

UNITED NATIONS ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

The First Pacific Regional Workshop on Multi-Hazard Risk Assessment and Early Warning Systems
by Using Space and GIS Applications

13 - 15 September 2016
Conference Center
Tanoa International Hotel
Nadi, Fiji

Meeting Report* **(Draft)**

Prepared by IDD, ESCAP

** This document has been issued without formal editing*

I. CONCLUSIONS AND RECOMMENDATIONS

1. The participants noted that the Pacific Island countries have made great efforts to address recurring disasters such as cyclones and floods, and recognized that modern technology applications, including space and geospatial technology, can contribute to strengthening early warning systems for more effective disaster risk reduction and management in the Pacific region.
2. The participants recognized the initial findings and added value of ESCAP-led survey and analysis regarding the gaps and needs on early warning systems and geospatial data management such as geo-portal and geo-database in the Pacific Island countries. In particular, the participants shared experiences on persistent obstacles and challenges for effectiveness and efficiency of disaster preparedness and responses, including lack of real time access to high-resolution spatial data, and low capacity to analyze data for rapid decision-making at the national level prior to and after disasters.
3. The participants emphasized long-term regional capacity building programmes on operating multi-hazard early warning systems and geo-portal/geo-database for disaster risk management at both policy and technical levels. The participants requested ESCAP and other participating organizations to collaborate on providing capacity building programmes that are specifically designed to meet the actual needs in the Pacific Island countries. The participants also stressed the importance of providing country-tailored assistance through country-level pilot projects on building and operating customized early warning systems and geo-portal/geo-database for disaster risk management.
4. In this connection, the participants welcomed ESCAP's forthcoming project activity plan, in collaboration with regional partners such as the Pacific Community (SPC), the Secretariat of the Pacific Regional Environment Programme (SPREP), Asian Institute of Technology (AIT) Indonesian Agency for Meteorology, Climatology and Geophysics (BMKG), on providing one-month training programmes and country-level pilot projects to strengthen national capacity to operate geo-portal/geo-database for disaster-related data management and early warning systems. The participants requested ESCAP to include their countries in the inviting list of training programmes and pilot project countries in 2017-2018.
5. The participants stressed the necessity to reinforce regional cooperation to improve current regional data sharing practices for high-resolution imageries and geospatial data among disaster-prone Pacific Island countries, geospatial data providing countries such as Japan, and regional platforms and organizations such as Sentinel Asia, SPC and SPREP. Enhanced regional cooperation among these relevant stakeholders was highlighted as a crucial factor to address persistent challenges on better disaster preparedness. In this regard, the participants showed strong support to ESCAP's plan to strengthen Pacific regional knowledge hub in Fiji tentatively on facilitating the sharing of geospatial technology and data, and good knowledge and practices as key output of the project.
6. The participants stressed the importance of connecting key outputs of the project to global and regional development frameworks, encompassing sustainable development goals (SDGs), climate change actions (CCA), Sendai Framework for Disaster Risk Reduction, and SIDS Accelerated Modalities of Action (SAMOA) Pathway. In particular, use of geospatial

technologies and data in diversified development sectors such as resource management, urban-land planning, and transport sectors is recommended as a key factor contributing to the implementation of global development agendas, through creating synergy, innovation and productivity, improving mobility and connectivity among countries and sectors, integrating socio-economic data management for decision-making, and supporting disaster risk management.

7. Finally, the participants recommended ESCAP, Pacific organizations, and other regional organizations in Asia to work together to provide Pacific Island countries with tailored assistance programmes to strengthen multi-hazard early warning systems, through innovative technology applications, including space and geospatial technologies applications.

II. PROCEEDINGS

A. Organization of the meeting

The First Pacific Regional Workshop on Multi-Hazard Risk Assessment and Early Warning Systems by Using Space and GIS Applications was held at the Convention Center, Tanoa International Hotel, Nadi, Fiji, from 13 to 15 September 2016. The workshop programme is attached as Annex 1. The pre-consultation meeting among key stakeholders was organized in the evening on 12 September 2016 to clarify presentation focuses and roles of participating experts at the workshop, and to coordinate sub-group discussions among policy makers and experts.

B. Attendance

The workshop was attended by twenty-six participants from nine Pacific Island countries, ten experts from Japan and Korea, and thirteen participants from other entities working in disaster and space technology applications. The complete list of participants is attached as Annex 2.

C. Opening of the meeting

The workshop was opened with a welcoming address by H.E. Mr. Inia Seruiratu, Minister for Agriculture, Rural and Maritime Development and National Disaster Management, Government of Fiji, and with opening speeches from H.E. Mr. Takuji Hanatani, Japanese Ambassador to Fiji, Dr. Andi Eka Sakya, Head, BMKG, Indonesia, and Mr. Iosefa Maiava, Head, ESCAP Pacific Office.

D. Objectives of the workshop

The workshop was convened by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and the Government of Japan as part of the project “Strengthening Multi-Hazard Risk Assessment and Early Warning Systems with Applications of Space and Geographic Information Systems in Pacific Island Countries.” This workshop was organized to share experiences and knowledge on multi-hazard risk assessment and early warning systems, in particular by using various space and GIS technology applications in the Pacific context, to share key activity plans of the project, and to discuss cooperation opportunities among the participating organizations including SPC SPREP, and experts from regional organizations such as AIT, BMKG, and Japan Aerospace Exploration Agency (JAXA).

E. Summary of the discussions

In opening session, H.E. Mr. Inia Seruiratu, Minister for Agriculture, Rural and Maritime Development and National Disaster Management, Fiji, delivered a welcoming speech, highlighting the necessity to improve access to better quality satellite imageries and to implement appropriate policies for enhancing preparedness of communities, as well as the importance of continuous cooperation at the regional level to overcome persistent challenges regarding human, technical, financial and institutional capacities for effectively implementing and operating early warning systems, including use of space and GIS technologies.

H.E. Mr. Takuji Hanatani, Ambassador of Japan to Fiji, introduced Japan’s continuous support in the Pacific region for pre-disaster prevention and post-recovery actions along with Japan’s experiences

and knowledge. He also highlighted the importance of regional collaboration for building disaster resilient society in the Pacific. Dr. Andi Eka Sakya, Head of BMKG, shared key roles of early warning systems for effective disaster preparedness and response in the Pacific, shared BMKG's experiences and lessons learned in operating early warning systems and showed the commitment to assist Pacific countries in collaboration with ESCAP.

Mr. Iosefa Maiava, Head of ESCAP Pacific Office represented ESCAP at the workshop and briefed overall situations and challenges on disaster risk management in the Pacific region. He highlighted the progress made by the Governments of the Pacific Island countries on economic growth and disaster risk reduction, and stressed the importance of effective disaster prevention in the Pacific through strengthened multi-hazard risk assessment and early warning systems. He also briefed ESCAP's supports and actions to assist the countries in line with SAMOA Pathway through building capacity of the Pacific Island countries, enhancing the voice of the Pacific to promote its interest and priority with international society, and supporting the Pacific Island countries to monitor and report on the SAMOA Pathway and SDGs including indicators for disaster risk reduction and prevention in the Pacific context.

In Q&A session after the opening speech, H.E. Mr. Inia Seruiratu, Minister for Agriculture, Rural and Maritime Development and National Disaster Management, Fiji, asked to share good practices of other countries on coordinating work of different Ministries involved in tasks on climate change and disaster risk management, addressing challenges in Fiji for weak coordination/cooperation among the Ministry of Defense, Ministry of Foreign Affairs and the Ministry for Agriculture, Rural and Maritime Development and National Disaster Management on climate change-related policies and disaster risk management. H.E. Mr. Takuji Hanatani, Ambassador of Japan to Fiji, shared Japan's practice on coordinating all relevant tasks under Prime Minister's office for effective communications among involved ministries.

In session 2, Mr. Tae Hyung Kim, Economic Affairs Officer, ESCAP, presented the key objectives, planned activities and expected outputs of the project on "Strengthening multi-hazard risk assessment and early warning systems with applications of space and geographic information systems in the Pacific Island countries" with focus on strengthening capacity for multi-hazard assessment and early warning systems of the Pacific Island countries through applications of innovative technologies, and assisting current Pacific regional cooperation platforms for multi-hazard assessment and early warning systems.

Experts from Pacific organizations presented with their current activities and lessons-learned on multi-hazard early warning systems along with use of space technology and GIS applications in the Pacific. Mr. Jens Kruger and Dr. Wolf Forstreuter from SPC shared their experience on utilizing remote sensing data for different disaster and on transferring technical skills to the partnering Pacific Island countries. Mr. Sunny Kamuta Seuseu, Climate Prediction Services Coordinator, SPREP, shared Pacific efforts of using space and GIS applications for early warning systems and disaster risk reduction, including the Framework for Resilient Development in the Pacific and various governing frameworks, as well as remaining challenges such as weak access to available technology and sustainable funding, difficulty in regional coordination, and lacking capacities.

In session 3, experts from regional organizations in Japan, Korea, and Thailand shared their experiences on disaster and space-based technology, sought potential replication and application of their projects to the Pacific Island countries' context and explored opportunities for collaboration

with the participating countries. Professor Teruyuki Kato at the Earthquake Research Institute, University of Tokyo, shared GPS buoy system for tsunami early warning in outer ocean for monitoring of various geophysical parameters of natural disasters, and the potential opportunity for its implementation in the Pacific. Dr. HaeKyong Kang, Research Fellow, Korea Research Institute for Human Settlements shared disaster early warning services by using spatial data in Korea, including one-way text messages to an interactive mobile application, which were developed and implemented through a systematic cooperation among thirteen relevant ministries and eleven databases under a single safety information system for comprehensive disaster management at the national level. Mr. Ramesh De Silva from AIT shared initial findings on gap and needs analysis on using geo-portal and geo-database for multi-hazard risk assessment and early warning in the Pacific Island countries.

In session 4, participants from the Pacific Island countries shared progress, challenges, and practices on multi-hazard risk assessment and early warning systems, including but not limited to tsunami early warning system, multi-hazard forecasting tools, seismic network, vulnerable community assessment, and Pacific Catastrophe and Risk Financing Initiative. The speakers from Fiji and the Cook Islands expressed their appreciation to ESCAP for assisting the establishment and operation of national geo portals for disaster risk management along with technical training for 2013-2016. Key challenges that they illustrated in promoting and operating early warning systems as below;

- 1) Lack of access to high resolution geospatial data for disaster risk reduction;
- 2) Poor management of geospatial data in the integrated, consistent, reliable, and compatible manner, as well as regular updating of data;
- 3) Need for investing and hiring full-time GIS/IT specialist, as well as maintaining technical environment in longer-term;
- 4) Difficulty in securing regular funding on multi-hazard early warning systems through space and GIS applications;
- 5) Absence of centralized spatial data management platform for disaster risk management at the national level, including storage and access; and
- 6) Weak supporting policies/legislations/rules and regulations and institutional cooperation mechanism at the national level for using space and GIS applications on early warning systems, and on disaster risk management.

In sessions 5 and 6, the participants from the Pacific Island countries were divided into two groups, policy-maker group and technical officer group, and were provided with sub-sessions of policy discussion and technical training respectively. Policy-makers in policy discussion conducted in-depth discussions on how innovative technologies including space technology and GIS can contribute to Pacific disaster managements, in particular, early warning systems, and to achievement of SDGs in the Pacific region, which were joined by officers from ESCAP, Pacific organizations, and regional organizations in Japan, Korea, and Thailand. In parallel, Mr. Ramesh De Silva from AIT and R. Mochammad Riyadi, Director of Center for Earthquake and Tsunami, BMKG, delivered the training for the participating technical officers of Pacific countries on geo-portal and geo-database for disaster risk management and application of early warning systems for multi-hazard risk management respectively.

In session 7, ESCAP and experts presented how space technology and GIS applications can contribute to disaster risk management and the implementation of SDGs in the Pacific region, along with good practices, plans, and persistent challenges. For example, the Pacific region experienced

paradox noted between high economic growth on one hand and limited human development achievements on the other. Pacific countries with extractive industries such as Papua New Guinea and Solomon Islands have high GDP growth and at the same time, struggles with poverty reduction (MDG 1). The participants noted the need for on-going efforts at the national level for developing SDGs indicators in the Pacific Island countries, and further needs for concerted collaboration in the Pacific region to select appropriate SDGs indicators from the global 250 SDG indicators to monitor and to evaluate the performance of SDGs, Climate Change actions, and the Frameworks for Pacific Regionalism, including the SAMOA Pathway.

The participants recognized the importance of creating synergy and innovation for explosive productivity and efficiency by promoting convergence among diverse SDG sectors, beyond disaster risk management, for example, by promoting the use of space technology and GIS for sustainable resource management and supporting regional cooperation among Pacific Island countries for concerted future actions.

In closing session, Mr. Iosefa Maiava, Head of ESCAP, summarized key discussions during the workshop by emphasizing the importance of regional cooperation for sharing of knowledge, technologies, and lessons-learned to build safer Pacific community, as below:

- Use of space and GIS applications is important for disaster risk reduction and sustainable resource management, and access to and use of data is a necessary basis for such use of space and GIS applications in the Pacific Island countries. Space and GIS applications are also important for sectors beyond disaster risk reduction such as water, energy, and tourism, which are critical sectors in the Pacific Island countries.
- The Pacific makes efforts to select and adopt its own SDG indicators in the Pacific context from the available 231 SDGs indicators in 2017, to ensure effective implementation of sustainable development goals and disaster management. For example, focused SDG indicators in the Pacific Island countries will support to address some challenges in SDG 1 where poverty should be defined as more qualitative (poverty of opportunities) rather than quantitative.
- Government of Pacific Island countries need to map National Strategic Development Plans against SDG indicators and take actions for National Disaster Bodies in each Pacific Island country to ensure that Disaster Risk Management is reflected in these indicators.
- Collaboration among ESCAP, Pacific organizations, and other regional organizations needs to be strengthened for promoting knowledge sharing through workshops and capacity building programmes that are more thematically and geographically reflecting the contexts and conditions of the Pacific.

At his closing speech, he noted the expressions of interest, satisfaction and gratitude by the participants, highlighting again the importance of access to the technologies and know-how, as well as regular funding to implement or to address the capacity needs of the Pacific developing countries, which were identified through the workshops as long-term training and country-tailored pilot projects. He also illustrated the need to enhance the voice of the Pacific in or vis-à-vis Asia, and to work together with or through the Pacific regional organizations such as SPREP and SPC to ensure relevance and sustainability of efforts of on-going Pacific initiatives. Finally he conveyed

appreciation to Government of Fiji, Government of Japan, and all the partners supporting the workshop.

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_2453

