Contract for Individual Consultant (other Specialists)

Request for written proposal

Reference: SC/DRR/22/6

Date: 03/03/2022

Request to submit a written proposal for a work assignment with UNESCO

UNESCO is inviting written proposals from Individual Consultants*;* for the work assignment described in attachment A.

To enable you to prepare a proposal for this assignment, please find attached the following documents:

(a) Terms of Reference (see attachment A);

(b) UNESCO's contract for Individual Consultants, the contracting modality used for these assignments (attachment B);

(c) Background material concerning the work assignment [if any] (attachment C)

Your written should comprise:

(a) A Technical Proposal consisting of

- an up to date curriculum vitae, and
- an approach and methodology for the assignment, a workplan and comments on the Terms of Reference if any (in brief).

(b) The amount to be charged for the assignment, which should be quoted in US dollars or in euros only. Please show any travel costs separately

Your proposal and any supporting documents must be in English.

UNESCO places great emphasis on ensuring that the objectives of the work assignment, as described in the Terms of Reference, are met. Accordingly, in evaluating the proposals for the assignment,

attention will focus first and foremost on the technical elements. From those proposals deemed suitable in terms of the criteria in the Terms of Reference, UNESCO shall select the proposal that offers the Organisation best value for money.

Your proposal should be submitted by e-mail no later than close of business (18:00) on [17 March 2022]. E-mail proposals should not exceed 5MB.

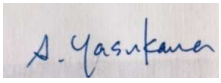
The e-mail address is:

drr@unesco.org

It is the individual's responsibility to ensure that his/her proposal is received by the deadline.

Thank you for your interest in this UNESCO assignment; and we look forward to receiving your proposal.

Soichiro Yasukawa
Chief of the Disaster Risk Reduction Unit
Natural Sciences Sector
UNESCO



3 March 2022

Attachment A

Terms of Reference

1. Background and Objective

UNESCO operates at the interface between natural and social sciences, education, culture and communication, playing a vital role in building a global culture of resilience. UNESCO assists countries in capacity building for management of disaster and climate risk, particularly supporting the Member States on 1) early warning systems; 2) safe critical infrastructures; 3) UNESCO designated sites risk prevention; 4) using Science, Technology and Innovation such as Artificial Intelligence and big data; 5) built safe environment; 6) risk governance; 7) nature based solutions, and 8) post disaster response.

2. Purpose of the Assignment

UNESCO has launched the earthquake DRR project; Capacity Building for Disaster Risk Reduction (DRR) in the built environment in Latin America and the Caribbean (2020-2023, Guatemala, the Dominican Republic, Cuba, Mexico and Peru) (BERLAC5).

UNESCO, therefore, seeks the services of an experienced individual consultant to support the implementation of the project as well as the areas of 1) early warning systems, 2) safe critical infrastructures, and 4) using Science, Technology and Innovation (STI) such as Artificial Intelligence and big data to further position UNESCO well in the UN system.

3. Duties/Tasks and Expected Output:

I. UNESCO extra budget project; "Capacity Building for DRR in the built environment in Latin America and the Caribbean" (BERLAC)

- Provide technical expertise and advice on the implementation of the BERLAC 5 project through optimizing and facilitating the communication among local experts and UNESCO on data collection and its analysis;
- Provide technical expertise and advice on the implementation of the BERLAC 5 project though facilitating the communication between the Field Office and the Headquarters on capacity building materials and events;
- Provide technical expertise and advice on the implementation of the BERLAC 5 project through the schedule and budget management among 4 different components;

II. Early warning systems (EWS)/ Safe critical infrastructures/ Using STI

- Provide technical support to seek opportunities for further support or collaboration by UNESCO on the EWS, safe critical infrastructures, and using STI;

- Provide technical support to seek new potential working partners on academics and practitioners on the EWS, safe critical infrastructures, and using STI;;
- Provide technical support for the preparation and implementation of the above-mentioned projects.

4. Timetable and Deliverables

a. A monthly report related to the implementation of BERLAC for each component.

b. A monthly report on UNESCO actions in the EWS, safe critical infrastructures, and using STI.

5. Qualifications

Advanced university degree (Master's or equivalent) in disaster management, climate change adaptation, science or other related fields.

Excellent knowledge of English and Spanish (written and spoken). Spanish native speaker has a strong advantage

6. Supervisory arrangements

Soichiro Yasukawa, the Chief of the Disaster Risk Reduction Unit at the Natural Sciences Sector is the direct supervisor for the contractor.

Attachment B

UNESCO seeks to have an individual consultant for 11 months for the above terms of reference. The contract will be extended with a satisfactory performance with a one month break after 11 months.

Attachment C

Related materials

- UNESCO's disaster risk reduction webpage (https://en.unesco.org/disaster-risk-reduction/)
- BERLAC project summary (below)

BERLAC project
Project outline

Central and Latin American counties are at risk of disasters caused by both geological and weather related phenomena such as earthquakes, hurricanes and floods. Earthquakes are the most devastating disaster in terms of the impact on mortality. There is high need to support these earthquake-prone countries with capacity building of the local construction sector, policy maker and structural engineer to increase the safety of the built environment.

The objective of this project is to build capacity for disaster risk reduction in the built environment mainly against earthquake. This project is comprised of 3outcomes; 1) secure safer new buildings, 2) strengthen existing building, 3) develop risk-informed policy making. The targets countries are Mexico, Guatemala, Cuba, the Dominican Republic and Peru.
Due to the budget constraint, target countries are not engaged in all components as explained bellowed.
The project will be co-designed and co-implemented in collaboration of both local and international experts and practitioners through exchanging knowledge and experiences among DRR international experts and local seismic engineers.

This project is funded by the Japanese Government for 3 years.

Outcome1 : Secure Safer New Buildings (small scale houses)
Target country: Guatemala supported by Mexico

Background and Objective

Guatemala is one of the most vulnerable countries in the world to earthquakes, volcanic eruptions and climate disasters, such as floods, hurricanes, extreme temperatures. The impacts of these hazards threaten economic growth, lives and livelihoods. The earthquake in 1976 was the worst disaster with 23,000 deaths and economic damage. After the earthquake in 1976, as the result of the changing the construction method in Guatemala from the adobe and Bahareque construction to the confined masonry construction for houses, the damage against the following earthquakes have been decreased. But the present common construction method, the confined masonry still has the following problems especially from the built environment point of view;
- Builders rely on empirical practice without any technical knowledge and training, sometimes resulting in poor quality or less structurally safe.
- The quality of the material is unstable.
These problems indicate that the building constructed with the present method may not have the expected strength.

This component of the project aims to review all the process of building houses to identify the points that can be ameliorated and provide guidance to the masons, communities and the government in Guatemala.

Outcome2 : Strengthen existing buildings
2-1 School Facilities Safety (Triage assessment for school buildings)
Target country: Dominican Republic supported by Peru and El Salvador
As part of its mandate, UNESCO is actively engaged in empowering schools and their communities to identify the hazards they are exposed to, map their vulnerabilities and capacities, and enhance school safety. To do so, UNESCO promotes a multi-hazard school safety assessment methodology, named VISUS (Visual Inspection for defining Safety Upgrading Strategies), which can also be considered as a tool to reach the goals of the 2030 Agenda notably on which relates to the Sendai Framework for DRR, the Worldwide Initiative for Safe Schools, and the SDGs (notably SDG4, 4a, and 11).
Developed in close collaboration with the UNESCO Chair on Intersectoral Safety for Disaster Risk Reduction and Resilience at the Safety and Protection Intersectoral Laboratory of the University of Udine, Italy, the VISUS methodology provides decision-makers with the necessary tools and information allowing them to make science-based decisions on where and how to invest their available resources for enhancing school safety. The VISUS methodology, which has a strong component on capacity building for decision-makers, technical staff and universities, has been successfully tested in seven countries:

- Italy in 2010 (1022 schools assessed)
- El Salvador in 2013 (100 schools assessed)
- Lao PDR in 2015 (10 schools assessed)
- Indonesia between 2015 and 2018 (240 schools assessed)
- Peru in 2016 (60 schools assessed)
- Haiti in 2017 (101 schools assessed)
- Mozambique in 2017 (100 schools assessed)

Under the "Capacity Building for Disaster Risk reduction in the built environment in Latin America and the Caribbean" project, it is intended to implement a VISUS pilot project in Dominican Republic in order to assess the safety of 100 schools.

2-2 Strength existing buildings (Detailed assessment for mid stories buildings)
Target country: Cuba supported by Mexico
Background and Objective
Cuba is the largest and most populated island in the Caribbean region. Hurricanes and earthquakes proportionately affect the eastern part of Cuba, in addition, earthquakes are more frequent in that region, and more specifically, in the city of Santiago de Cuba.
Cuba established its own building code against earthquakes in 1999, and the awareness of earthquakes has been built accordingly. But even buildings constructed in accordance with the building code can not keep enough strength against earthquakes without continuous maintenance a long time after its construction. Also, buildings not constructed in accordance with the

building code, including constructed before the establishment of the building code might be vulnerable to earthquakes. For ensuring the safety of these building, strengthening existing buildings is important. But, there are many challenges to promote the retrofitting the building. For example, the methodologies to assessment and retrofit are not available for engineers and building owners, policies/plans or incentives of retrofitting buildings don't exist, though retrofitting is usually seen unnecessary in daily economic activities and capacity or the number of the engineers are not high enough to carry out the assessment and retrofit.
Therefore, this component aims to understand the current practice and issues of the retrofitting of existing buildings against earthquake risk in Cuba, and also propose the recommendation on strengthening existing buildings through comparison methods in Japan and Mexico.

3 Risk-Informed Policy Making
Target country: Mexico, Guatemala, Peru, Cuba and the Dominican Republic
Background and Objective
Earthquakes hit regularly in Central and Latin American countries are the most devastating disaster in terms of mortality and economically.

To mitigate the damage by earthquakes, it is necessary to understand the risk of the phenomena by seismology and the risk of damage by earthquake by seismic engineering. It is more important that these scientific knowledge are put into practice. The step to put scientific finding into practice is to mainstream the disaster risk reduction in the policy and regulation by translating science to policies. In case of securing building safety against earthquake, the policy tools are such as building code, land use regulation, building control system, maintenance planning, license system of professionals, retrofitting policies, financial incentive, database related to the building.

This component of the project aims to develop the policy recommendation to strengthen buildings against earthquakes in earthquake-prone countries through exchanging the current practice on regulations and policies among local and international experts. the result of outcome 1 and 2 will be incorporated to this outcome.