

**INTERNATIONAL DECADE FOR
NATURAL DISASTER REDUCTION (IDNDR)**

Scientific and Technical Committee

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**IMPLEMENTATION OF INTERNATIONAL PROGRAMMES
AND DEMONSTRATION PROJECTS**

A. Introduction

1. Currently 27 programmes and demonstration projects are being implemented or are about to be launched.
2. Since the last session of the STC in March 1992, nine meetings and workshops have been held. In two instances proceedings of the meetings have been published, as have three sets of training materials.
3. It is estimated that implementation of all 25 projects/programmes will cost a total of US\$40 million. Funding for 10 projects, at a cost of US\$10 million, has already been provided by the UN, the European Community Development Fund (EDF) and the Netherlands, among others. However, despite endorsement by the STC, other projects are facing problems in obtaining finance. In view of this shortfall, greater efforts must be made to find donors or sponsors. To this end information about individual projects should be disseminated through a variety of channels, including STOP Disasters. The STC may wish to consider ways to assist in the active promotion of such projects, with special emphasis on contacts in the private sector, not only with respect to funding but also to implementation.
4. The summary of each project provided below covers the period since the last STC meeting and is based on reports submitted to the Secretariat in November 1992. For more detailed descriptions of the projects, reference should be made to the documentation of previous STC meetings. Excerpts of each report are contained in the annexes.

B. Drought

Drought Hazard Assessment, Famine Disasters and Vulnerable Food Systems:

5. Implementation of this demonstration project which is sponsored by IGU/ICSU and the UNDP with the support from France, Germany and the United Kingdom will begin in 1993 for an initial period of three years. During this time, three pilot projects (People's Coping Strategies, Famine Early Warning, Related Development Policies) will be carried out.

Despite support from IGU, ICSU and a number of universities, the project will need external assistance amounting to US\$300,000 over three years.

C. Earthquakes and Tsunamis

The Global Seismic Hazard Assessment Program (GSHAP)

6. Originated by ICL/ICSU this programme is projected to run for a period of five years from 1992. The program planning meeting held in June 1992 was attended by 70 participants representing countries or seismological and geological associations. Implementation of the programme entails the setting up of nine regional centres for hazard assessment.

Total estimated costs amount to US\$5.2 million.

Seismic Risk Reduction in the Mediterranean Region (SEISMED)

7. Sponsored by UNDRO/DHA and the UNDP/OPS, this project completed its first phase (1987–1991) with the publishing of the proceedings of two workshops on "Seismic Hazards" and "Seismic vulnerability". In the second phase, (1992 –), it is also planned to publish further material including the proceedings of a workshop on "Seismic risk".

Costs to date amount to US\$1.5 million, with contributions from the Italian Government, the City of Genoa and the UNDP (both monetary and in kind).

Minimizing Earthquake Vulnerability

8. This demonstration project includes a comprehensive programme of activities for the period 1991–1999, to be conducted under the auspices of IASPEI. The project is being administered from a secretariat in Beijing where a data base is being built up on IASPEI's activities. In October 1992, the secretariat also hosted the Second International Conference on Continental Earthquakes. Other international contacts (with IISEE in Japan and ICTP in Italy) are helping to promote education and training activities. In addition, IASPEI has

been actively involved in other international demonstration projects including GSHAP and the WMO Comprehensive Risk Assessment Project.

Financial assistance of US\$250,000 is being sought for the period 1992–1994.

World Seismic Safety Initiative (WSSI)

9. This project is being proposed by IAEE to the STC for the first time, with a commencement date in 1993. It aims to establish a legal entity to:

- a) promote hazard reduction projects
- b) collect and synthesize seismic safety knowledge
- c) exchange seismic safety knowledge
- d) enhance international cooperation.

A detailed description of the initiative is contained in the annex.

The WSSI requires approximately US\$250,000 for the start-up period 1992–1994.

D. Floods

Floods and Storms. The Bangladesh Case Study.

10. First presented to the STC at its second session in Guatemala in 1991, this project is being carried out by UATI-WFEO in association with UNCRD. An initial outcome has been the publication in December 1991 of a study on *Cyclone Damage in Bangladesh*. Other studies, of technological concepts, are currently taking place and include: satellites, micro-wave sounders, double-beam airborne Doppler radar, moored and drifting buoys and the use of "disabled" ships as collective shelters.

Other activities undertaken include a meeting on Cyclone Disaster Management and Regional Rural Development Planning on 27–29 January 1992, and a workshop on Coastal Zones Management in December 1992.

E. Storms

Tropical Cyclone Disasters

11. This is a joint ICSU/WMO project with a commencement date of 1991. A major event in 1992 was the Joint ICSU/WMO Symposium on Tropical Cyclone Disasters, which was held in Beijing on 11–16 October with the participation of 50 leading experts in the field. Editing of the symposium proceedings for publication and dissemination to areas at risk in Asia is well advanced.

Tropical Cyclone Warning System for the South-West Indian Ocean Region

12. Proposed by WMO, this three-year project (start date 1992) is concerned with technology transfer and human resource development. The project document which was submitted by the Indian Ocean Commission (IOC) to the European Community Development Fund (EDF) has been approved by EDF and the Governments of the South-West Indian Ocean countries (the implementing authorities) with an allocation of ECU 5 million in funds.

F. Volcanoes

Reducing Volcanic Disasters in the 1990s

13. Under the general auspices of ICSU, this demonstration project is being implemented through the International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI) which has selected seven "high-risk" volcanoes to serve as focii for the programme activities planned from 1990-1999. A project development workshop held at the University of Washington (Seattle) in September 1992 was an important initial step in implementing the Decade Volcano programme which has been given high priority by ICSU.

Financial requirements are estimated to be US\$1,400,000.

International Mobile Early-Warning System for Volcanic Eruption (IMEWS)

14. Initiated by UNESCO and UNEP during 1982-1984, this programme is now being sponsored by UNESCO and the World Organization of Volcano Observatories (WOVO) (1984-1989 and 1990-2000). In May 1992 a UNESCO mission visited Central America with the aim of establishing cooperation on volcano monitoring in association with IPG (France), by the installation of a volcanic gas analysis facility and a seismic network equipped with mobile seismographic equipment (8 units). From 1993, it is planned to expand the scope of the IMEWS *Directory of Volcano Observatories*, which is published annually, to include hazard and geostructural maps, aerial and satellite photographs as well as other descriptive material.

In the context of IMEWS, and on the initiative of European volcanologists, a "Volcano Laboratories Program" was proposed to the Commission of European Communities which agreed to provide funding totalling ECU 5.2 million.

G. Other Natural Hazards

Case studies: The Lake Nyos (Cameroon) Hazard Reduction

15. This is a new project, sponsored by UATI-WFEO and initiated in 1992. Among the objectives of the project was the elucidation of the processes that caused the death of 1,700 people living in the vicinity of the crater lake in 1986. In April 1992, a field experiment at Lake Monoun, the site of an earlier incident, tested the validity of the hypothesis of "limnic eruption" and the proposed solution of degassing. Funds for this experiment were supplied by France and the European Community. Field tests were followed by a workshop in September 1992, funded by Gaz de France, aimed at reviewing the results and defining a strategy for the future development of the Nyos degassing programme. The outcome of this meeting will be documented and published for distribution to other international participants in the IDNDR.

No projects have yet been proposed with reference to Landslides (40,000) or Wildfire (2,000).

H. Public Health

Disaster Mitigation in Hospital Facilities in Latin America and the Caribbean

16. The overall objective of this WHO project which commenced in 1989 is to encourage hospitals and other health care facilities in Latin America and the Caribbean to adopt cost-effective measures to keep critical facilities standing and functional in the aftermath of disasters. Among initiatives undertaken to implement this project are the compilation and publication of information and training materials. A manual, *Disaster Mitigation Guidelines for Hospital and Other Health Care Facilities in the Caribbean*, has already been published and a Spanish translation is planned. A Spanish-language training package, *Mitigating Disaster Damages in Hospitals and Other Health Care Facilities: Evaluating and Reducing Physical and Functional Vulnerability*, will be available in early 1993.

The total cost of this project is estimated at US\$491,000.

Risk Mapping in Africa

17. Initiated in 1989 by WHO, this project has as one of its objectives the compilation of a risk mapping manual for use at the community level. The methodologies used in the manual were tested by WHO in southwest Mali in 1990. A first draft will be completed in 1993. A risk mapping manual for the continent of Africa should also be completed in draft at the same time. At the national level emergency plans are being drawn up based on hazards maps for Ethiopia.
Estimated total costs are US\$158,200.

Pan African Epidemic Preparedness (1990–1995)

18. In 1991, this five-year WHO programme focused on the pilot countries of Ethiopia, Uganda and Nigeria. In November of that year, a national workshop was organized in Ethiopia to present the finalized *Guidelines for the Prevention and Control of cerebrospinal meningitis (CSM)* to regional medical officers and epidemiologists. In June 1992, zonal public health technicians attended a training workshop in Addis Ababa on the diagnosis of CSM. Similar activities will be carried out in the other pilot countries.

Estimated total costs are US\$125,000.

Strengthening Health Sector Disaster Preparedness and Response in Indonesia

19. Sponsored by the WHO and Indonesia, this demonstration project is programmed for three years, commencing 1991. WHO has conducted several assessment missions to Indonesia for national programme development.

Estimated total costs are US\$1,700,000.

I. Research Centre

The International Center for Research and Training in the Mitigation of Natural Hazards in Morocco

20. Overseeing this demonstration project is an Ad Hoc Committee of International Experts who completed a comprehensive feasibility study on the center in the first year, 1991. The project Steering Committee was represented at the GSHAP meeting in Italy in June 1992, when Morocco was selected as a regional GSHAP center. Activities in progress include the launching of a major regional project, "Geology, Geodynamics, Earth Structure and Seismic Hazards Studies in Northern Africa (GEONA)".

J. Training and Technology Transfer

Emergency Management – Environmental Risks, Technology and Education Center (IEMERTEC)

21. Planned by Tecnopolis–CSATA of Italy, this project should mobilize the particular know-how of Tecnopolis, linking scientific and industrial capacities aimed at innovation in user-oriented products and services.

System for Technology Exchange for Natural Disasters (V)

22. WMO is sponsoring this ten-year project. A beginning was made in late 1992 with the convening of a Steering Committee to draw up plans for implementation. Discussions are in progress with prospective donors.

The total cost has been estimated at SFr 5 million.

Training Material for Disaster Reduction

23. This UNESCO project is programmed for a period of four years to 1994. In 1991-1992, focusing on earthquakes and floods, training materials on disaster reduction were developed for civil service and NGO staff. Activities since the last session of the STC include the development of consultant training texts and a project development seminar on "The Hague: Capacity Building for Disaster Reduction". Project activities proposed for 1993 will include the development of training modules for specific audiences.

Costs, it is estimated, will total US\$2,000,000. The project is supported by "funds in trust" from the Netherlands.

The IDNDR Roving Seminar

24. Under the auspices of UATI-WFEO, roving seminars are planned to take place over the period 1992-1995. The first phase includes the following regions: the Caribbean, the Mediterranean and South-East Asia. The first seminar, "The IDNDR Caribbean Roving Seminar (ICAROS) is in the planning stage, with a preparatory meeting scheduled for 1993 in Guadeloupe.

Estimated costs total US\$150,000.

Disaster Management Training Programme (DMTP)

25. At the express request of the General Assembly, the Disaster Management Training Programme (DMTP), which is jointly managed by DHA and UNDP, was strengthened and broadened during the course of 1992. By year-end, DMTP had produced 14 training modules and trainer's guides in several languages, 3 training videos, 5 simulation exercises and 4 case studies and had awarded 7 research projects. The Programme had staged 5 regional workshops and had conducted workshops for 17 countries resulting in follow-up programmes covering a full range of mitigation and team-building activities. The Programme has also developed a cadre of 40 disaster management trainers from 8 agencies.

The total price tag of DMTP over its four-year lifespan (July 1990 - June 1994) now stands at US \$9 million, of which US \$6.2 million is administered by UNDP and US \$2.8 million by DHA.

DMTP's principle goal is to be a catalyst in raising awareness and professionalizing disaster management around the world, all hazards combined. DMTP enjoys ever-increasing international recognition. An independent mid-term review, dated December 1992, confirms the wide impact of the Programme.

K. Disaster Management

The Physical Instability of Megacities.

26. The project is led by IAEG on behalf of the IUGS and ICSU. Since the last session of the STC it has been decided that the National Committees of the IAEG should be canvassed, in order to select appropriate sites in developing countries for the application of programme activities, including research and development opportunities to be coordinated within specialized institutions. The International Working Group on Urban Geology, which organized its first meeting in August 1992, will be closely linked to the project. The International Conference on Geosciences in Urban Development, held in Beijing in the same month, was similarly oriented with symposia on Chinese and world megacities, as well a presentation on urban planning including disaster management.

Megacities Protection and Constructions

27. UATI-WFEO have developed a three-year project dealing with specific preventive measures aimed at reducing the casualties from natural disasters in big urban conglomerates and individual habitations. In this context information is being collected for analysis and case studies have already been carried out on two major disasters caused by flash floods in the south of France. Development of these and other activities will be the responsibility of a new body within the UATI-WFEO Task Force, the "Work Center", located in London, in association with the Institution of Civil Engineers (UK).

Total costs for the project are estimated as US\$870,000.

(Note: The STC, at its third session, advised that projects 21 and 22 be merged into one.)

Comprehensive Risk Assessment

28. In March 1992, WMO convened a meeting of experts and representatives of international organizations to develop plans for the implementation of this project over the period 1992-1996. The project description has now been drawn up in detail and potential donors are being contacted for their support.

Costs are estimated at US\$3 million.

L. Information Systems

Disaster Statistics; Disaster History Data Base; Network Development in Country Disaster Management Information Systems.

29. This three-year project is being implemented with costs estimated at US\$300,000, under the Information Management, Communication and Office System (IMCOS) which aims at enhancing DHA's capacity of collecting, analyzing and disseminating information related to disaster management. In order to provide the project with standardized disaster data, installation of hardware equipment, database development, and development of UNIENET have been made under the IMCOS. In addition, the cooperation with other organizations in the area of information systems related to disaster management has been developed so that external information systems can be accessed. Under this cooperation, International Emergency Readiness and Response Information System (IEERIS) has been set up.

IDNDR/UNDRO Terminology Project

30. As reported to the last STC session, the above project was progressing well, assisted by the IDNDR National Committees of Colombia, former Czechoslovakia, France and Switzerland.

The equivalents of the English terms selected at the Terminology Workshop held in September 1990 in Prague (Czechoslovakia) were prepared in Spanish in Columbia and in French in France. A final editing was made by a small editing group at IDNDR Secretariat in Geneva in December 1992. The final copy has been transmitted for proof-reading and printing and is expected to be ready for distribution in January 1993.

This will close the first stage of the Terminology Project. The second stage has been already started with assistance given to preparation of specialized glossaries, in particular those needed in the establishment of disaster related data bases. The harmonization of the Basic DHA/IDNDR International Agreed Multilingual Glossary with these specialized Glossaries will proceed in 1993. This activity is funded by contributions of the Swiss IDNDR National Committee.

M. Advance Technology for Disaster Mitigation

Multimedia Emergency Rapid Communication Units Relating International and Upcountry Systems (MERCURIUS).

31. Being developed by Telepazio of Italy, this project attracted STC members in its 3rd session by its potential for disaster monitoring and standardization of communications. Participation of scientists and disaster managers should be encouraged.

N. Recommendations

32. The STC may wish to consider that information about individual projects should be disseminated through a variety of channels, including STOP Disasters and that the STC should play a more active part in promoting such projects with special emphasis on contracts in the private sector.

Annex

List of Abbreviations

CSATA	Center Specialized in the Application of Information Technologies
CSM	Cerebrospinal Meningitis
DMTP	Disaster Management Training Programme
ECU	European Currency Unit
EDF	European Community Development Fund
EMERTEC	Emergency Management–Environmental Risk Technology and Education Center
GEONA	Geology, Geodynamics, Earth Structure and Seismic Hazards Studies in Northern Africa
GSHAP	Global Seismic Hazard Assessment Programme
IAEE	International Association for Earthquake Engineering
IAEG	International Association of Engineering Geology
IASPEI	International Association of Physics of the Earth's Interior
LAVCEI	International Association of Volcano and Chemistry of the Earth's Interior
ICAROS	IDNDR Caribbean Roving Seminar
ICL	International Commission of Lithosphere
ICSU	International Council of Scientific Unions
ICTP	International Center for Theoretical Physics, Trieste, (Italy)
IERRIS	International Emergency Readiness and Response Information System
IGU	International Geological Union
IISEE	International Institute of Seismology and Earthquake Engineering, Tsukuba, Japan
IMCOS	Information, Management, Communication and Office System
IMEWS	International Mobile Early–Warning System for Volcanic Eruptions
IOC	Indian Ocean Commission
IPG	Institut de Physique du Globe (France)
IUGS	International Union of Geological Sciences
MERCURIUS	Multimedia Emergency rapid Communication Units Relating International and Upcountry System
NGO	Non–governmental Organization
OPS	Office for Project Services of UNDP
SEISMED	Seismic Risk Reduction in the Mediterranean Region
STC	Scientific and Technical Committee of the IDNDR
UATI	Union Internationale des Associations et organismes Techniques
UNCRD	United Nations Center for Regional Development
UN–DHA	United Nations Department of Humanitarian Affairs
UNDP	United Nations Development Programme
UNDRO	Office of the United Nations Disaster Relief Co–ordinator
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIENET	United Nations International Emergency Network
WFEO	World Federation of Engineering Organizations
WHO	World Health Organization
WMO	World Meteorological Organization
WOVO	World Organization of Volcano Observatoires
WSSI	World Seismic Safety Initiative