



## **TERMS OF REFERENCE**

### **FOR INDIVIDUAL CONTRACT**

<b>POST TITLE:</b>	Consultant (Innovation and Technologies for Disaster Risk Reduction and Recovery)
<b>AGENCY/PROJECT NAME:</b>	UNDP Bangkok Regional Hub
<b>COUNTRY OF ASSIGNMENT:</b>	Bangkok, Thailand (with possible travel to countries in Asia/Pacific region)

#### **1) PROJECT TITLE**

Disaster Risk Reduction and Recovery

#### **2) PROJECT DESCRIPTION**

Climate change and extreme weather events are impacting development. Communities and countries are witnessing increased intensity and frequency of disaster events. Asia-Pacific region is one of the worst affected regions of the world. During 1970 and 2011, almost 2 million people perished in disasters representing 72 percent of all disaster fatalities. The poor, and especially women, children and the elderly, more than anyone else bear the brunt of natural disasters, including climate change-induced disasters. Given the growing risks and vulnerabilities due to haphazard development trends and increasing intensities and frequencies of climate-induced disasters, Outcome 5 of the UNDP's Strategic Plan (2014-17) emphasizes: "Countries are able to reduce the likelihood of conflict and lower the risk of natural disasters, including from climate change".

To address these challenges in a comprehensive manner, UNDP through its Bangkok Regional Hub has been assisting countries in Asia to improve understanding of disaster risks at national and sub-national levels by providing technical support to the establishment of national disaster loss and damage information system in Asia. The goal of the support has been to build national capacities for better understanding of disaster risks over time and space and to provide support to policy and decision-making and planning for disaster risk reduction, preparedness, mitigation, response and recovery at national and sub-national levels. Several countries in Asia, viz. Iran, Nepal, Sri Lanka, Indonesia, India (Tamil Nadu and Orissa states), Timor Leste, and Cambodia have established disaster loss and damage databases with historical disaster data going back upto 30 years. More countries are in the process of establishing their national disaster loss and damage information system. Some of the countries with varying levels of progress in the establishment of disaster loss database include – Maldives, Vietnam, Lao PDR, and Bhutan.

The disaster risk reduction and recovery team at UNDP BRH has been pursuing systematically to analyze the impacts of disasters on urban areas and it has produced report on "Urban Population Growth and Disaster Mortality" in 2013 using the available disaster data from the Asian region. In 2014, the team undertook a pilot analysis using the disaster impact data, urban data and climate data from Indonesia. The analysis utilized disaster data available with Indonesian database DIBI (<http://dibi.bnppb.go.id>). The findings from the analysis were presented at "1st Asia-Pacific Forum on Urban Resilience and Adaptation. Resilient Cities Asia-Pacific 2015 Congress on 11 - 13 February 2015 in Bangkok" which was organized by ICLEI in partnership with

Bangkok Metropolitan Administration with support from UNDP. UNDP BRH is currently discussing a partnership with ICLEI to extend the analysis to three countries in South and Southeast Asia.

During the World Conference on Disaster Risk Reduction and Recovery (WCDRR) in March 2015, UNDP together with Tohoku University of Japan launched a Global Centre for Disaster Statistics (GCDS). The GCDS aims to support the implementation of the Sendai Framework for Disaster Risk Reduction (SFDRR) and Sustainable Development Goals by promoting risk-informed development through developing capacities of disaster-prone countries.

Building on its past and ongoing work in support of countries, UNDP would like to exploit new technologies, use innovation and the new partnership with International Research Institute of Disaster Sciences (IRIDeS) of Tohoku University to build resilience of communities and countries to the negative impacts of disasters and climate change. This initiative is also a way to deliver on the new corporate Strategic Plan's call for more "agile" programming and build on notable innovation successes in the region.

### 3) SCOPE OF WORK

The objective of the assignment is to lead and guide the design, development and the implementation of technology support to the work of disaster risk reduction and recovery team and develop innovative services and applications to serve the ongoing and emerging needs of communities and countries.

The consultant will work in close collaboration with the Innovation team and other teams at UNDP BRH, the Global Centre for Disaster Statistics, country offices, and governments in fulfilling the scope of work outlined here. Specific duties will include:

- Review the past and ongoing work on supporting and developing disaster loss and damage database work by customizing the software according to country needs (language, addition of new fields, linkages with other systems)
- Identify opportunities for big data applications complementary to the database and in support of gathering and mapping real time data to improve information access
- Supervise and guide the regional and national IT consultants to ensure the work is completed to meet the country needs and is institutionalized in the government system
- Develop, organize and conduct regional and national training activities for technical staff engaged in the development and the implementation of tools, products and services to meet the needs of the region
- Engage with specialized institutions, government organizations and private companies to identify expertise, capacities, and support towards the development of specialized applications and services (such as big data application in the aftermath of a disaster, tracking of migration of population after disaster, coherent sub-regional, regional and global IT data architecture, and so on)
- Coordinate with the technical IT staff of the Global Centre for Disaster Statistics and contribute to the development of global interconnected data systems for real-time reporting on disasters and progress on the agreed indicators and targets for SFDRR and SDGs.
- Coordinate with national disaster management organizations, national statistical offices, and other specialized agencies such as housing, poverty, urban development, and others to access their public data and increase their availability of wider utilization for analysis at national, regional and global levels.
- Contribute to development of standards, protocols, applications, and processes for appropriate IT architecture for increasing collection, availability, and analysis of data in public domain and thereby supporting the analysis for increased insights to better understand complex development issues and help development policies and strategies to address them systematically.
- Conduct a horizon scanning exercise to identify the existing innovation in DRR ecosystem and potential entry points for collaborative work.
- Design and develop UNDP's DRR response on at least five innovation opportunities that explore the use of technology, big data and 'internet of things' to complement ongoing recovery efforts.
- Support to prototyping innovative technology solutions for DRR.

#### **4) EXPECTED OUTPUTS AND DELIVERABLES**

The consultant is expected to achieve the following outputs.

- Report on systematic support for disaster damage and loss databases
- Organization of technical training and remote support to countries
- Contribution to the establishment of Global Centre for Disaster Statistics
- Innovation Ecosystem map for DRR for the region
- Roster of potential partners experienced in application innovative technologies, such as data visualization, web development, mobile applications development, data mining, usability testing, sensors, IoTs
- Recommend and design the workplan for 2016 building from the November meeting on potential technology innovations for DRR
- Design and develop concept notes for hackathon and challenge prize to identify technology solutions and new partnerships for DRR

#### **5) INSTITUTIONAL ARRANGEMENT**

The consultant will report to the DRR team and will coordinate with other teams as needed to deliver the products outlines here. He/she will work closely with other staff in the UNDP BRH, UNDP Country Office staff and project/government counterparts as appropriate.

#### **6) DURATION OF THE WORK**

Period : 1 September 2015 – 31 December 2015

Working period: 4 months, not exceeding 80 working days

#### **7) DUTY STATION**

Duty Station/places of travel: Bangkok, Thailand with possible travel to countries in Asia Pacific region.

The consultant is required to base in Bangkok, Thailand. He/she may be required to travel to countries in Asia Pacific region. In the case of unforeseeable travel, payment of travel costs including tickets, lodging and terminal expenses should be agreed upon, between UNDP BRH Team and the Individual Consultant, prior to travel and will be covered and paid by UNDP.

#### **8) QUALIFICATIONS OF THE SUCCESSFUL INDIVIDUAL CONTRACTOR**

The consultant should possess the following qualifications.

- Master's degree in information technology, statistics, international relations, sustainable development; design, communications or related field;
- Knowledge of climate change, disaster management and development issues and familiarity with major relevant international development frameworks (SDGs) and Sendai Framework for Disaster Risk Reduction (SFDRR)
- At least 5 years of work experience in area of development of innovative products and services to serve countries and communities
- Excellent writing skills, ability to undertake and lead IT product development and coordinate with relevant stakeholders such as government and the private sector

