committee held in Bangkok, Thailand, on 19th and 20th January, 2017.

The meeting was attended by JAXA as the secretariat of Joint Project Team, Sentinel Asia, Space agencies in Asia working as Data Provider Node, DPN, Universities and research organizations as Data Analysis Node, DAN and ADRC representing DRR organisations in Asia.

Day 1 started with the opening remarks by the two co-chairs of SC, Dr. Lar, AIT and Mr.K. Suzuki, Executive Director, NIED, followed by a briefing by JAXA on Steering Committee Mandate and status and lessons learnt from emergency observation so far. ADRC then reported advantages of earth observation satellite imagery at diverse phases of DRR and challenges of Sentinel Asia operation from the viewpoint of DRR organisations. As a start of discussion, ADRC pointed out some emergency situations in which satellite imagery could deliver useful information facilitating DRR operation including mega disasters affecting extensive geographical coverage beyond borders or flood affecting remotely located areas difficult to access lasting weeks, volcano eruptions hindering the use of airplanes, and so on to identify the strength of Satellite imagery for DRR purposes.

Space agencies and research organization reported about the DAN activities. The day 2 focused first on basic idea to discuss the strategic plan after the 10th anniversary, which will be discussed throughout this year towards the APRSAF scheduled in autumn 2017. The

agenda of the 10th anniversary event scheduled in March was also discussed and approved.

2) Joint Project Team Meeting in Vietnam (March 2017)

The Sentinel Asia Joint Project Team Meeting (JPTM2017) was held from 8 to 9 March 2017 in Hanoi, Vietnam. It was co-organized by the Vietnam Academy of Science and Technology (VAST), Ministry of Agriculture and Rural Development (MARD) and Japan Aerospace Exploration Agency (JAXA).

The Sentinel Asia initiative is one such activity, and involves the use of space-based information in the form of satellite images for disaster management in the Asia-Pacific region. ADRC has been tasked with the responsibility of receiving emergency observation requests from ADRC member countries and Joint Project Team (JPT) members.

ADRC reported a trend of Emergency Observation Request in the past decade. It was highlighted that the number of EOR is increasing in the recent year, and also the changes of necessary days from occurrence of disaster to distribution of data. Furthermore, ADRC reported the procedure of the Emergency Observation Request (EOR) making and activation of the Sentinel Asia, and present challenges of EOR.

One day before the JPTM2017, the memorial event of 10th Anniversary of the Sentinel Asia was held at the same venue on 7 March 2017. The organizations of DMO, DPN, DAN and the personal which contributed to the Sentinel Asia in the past decade were celebrated. ADRC, awarded as DMO with MARD, introduced a Booklet of “Good Practice of the Sentinel Asia”, and committed further contribution to make more and more good practices in the future with JPT and ADRC members.