Enabling Policies and Institutions for Artificial Intelligence and Citizen Science Applications in Disaster Risk Reduction in Eastern Africa

**Title:** Individual Consultant (Home based)  
**Domain:** Natural Sciences – Disaster Risk Reduction

**Grade:** Senior level  
**Organizational Unit:** Natural Sciences  
**Primary Location:** UNESCO Nairobi  
**Type of contract:** Consultant  
**Fees/Salary:** Negotiable based on experience and qualification  
**Deadline (midnight, Paris time):** 07 July 2020  
**Duration:** Six months (July – Dec 2020)

**OVERVIEW OF THE FUNCTIONS OF THE POST**

In Eastern Africa, both weather-related and geological hazards have happened in unexpected scale. Few events such as the floods in Kenya and Rwanda, drought in the Greater Horn of Africa, the 5.9 magnitude earthquake that hit North West Tanzania are some of the recent disasters whose impacts are still being felt in the region. The high frequency of calamitous events and the often-poor official response seems to have created a deficit of trust between citizens and national authorities. A lack of disaster preparedness and technology has also challenged the regions for decades.

One way of enhancing the overall awareness and responsiveness is to combine citizen science and modern technologies, that would help bridge the distance, in time and space, between citizens and authorities in those crucial first few moments following the disasters. Technological advancement and innovation have created new opportunities for enhancing disaster resiliency and risk reduction. Developments in artificial intelligence (AI), big data – and innovations in areas such as robotics and drone technology are transforming many fields, including disaster risk reduction and management. In Eastern Africa, these technological innovations are limitedly used hampering efforts for the development and implementation of sustainable disaster risk reduction (DRR) and preventive solutions.

The UNESCO Regional Office for Eastern Africa is therefore implementing a project aimed at supporting the development and integration of science-evidenced measures such as artificial intelligent (AI) innovations, citizen science and gender-responsive actions into strategies and action plans for disaster risk reduction in schools, communities and public sector institutions in Eastern Africa.

Among several outcomes, the project implementation is expected to enable institutions and policies for the use of artificial intelligence, modern technologies and citizen science in disaster risk reduction strategies of the ten beneficiary countries - Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, South Sudan, Tanzania, Uganda.

UNESCO therefore seeks the services of an experienced individual consultant to contribute to mapping and analyzing DRR-related policy instruments and institutions and making recommendations for mainstreaming science-based measures including AI and citizen science approaches in DRR in Eastern Africa.

The individual consultant shall be expected to perform the following functions:

**(a) Policy mapping and Analysis**

Science–policy interfaces are critical in shaping the science evidenced measures including governance of AI, modern technologies and citizen science in DRR. Pursuant to the Sendai Framework on DRR, beneficiary countries will be supported in putting in place policy instruments that will help mainstream AI and citizen science considerations into DRR and provide a basis for enhancing disaster resiliency.

To be able to make policy recommendations, the individual consultant shall map and analyze policy instruments with the objective of identifying the main existing policies, strategies and national (governmental) programs in the framework of DRR. As much as possible, the consultant shall be guided by the Un level
existing tools such as CADRI Capacity Assessment and Planning Tool for Disaster Risk Management, Integrating disaster risk reduction into the CCA and UNDAF: a guide for UN country teams by UNDRR in the development of data collection tools.

The policy mapping and analysis will inter alia:
- determine the basic information of the policy such as the characteristic of the policy (regulation, strategy, programme etc.), the objectives, description of the policy, responsible implementing entities in the government, starting year etc.;
- determine policies at different stages of development [e.g. In formulation (meaning that the policy is in the design/ consultation process); legally formalized/ policy established (the policy/ strategy has already been enacted), mechanisms are set up at national level for policy to process); actively implemented (has been established and there are visible outcomes already)]; and
- identify the disasters and disaster cycles addressed by the policy and where available, the AI and citizen science approaches or initiatives promoted by the policy for effective DRR.

(b) Organize policy dialogue and consultation meetings
In collaboration with UNESCO, the consultant shall organize a policy dialogue and consultation meetings with relevant stakeholders (such as national institutions, JICA, UNDRR etc.) to share results of the policy review and analysis and make recommendations for utilizing science-based measures including AI and citizen science considerations into DRR policies.

(c) Institutional mapping
Successful implementation and scaling of DRR technologies relies heavily on the existence and functioning of an array of governmental, civil society and private institutions which operate at national and sub-national level and which, through their roles, responsibilities, and activities carried out, have the capacity to promote/potentially impede the adoption of DRR practices.

In DRR, an institution’s role can be related to the production of policies and investment frameworks (governmental bodies), to knowledge development and sharing (research institutes, universities), technological development (research institutes, producers’ associations) or delivery of financial and non-financial incentives (credit institutions, trust funds, etc.).

The institutional mapping will therefore:
- identify the main actors engaged in DRR and their capacity needs for scientific organization including using AI and science-evidenced AI and citizen science approaches. The stakeholders to be mapped will be actors (institutions, both public and private) that have an explicit or implicit interest in DRR in the country.
- identify the disasters and disaster cycles addressed by the institutions and where available the AI and citizen science approaches promoted for effective DRR.

Expected deliverables
- A comprehensive and detailed report on the Enabling Policies and Institutions for science-based measures including Artificial Intelligence and Citizen Science Applications in Disaster Risk Reduction in Eastern Africa
- Policy recommendations and roadmap for the mainstreaming of science-based measures including AI and citizen science approaches in DRR

PROJECT TITLE
UNESCO DOES NOT CHARGE A FEE AT ANY STAGE OF THE RECRUITMENT PROCESS.

REQUIRED QUALIFICATIONS

EDUCATION
- Advanced university degree (Master’s or equivalent) in disaster management, science or other related fields.

WORK EXPERIENCE
- A minimum of 10 years of relevant professional experience in local, national or international level on disaster risk reduction from policy perspective in Africa;
- Experience in establishing and maintaining professional networks in the disaster risk reduction;
- Solid working experience in the field of disaster risk reduction with multiple partners, international organisations;
- Experience of collect, analyse, develop disaster risk reduction policy report (experience in Africa is desirable);
- Previous experience in the UN system is desirable

**SKILLS/COMPETENCIES**
- Good analytical, organizational and project management skills;
- Excellent coordination and interpersonal skill;
- Excellent written and oral communication skills;
- Proven ability to communicate and negotiate effectively and persuasively with various stakeholders at all levels, within and outside the organization;
- Capacity to build and maintain effective working relations with national/local authorities, relevant institutions, intergovernmental and non-governmental organizations;
- Ability to work effectively and maintain effective working relations within a multi-cultural environment;
- Ability to manage heavy workloads and to meet tight deadlines, paying close attention to detail;
- Solid IT skills including knowledge of office software

**LANGUAGES**
- Excellent knowledge of English (written and spoken) and good knowledge of another UN language is desirable.

**HOW TO APPLY**
To apply, please send your application letter, sample of written report in a related area and your CV to nairobi.hydrology@unesco.org before 07 July 2020 (midnight Nairobi time). In your application, please indicate your desired fees to compete this task.

Please note that only pre-selected candidates will be contacted.

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