



## **India-Pacific Islands Sustainable Development Conference**

**'Furthering the FIPIC Agenda through Sustainability Initiatives'**

**May 25 – 26, 2017 | Grand Pacific Hotel, Suva, Fiji**

### **Concept Note: Plenary session 5: A Roadmap for Disaster Risk Reduction in Pacific Island Countries**

Pacific Island countries (PICs), with a combined population of almost 10 million people, are highly prone to natural disasters. Floods, droughts, tropical cyclones, earthquakes, volcanic eruptions and tsunamis are the main hazards which may result into disasters affecting human, physical environment and economy of the entire region. Some of the Pacific Island Countries face losses from a single event that exceeds their annual Gross Domestic Product. The average annual direct losses caused by natural disasters in the South Pacific region are estimated at US \$ 284 million (World Bank 2012).

The majority of human settlements and infrastructure are in coastal areas. It is estimated that coastal flooding will potentially affect between 60,000 and 90,000 people by 2050. Therefore, any factors that impact coastal areas – such as extreme weather events, coastal erosion, and sea-level rise – would have a very high human and economic cost. Climate change threatens some of the most fundamental needs of society: a safe place to live, access to drinking water, health care, food supplies and livelihood security. Building codes and other design standards for commercial and residential structures and many other infrastructure investments essentially need to be disaster resilient. One important challenge is to mainstream Disaster Risk Reduction into all the developmental activities.

Investment in development and enhancement of Early warning and Communication Systems for the hazards which come with sufficient early warning will help in reducing the impact of disasters especially in terms of reduction in loss of lives. Whereas, for hazards which do not come with any early warning – like earthquake – require a large amount of preparedness and capacity building. Seismic microzonation and vulnerability mapping along-with adherence to building codes, building bye-laws needs to be prioritized. Training of engineers, architects and artisans – especially masons – will form part of capacity building activity.

Community is the first responder in any disaster situation. Building the capacity of community constitutes an integral part of any disaster risk reduction system. This is an

on-going activity. Community awareness should also be created through sharing of best practices, knowledge and technologies.

There has been a substantial increase in the number of reported natural disasters in the Pacific Island Countries since 1950s. Disasters are becoming more intense and probably more frequent in the region. The number of devastating cyclones has increased in the southwest Pacific in the past 50 years, with an average of four events now occurring each year. In such scenarios, Pacific Island countries have little choice but to develop comprehensive risk reduction plans to reduce the impact of the natural hazards they face.

### **Issues in Pacific Island Countries**

Small islands are made vulnerable by their small size, insularity and remoteness, environmental factors, limited disaster mitigation capability, and demographic and economic structure. The larger, and least globally connected island states are those most severely affected by disasters – Haiti, PNG, Jamaica. Although it is the smaller islands that are most at risk from ‘knock-out’ by a single event. Climate Change and sea level rise is another issue affecting these small island countries. Disaster self-sufficiency is another issue. In contrast to continental nations, these small island countries have no other choice but to be self-sustaining when disaster strikes. Surrounded by ocean on all sides, they are physically beyond the reach of humanitarian relief personnel and material resources during disaster impact and immediately aftermath. Disaster Warning and Risk Communications are other issues which need to be addressed.

### **Emergency Shelter Cluster**

Tropical Cyclone Evan in December 2012 led to the operation of several ad-hoc evacuation centres in Samoa. Samoa has a history of significant natural disasters which have required high level of shelter response. Similarly, during the Cyclone Winston, 2016 and Cyclone Pam in 2015, the requirement of shelter and shelter management was felt. Unable to leave the island, citizens on some of the larger Small Island Developing States (SIDS) may be able to move to a limited distance away from the coastline but for other island nations this is not possible. The proven prevention/ mitigation strategy of evacuating vulnerable human populations away from low-lying coastal points of potential impact to higher, safer inland terrain is a mainstay of DRM for continental nations. The concept is to separate human populations from exposure to disaster and hazards through timely relocation. In the case of island-based populations, the prospect of evacuating citizens is difficult, severely limited, or frankly impossible even for disaster events that provide a warning period. Therefore, sheltering in fortified structures is the remaining option. Churches in these regions have also served as shelters. But are these churches enough in numbers? Aren't there requirements for multi-purpose shelters? These are some of the key questions need to be addressed. India's experience with multi-

purpose cyclone shelters constructed under the National Cyclone Risk Mitigation Project will certainly useful.

### **Tsunami Early Warning**

Intergovernmental and regional organisations continue to provide significant contributions to assist countries to build their capabilities for hazard and risk assessment, early warning and dissemination, and awareness and education. At the United Nations intergovernmental level, the UNESCO-IOC coordinates the global tsunami system that includes, since 1965, the Pacific Tsunami Warning and Mitigation System (PTWS). The UNESCO-IOC's ITIC (International Tsunami Information Centre) serves as its regional focal point for training, technical assistance, and awareness. The PTWS is envisioned as an interoperable tsunami warning and mitigation system based on coordinated Member State contributions that use best practices and operational technologies to provide timely and effective advice to National Tsunami Warning Centres. As a result, PTWS communities at risk are aware of the tsunami threat, reduce risk, and are prepared to act to save lives.

The Indian Tsunami Early Warning System (ITEWS), established at Indian National Centre for Ocean Information Sciences (INCOIS), Hyderabad, has been operational since October, 2007. The ITEWS is equipped to provide timely tsunami warnings for India and the countries in the Indian Ocean region on 24 x7 basis. The ITEWS comprises various real time monitoring networks, seismic monitoring network; bottom pressure recorders; tide gauges etc., to monitor tsunami waves. Possibilities of mutual cooperation between PTWS And ITEWS may need to be explored.

### **Institutional Mechanism for Disaster Risk Reduction**

Informal, community-based measures to reduce the risks and impacts of natural disasters in the Pacific Islands have a strong tradition. Communities have long carried out disaster risk management activities by themselves, usually focusing on intra and inter community cooperation, food security, traditional knowledge and settlements. For instance, food surplus has usually been stored and preserved for times of hardship, and houses built on mounds to reduce the risk of flooding. However, some of the more recent economic and social changes have undermined many of these practices. For instance, as populations become more urbanized, they move into highly vulnerable areas, while abandoning traditional food security mechanisms (Costella and Ivaschenko, 2015).

Although funding for disaster risk management and climate change adaptation has increased in the last decade, most of the focus seems to traditionally have been placed on more reactive disaster response. Disaster response has usually been focused on

providing short-term relief in the form of in-kind commodities such as food, relief kits, shelter, etc. Some of these activities have sometimes been followed by limited-scale recovery efforts, such as housing reconstruction, small shelter solutions, etc. In general, PICs have limited financial and institutional capacity for large-scale disaster response, and thus rely on international donors (Australia, New Zealand, Red Cross, the UN system and large international NGOs) for relief after major disasters (Costella and Ivaschenko, 2015).

There are a number of institutional constraints. For example, the professionalization of emergency management means that EM is seen increasingly as the responsibility of a service provider rather than as a whole-of-society responsibility. The institutional arrangements also constrain the effectiveness of CCA & DRR. For example, in many countries EM and DRR often both sit under Police. This means that most budgets and attention is spent on police issues and not broader EM services, with the possibility that EM can be marginalised. Most training targeted at CCA & DRR personnel are often attended by police but not by fire service staff because of this institutional structure. Some of the key institutional issues are as follows:

- Disaster response and risk reduction are mostly financed by external donors and remain outside of the national budget;
- DRM and CCA are not fully mainstreamed into national budgets, sectors and programs;
- Limited human resources and institutional capacity at the national level;
- Limited data availability; and
- Limited community involvement in formal risk reduction activities.

#### Initiatives for Disaster Risk Reduction in the Region

The Pacific leaders have endorsed a regional strategic framework to address the adverse impacts of natural hazards and climate change. These regional strategies include the Pacific Islands Framework for Action on Climate Change, 2006-2015, and the Pacific Disaster Risk Reduction and Disaster Management Framework for Action, 2005-2015, which provide overarching policy guidance for disaster risk management and support for building climate-resilient communities.

The Vision of the Framework for Action is “Safer, more resilient Pacific island nations and communities to disasters, so that Pacific peoples may achieve sustainable livelihoods and lead free and worthwhile lives”. The Mission Statement of the said Framework highlights the Building capacity of Pacific island communities by accelerating the implementation of disaster risk reduction and disaster management policies, planning and programmes to address current and emerging challenges through:

- development and strengthening of disaster risk reduction and disaster management, including mitigation, preparedness, response and relief/ recovery systems;

- integration of disaster risk reduction and disaster management into national sustainable development planning and decision-making processes at all levels; and
- strengthening partnerships between all stakeholders in disaster risk reduction and disaster management.

The Framework has an all hazards approach supporting sustainable development. All phases of the disaster risk management cycle are reflected in the six thematic areas of the Framework:

- Theme 1: Governance – organizational, institutional, policy and decision-making frameworks;
- Theme 2: Knowledge, information, public awareness and education;
- Theme 3: Analysis and evaluation of hazards, vulnerabilities and elements at risk;
- Theme 4: Planning for effective preparedness, response and recovery;
- Theme 5: Effective, integrated and people-focused early warning systems; and
- Theme 6: Reduction of underlying risk factors.

#### Disaster Risk Reduction in India

India ranks second in the world in terms of population and seventh in terms of the land mass, with a wide range of geographical conditions. The country is highly vulnerable to many disasters, which are further compounded by demographic disparities and pressures. With urbanization and concentration of population in metropolitan cities, more and more people are becoming vulnerable to localized disasters with the economically and socially weaker sections becoming more exposed.

India enacted its Disaster Management Act in 2005. The Disaster Management Act, 2005 lays down institutional and coordination mechanism for effective Disaster Management (DM) at the national, state, district and local levels. This framework facilitate a paradigm shift from the hitherto relief-centric approach to a more proactive, holistic and integrated approach of strengthening disaster prevention, preparedness, mitigation, and response. India also set up National Disaster Response Force, which is the largest force in the world, dedicated for responding to any disasters. The Force also carries out the activity of community training and capacity development.

The National Policy on Disaster Management (2009) spells out the vision for a disaster resilient India, “To build a safe and disaster resilient India by developing a holistic, proactive, multi-disaster oriented and technology driven strategy through a culture of prevention, mitigation, preparedness and response”.

The National Disaster Management Plan of India is perhaps the first Plan in the world which has been aligned according to the priorities enumerated into the Sendai Framework for Disaster Risk Reduction. India also has issued various guidelines on hazard specific and cross cutting subjects.

With technological advancements in the field of disaster management, especially in early warning and communication, India was able to manage the recent cyclones efficiently. The way it tackled all these cyclones was appreciated world over (Global Assessment Report 2015). India has also developed Indian Tsunami Early Warning System and has established Indian National Centre for Ocean Information Services (INCOIS) to provide ocean information and advisory services to the society, industry, government and scientific community through sustained ocean observations and constant improvements through systematic and focused research. Availability of World Class Structural Engineers and professionals is also an asset for successful disaster management in India.

India is emerging as world leader in disaster management. Regional Response exercises are being conducted regularly. India is also supporting various countries in training and capacity building programmes.

### **Areas of Cooperation/ Knowledge Sharing and Technical Support**

With this background, India can significantly contribute to Disaster Risk Reduction in the Pacific Island Countries. India can help these countries in setting up Institutional Mechanism for disaster risk reduction and formulating policy framework along-with providing technical support in preparing their plans. Experience gained in implementation of the National Cyclone Risk Mitigation Project will support the PICs in preparing themselves to mitigate the impacts of cyclones. Science and Technology Institutions and Institutions of Higher Research, especially in the field of earthquake, can also provide technical know-how for mitigation of earthquakes in the region. Best Practices in disaster risk reduction in India will help PICs towards disaster risk reduction.

### **Key Questions**

Sixth Session of the Pacific Platform for Disaster Risk Management, 2014, recognised disaster risk reduction as an effective means to achieve resilience through prevention, mitigation and preparedness to enable nations and communities and absorb damage and loss, minimise impacts and bounce forward and build back better to link disaster risk management with sustainable development. It also identified institutional alignment of responsibilities and policy coherence across sectors to effectively manage disaster risk as key Pacific regional imperatives for effective disaster risk management and climate change adaptation.

All these initiatives are pre adoption of the Sendai Framework for Disaster Risk Reduction (SFDRR). Post SFDRR, in the changed scenario, the approach towards Disaster Risk Reduction needs to be aligned according to the SFDRR. India has taken several initiatives including preparation of National Plan aligning the priorities of SFDRR. India had also provided relief support to Fiji after the Winston Cyclone in 2016. But providing relief support is just a one-time affair which does not result into sustainability. To promote sustainability and disaster risk reduction on a larger scale, sharing of experience and

knowledge needs to be promoted. Following key questions may be discussed during the conference:

- a) Institutional Mechanism to coordinate the efforts of Disaster Risk Reduction in the Pacific Island Countries. It will also focus on the National/ Regional Plan for Action for DRR. Whether the Indian experience in Institutional Mechanism and Plan formulation will be of some help to PICs?
- b) All the Pacific Island Countries face Cyclones. India is implementing National Cyclone Risk Mitigation Project (NCRMP) in its coastal States. Whether the Indian experience in implementing the NCRMP will help these Island Countries which are far smaller in size inhabiting lesser population?
- c) India has constituted a dedicated National Disaster Response Force for responding to any disaster situation. It is also promoting State Disaster Response Forces. Whether such a force will be effective in the Pacific Region?
- d) India has made technological advancement in the field of early warning system, especially for Cyclone and Tsunami Early Warning. Possibilities may be explored to extend support to Pacific Island Countries in establishing early warning systems.
- e) Whether it is possible to extend technical and knowledge support for mitigation of earthquake hazard to the PICs?

The Framework for Resilient Development in the Pacific (FRDP), the World's first integrated regional framework to build resilience to climate change and disasters, has been applauded by Pacific Regional and international organizations. The FRDP was developed in response to recommendations from the Pacific Platform for Disaster Risk Management and Pacific Climate Change Roundtable in 2011 and endorsed by the Pacific Island Forum Leaders in 2012. Possibilities can be explored for Disaster Risk Reduction in association with FRDP.

#### References:

1. World Bank 2012.
2. Global Assessment Report, 2015.
3. Costella, Cecilia and Ivaschenko, Oleksiy; Integrating Disaster Response and Climate Resilience in Social Protection Programs in the Pacific Island Countries, World Bank Group, September, 2015.