

**SUGGESTED TALKING POINTS:**

**Talking questions requested by Organizers**

- (1) What are constraints to apply appropriate science and technology to DRR activities?
- (2) How can we overcome those constraints to build resilient society?

**【Constraints】**

- Lack of platforms to build and improve their capacity of survey, pre-assessment and management
- Lack of capacity in developing countries to absorb available knowledge and technology
- Lack of an identified, internationally accepted mechanism to deliver technology transfer and capacity (a one stop shop)
- Fragmentation of activities by bilateral, multilateral and other initiatives
- Limited financial mechanisms
- Inability of scientists to translate their knowledge to practical decision making tools, or guidance for practitioners, within the cultural context of the beneficiaries.
- Limited research networks and practices for science – policy interface.

## **【How to overcome: UNESCO's activities】**

- Member States have to establish the Multistakeholder platforms at National or Provincial / regional levels to facilitate the exchange of knowledge from researchers abroad to local ones and from scientists to practitioners, communities and decision makers
- The existence of such platforms will eliminate issues of fragmentation of efforts and will focus all bilateral and multilateral efforts in one area, both human resources wise but financial support too.
- Specialized agencies need to reformulate their programmes to reflect on delivering simple, practical, easy to use decision making tools, and continue their capacity reinforcement efforts along with the facilitation of knowledge and research exchange via networks. Furthermore, efforts need to be made to support scientists in translating their work to layman's terms and ensuring that it is demand driven (community needs), and that the beneficiaries are part of the process (co-develop and co-produce).
- UNESCO operates at the interface between natural and social sciences, education, culture and communication playing a vital role in constructing a global culture of resilient communities in a multi-disciplinary manner. UNESCO assists countries to build their capacities in managing disaster and climate risk and with their ability to cope with disasters. We already support various national platforms in Pakistan, Chile, Montevideo, Peru, Kenya and other countries where we have usually field presence and via our work on science policy interface. In particular we do this via:

- **Establishing / strengthening platforms for Knowledge Exchange and Scientific Cooperation:** UNESCO through international scientific collaboration and its different academic networks and programmes, promotes and fosters knowledge exchange in geological, hydro-meteorological and marine hazards. UNESCO conducts activities and research that improve quality of data, early warning systems, hazard mapping and vulnerability assessments. (Annex 1)
- **Strengthening Scientific Capacities for Disaster Risk Reduction:** UNESCO facilitates and implements technical training workshops and research activities in disaster risk reduction to improve the capacities of countries to cope with natural hazards. These capacity building activities result in enhancing the current knowledge and in proceedings and resource materials to help decision-makers and stake-holders to build their capacity in managing disaster risks as well as creating networks of technical experts. (Annex 2)
- **Improving Risk Information and Early Warning Systems:** UNESCO promotes scientific exchange and collaborative efforts in order to establish effective early warning systems for different hazards such as tsunamis, floods and droughts. UNESCO helps Member States to collectively achieve effective early warning, helps coordination between existing research centers and educates communities at risk about preparedness measures, including setting up warning and emergency response Standard Operating Procedures and community drill exercises. UNESCO promotes community-based approaches in

the development of response plans and awareness campaigns, which strongly involve educational institutions and end-users. (Annex 3)

- **Making Disaster Risk Reduction a Priority through Policy Recommendations** : UNESCO provides an interface for disaster risk reduction between scientists, policy-makers and civil society. UNESCO prepares technical documents that serve national and local governments to better prepare and mitigate the risks related to natural hazards. UNESCO, through its areas of expertise, is also engaged in disaster risk reduction policy analysis and in the provision of recommendations and guidelines to Member States. UNESCO undertakes post-disaster field investigations in order to determine the causes of the disaster that can inform policy and produce and disseminate lessons to be learned. (Annex 4)

## **A Platform for Knowledge Exchange and Scientific Cooperation**

UNESCO, through international scientific collaboration and its different academic networks and programmes, promotes and fosters knowledge exchange in geological, hydro-meteorological and marine hazards. UNESCO conducts activities and research that improve quality of data, early warning, hazard mapping and vulnerability assessments. (same as Page 6,7)

The heart of UNESCO's scientific exchange and cooperation is its international / intergovernmental programmes like the International Hydrological Programme (IHP), the International Geoscience Programme (IGCP) and its Intergovernmental Oceanographic Commission (IOC).

Furthermore, we have Regional, Supra Regional and International scientific networks that promote scientific exchange in earthquakes (Reducing Earthquake Losses in the Mediterranean Region: RELMER, Reducing Earthquake Losses in the South East Asia Region: RELSAR, Reducing Earthquake Losses in the Central Asia Region: RELCAR and International Platform for Reducing Earthquake Losses: IPRED), landslides (International Consortium of Landslides), Floods (International Flood Initiative), Drought (international Drought Initiative) and tsunami (Tsunami Information Centers).

Finally, UNESCO's family includes the numerous UNESCO centers and chairs (more than 35) and promotes inter-institutional and regional cooperation on issues related to hazard identification and assessment.

**In establishing Projects with the total amount** of more than \$ 1 100 000 US were implemented during the past 5 years worldwide.

**Project example 1:** Strengthening Resilience of Coastal and Small Island Communities towards Hydro-meteorological Hazards and Climate Change Impacts (StResCom). Regional workshop on hydro-meteorological Disaster Risk Reduction & Climate Change together 15 experts from Indonesia, Japan, the Philippines, and Timor Leste, National Workshop on Indigenous Knowledge on Climate Change Adaptation and Hydro-meteorological Hazards in the Philippines, Indonesia, Timor Leste. (\$210641 US).

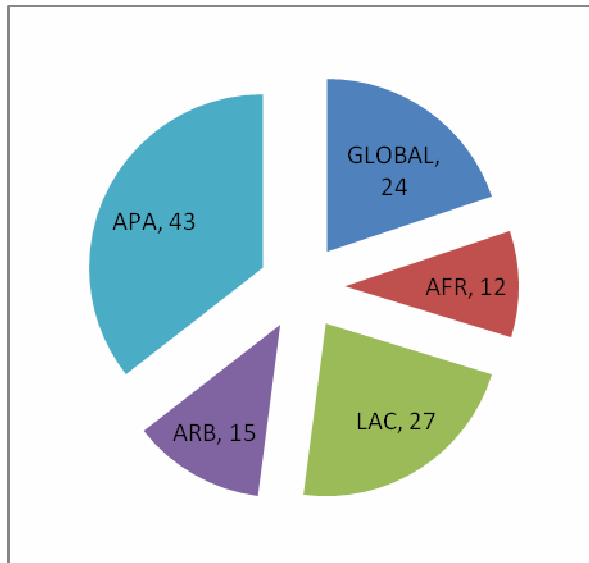
**Project example 2:** Hydro-hazards, hydrological extremes and water-related disasters. A project which was contributed to enhance the flood disaster resilience of the West Africa countries in general with a major focus on six flood prone selected countries (Benin, Burkina, Ghana, Mali, Niger and Togo), was developed by the UNESCO Accra office and ICHARM. Relevant techniques for research and development in Wadi systems were promoted through UNESCO Cairo's support for the organization of training workshops and conferences in the Arab region. (\$197 730 US).

### **Strengthening Scientific Capacities for Disaster Risk Reduction**

UNESCO facilitates and implements technical training workshops and research activities in disaster risk reduction to improve the capacities of countries to cope with natural hazards. These capacity building activities result in enhancing the current knowledge and in proceedings and resource materials to help decision-makers and stake-holders to build their capacity in managing disaster risks as well as creating networks of technical experts. (same as Page 7)

**Via** the action of the UNESCO secretariat, National Commissions for UNESCO, UNESCO Centers and Chairs, its World Heritage Center and via the cooperation with partners various technical trainings are provided annually across the globe in order to strengthen the capacities of Member States to reduce their disaster risk.

**Projects with the total amount** of more than \$ 11 500 000 US were implemented during 35-37 C/5. Most of them were conducted in APA (43), LAC (27) and at global (24) scale (Fig. C1). Activities related to capacity building for in DRR were established mostly by SC (89) and ED (22) Sectors (Fig. C2).



**Project example 1 (Education Sector):** DIPECHO Project - Disaster Risk Reduction through education and science in Colombia, Chile, Ecuador and Peru. The project seeks to strengthen the disaster risk reduction skills of professionals, specialists, institutions as well as educational communities through education and science, working directly to coordinate with national risk management systems in Chile, Peru, Ecuador and Colombia (\$ 549744 US).

**Project example 2 (Natural. Sciences Sector):** Strengthening Resilience of Coastal and Small Island Communities towards Hydro-meteorological Hazards and Climate Change Impacts (StResCom). Regional workshop on hydro-meteorological Disaster Risk Reduction & Climate Change together 15 experts from Indonesia, Japan, the Philippines, and Timor Leste, National Workshop on Indigenous Knowledge on Climate Change Adaptation and Hydro-meteorological Hazards in the Philippines, Indonesia, Timor Leste. (\$210641 US).



### **Improving Risk Information and Early Warning Systems**

UNESCO promotes scientific exchange and collaborative efforts in order to establish effective early warning systems for different hazards such as tsunamis. UNESCO helps Member States to collectively achieve effective early warning, helps coordination between existing research centers and educates communities at risk about preparedness measures, including setting up warning and emergency response Standard Operating Procedures and community drill exercises. UNESCO promotes community-based approaches in the development of response plans and awareness campaigns, which strongly involve educational institutions and end-users. (same as Page 7)

A few examples are on floods in Pakistan (Indus river) following the 2010 devastating event, in Chile and Peru for drought, in West Africa and East Africa (regional centers) for drought (and soon enough for floods); IOC has successfully coordinated the Pacific Tsunami Warning System since 1965. Following the 26 December 2004 tsunami in the Indian Ocean, IOC started to coordinate the development of similar warning systems for the Indian Ocean, the Caribbean and the North East Atlantic, the Mediterranean and connected seas.

**Project example 1** : Early warning systems for tsunamis and other sea level related hazards in LAC & APA (Samoa, Indonesia, Thailand, Haiti, Costa Rica, Chile,

Peru, Jamaica) (\$1 028 324 US) . Project example 2: Strategic Strengthening of Flood Warning and Management Capacity of Pakistan (~3,000,000 USD)

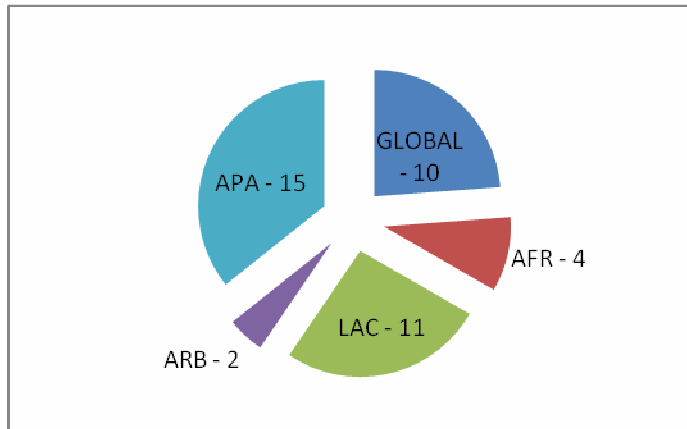
### **Making Disaster Risk Reduction a Priority through Policy Recommendations**

UNESCO provides an interface for disaster risk reduction between scientists, policy-makers and civil society. UNESCO prepares technical documents that serve national and local governments to better prepare and mitigate the risks related to natural hazards. UNESCO, through its areas of expertise, is also engaged in disaster risk reduction policy analysis and in the provision of recommendations and guidelines to Member States. UNESCO undertakes post-disaster field investigations in order to determine the causes of the disaster that can inform policy and produce and disseminate lessons to be learned. (same as Page 8)

**As an example** of the latter is the work of our International Platform for Reducing Earthquake Disasters, IPRED network, that has gone to the Philippines after the Bohol earthquake and Turkey after the earthquake at Bam, examined the reasons for buildings' failure and then the current policy (on building codes etc.) to ensure their appropriateness to cover the existing hazard.

Technical documents on the use of buildings codes worldwide are being prepared to be launched in Sendai in March whereas guidelines for earthquake proof non-engineered buildings, the majority of construction in the developing world have been already published and are available to download for free.

**Projects with the total amount** of more than \$ 6 900 000 US were implemented during 35-37 C/5. Most of them were conducted in APA (15), LAC (11) and at global (10) scale (Fig. D1). Activities related to policy recommendations in DRR were established mostly by SC (22) and ED (18) Sectors (Fig. D2).



**Project example 1 (Culture Sector):** Post Earthquake Assistance to Mount Qingcheng and Dujiangyan Irrigation System World Heritage Site (field investigation and assessment of the damages caused by the earthquake; Conservation and Restoration of an ancient Taoist temple at Mount Qingcheng) (112 690 US \$).

**Project example 2:** In Chile, UNESCO actively participates in the national DRR platform, where we have specifically supported, together with UNDP, the development of a national strategy for DRM, in line with the national DRM policy.

**ADVANTAGES OF UNESCO COMPARED TO OTHER UN ORGANIZATION AND BIG DONORS**

1. UNESCO is a specialized agency for education, science and culture and **works in an intersectoral manner** bringing into practice the multidisciplinary approach when dealing with reducing disaster risk. Examples are with the safe school framework, where the science sector is looking at issues of structural and non-structural elements' integrity, whereas the Education sector on how to mainstream Disaster Risk Reduction into the curricula, and training teachers on delivering the new material.
2. **UNESCO has field offices** to better understand the local situation and support communities in an appropriate context; following the example of safe schools, a number of field offices further looks into developing Disaster Risk Management Plans at school level, bringing in the local community. Other examples are related to World Heritage Sites and their structural integrity (Science and Culture), DRR and Human rights bringing together Natural and Human and Social Sciences.
3. UNESCO facilitates network/collaboration for **scientific capacity building not only for short-term but also mid-term, long-term perspective to foster research and development**. UNESCO's approach is programmatic, not just project base; this approach allows for a higher probability of sustainable actions on the ground via the continuous technical support of the organization with a horizon that fits better on the developmental plans and

medium strategies of a country. **The programmatic approach combined with the field presence** establish the foundation of our modus operandi. Furthermore, UNESCO's specialized Centres and Chairs support a long term approach in capacity reinforcement.

4. UNESCO is **already assisting governments in their S&T situation and gaps analysis and in the formulation or review of their STI policy** and is in the unique position to encourage the systematic integration of the disaster risk management dimension. This is actually one of the focus of our 2016-2017 interventions.
5. UNESCO has **already established working relationship with numerous researchers** and scientific networks at country, regional and global levels.
6. UNESCO due to its scientific networks **leads at country level and at regional level, UN efforts in DRR research activities** in an effort to relate research capacity to evidence-based DRR policies. Our Regional Office in Montevideo is leading such an effort in Uruguay under the UNDAF initiative: "Strengthening technical and operational capacities of the National Emergency System (Fortalecimiento de las capacidades técnicas y operativas del Sistema Nacional de Emergencias)". This can be done with ICSU. In Chile, Colombia, Ecuador, and Peru, UNESCO has supported the **national and regional** tsunami early warning systems, mainly through support to the revision of communication protocols and standard operating procedures. In this process, we have facilitated the coordination between the relevant scientific bodies from the four countries, and the coordination between these bodies and the national DRM bodies. Two important products that resulted from this work are a regional communications

protocol in case of a Tsunami warning, and also a regional diploma course on Tsunamis on the West Coast of South America.

7. We have further promoted the coordination between the **national DRM bodies and universities, working with the REDULAC (Latin American and Caribbean NEtwork of Academics for DRR), but also with other relevant universities and researchers**. In all our countries, we have contributed to Needs assessments in the field of capacity development for DRM. In the case of Colombia, this included also a needs assessment for research in DRM, which has been a useful input for the scientific committee of the UNGRD of Colombia
8. **UNESCO cooperates with the many scientific networks** like the Joint Tsunami Commission jointly sponsored by IASPEI, IAPSO and IAVCEI, ICSU, and via its Tsunami Warning Systems has built on partnerships with other organizations such as the World Meteorological Organization (WMO) for the Global telecommunication System (GTS), and the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) for its seismic observations, UNISDR, civil protection authorities and emergency management and many national science institutions for opportunistic capacity and awareness raising.

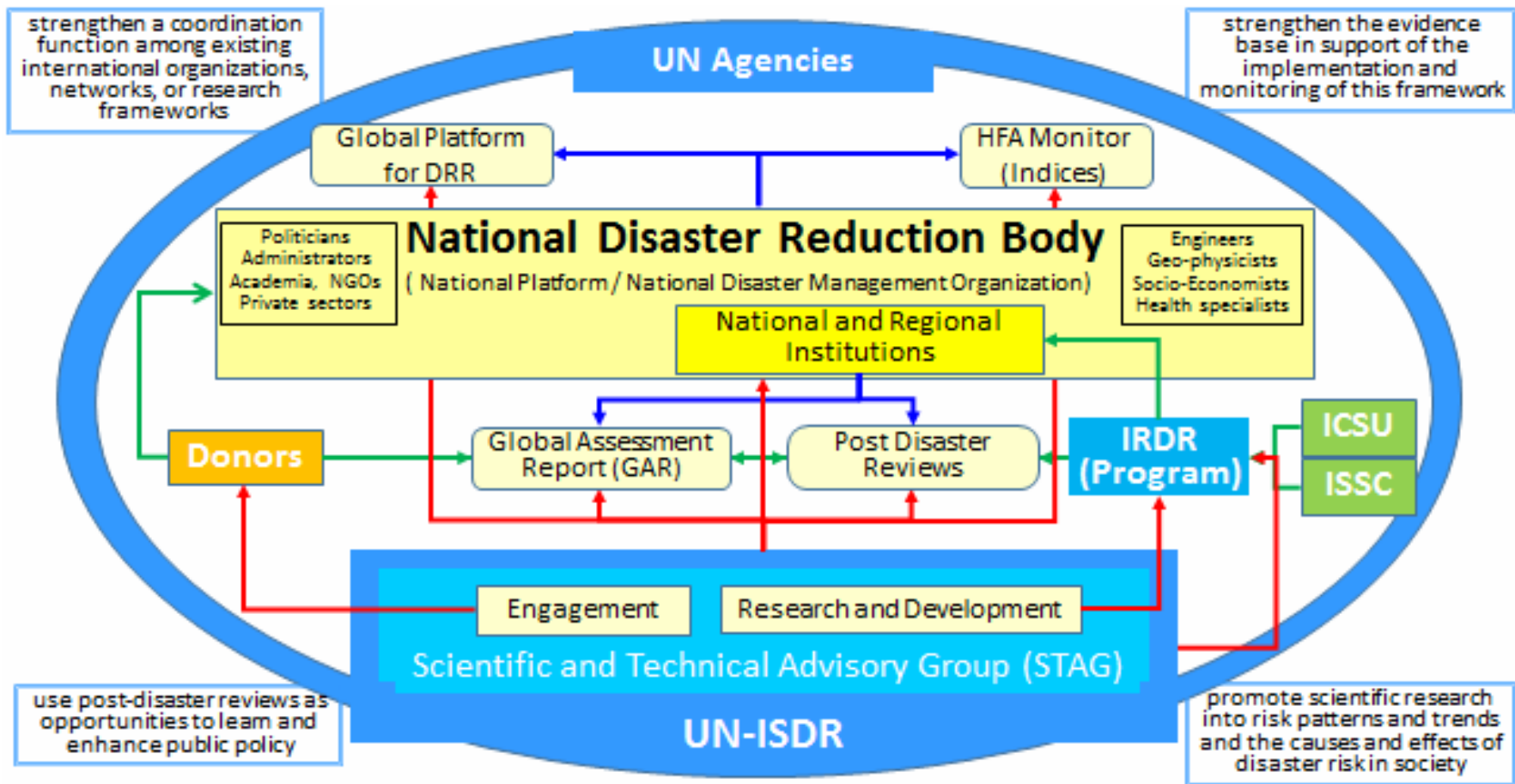


Fig. 1 New Approach to Empower National Platforms and their Decision-making on DRR



### **Comments on the current proposal for the future:**

1. The Terms of Reference of STAG are to advise the SRSG, not UNISDR. They will have to be modified accordingly
2. UNISDR, due to its capacity limitations and its new function as part of the Secretariat, is focusing more and more on the function of the UN Secretariat to the Member States. As a result, the coordination role to the rest of the UN has been weakened (and that is why other Agencies like UNDP have taken the lead in issues like CADRI). The scheme above does not cover this. The Engagement function should be linked with the other UN Agencies too, not with the donors alone; otherwise there is room for duplication and optimization of resources seems unattainable.
3. Is the Research and development that UNISDR wants to promote limited to only the IRDR programme?
4. Does only UNISDR do Post Disaster Reviews? I think that other actors are much stronger on this (UNDP, WB and Regional Banks) and need to be involved
5. Arrows coming out of the UN Agencies on the top should be drawn to link with the various elements of the National platform or NDMO.

6. If there is the case of an absence of a National Platform and where we have only a NDMO, then there is a missing link of the sectors that most UN specialized agencies support technically, like UNESCO, WMO, FAO, WHO. Furthermore, I fail to see the attraction to other politicians and administrators whose mandate is different and which they are obliged to follow (their mandate). This is the current situation and very few are the cases, if any, where this happens.
7. Even in the case of an existing National Platform, the slide is missing the link with the sectors. Focusing only on the NDMOs will perpetuate existing conditions without the integration of sectors and without sectors having mainstream DRR into their operations.
8. Accepting the proposal above, a point of discussion should be on the incentives for engagement of the various actors at the common platform. Thus far we have no or limited success in doing this. What has been working and where and is this transferable, replicable to other places?
9. Encouraging the S&T community to engage in a dialogue with decision-makers on DRR-related matters and the mobilization of relevant networks of knowledge and practice would not suffice. With ICSU as the organizing partner of the Tokyo meeting on behalf of the Science and Technology Major Group, we believe the role for UNESCO at what de facto will be the DRR science-policy interface is not guaranteed. Our suggestion would be to suggest the design of a consultative process, under the co-auspices of UNESCO and ICSU, on the DRR science-policy interface.

