
INTERNATIONAL DECADE FOR NATURAL DISASTER
REDUCTION (IDNDR 1990 - 2000)

**"Towards practical and pragmatic
natural disaster reduction
by the year 2000"**

A POLICY DOCUMENT BASED UPON OBSERVATIONS
AND LESSONS LEARNED DURING 1990-1996

*prepared for the 8th meeting of the IDNDR Scientific and Technical
Committee (STC) to be held in Paris in January 1997*

Geneva, December 1996

Context

PART I Observations and lessons learned (1990 - 1996)

- 1.1 International, regional and national level.
- 1.2 Local and community level
- 1.3 Conclusions

PART II Consolidating research & applications (1997 - 2000)

- 2.1 Approach
- 2.2 Institutional aspects
- 2.3 Gaps
- 2.4 Priority actions in the field
- 2.5 Implementation

Annex Resources

Context

Objectives The objectives of this document are to review, and evaluate, the scientific activities that have been implemented during 1990 - 1996; and to provide suggestions for consolidating the scientific mechanisms towards the end of the Decade. The document has been prepared to assist members of the IDNDR Scientific and Technical Committee (STC) during the eighth Session in Paris in the initial discussions concerning the final evaluation of scientific activities during the Decade.

Sources used. Sources used include: (a) Main targets of the Decade; (b) Recommendations of the Yokohama Strategy, adopted by the World Conference, and endorsed by the UN General Assembly in 1994; (c) Approved UNGA resolutions concerning the Decade; and (d) Policy refinements agreed during the 5th, 6th and 7th STC sessions.

Yokohama Strategy The Yokohama Strategy - created in part with the support of the scientific community - recognized disaster reduction as an integral part of sustainable development. It stressed the importance of improving information exchange and communication in the field of disaster reduction. It also agreed to a priority of practical implementation of disaster reduction measures at local level, a greater involvement of local communities, and special attention to the poorest sector of society. The programme should therefore not only address national governments, UN organizations, and regional organizations, but also include local governments, the NGOs, the private business sector, and the vulnerable communities.

'Bridging' international and local action. An attempt has been made in this report to effectively 'bridge' the gaps between international recommendations and initiatives, on the one hand, and their practical applications at the local and community level, on the other. It also seeks to provide suggestions for initiatives to be taken during the last three years of the Decade to successfully accomplish this double-focused objective.

Wider objective: The Decade, and its secretariat, will disappear within three years. However, the need to carry the main messages from the Decade to reduce the effects from disasters into the 21st century, will remain. In order to achieve this wider objective, clear commitments are needed from all Decade partners. For the continuation of *operational mechanisms*, commitments are needed from the UN (particularly UNDP incl. UNV); national & local governments, NGOs and vulnerable communities. For the continuation of *scientific mechanisms*, commitments are needed from the international, regional, national and local scientific communities, and from relevant specialized UN agencies, such as UNESCO, UNITAR, WMO etc.

Expected outcomes: This document represents a first step to obtain operational and scientific commitments well in time for the "final event" of the Decade. The eighth STC session provides an opportunity (a) to discuss, and agree on these wider issues; (b) to formulate conditions for these commitments, and (c) to elicit first reactions from relevant UN agencies and international scientific institutions.

PART I. Observations and lessons learned

1.1 International, regional and national level

Expectations Some members of the scientific community - the prime initiator and promoter of the Decade - have been quite critical, and sometimes even disappointed, with the lack of tangible results of the Decade in relation to its objectives. It was expected that, as a result of the Decade, a more systematic use would be made of hazard and risk information and existing knowledge in disaster reduction and development planning, particularly in the disaster-prone developing regions.

Contributions Major scientific contributions, within the Decade, include the large number of international, regional and national conferences, seminars, workshops; and initiatives for scientific networks related to disaster reduction. Other important activities were the combined efforts by scientific institutions to coordinate and implement demonstration and other projects, and the subsequent discussions based on 'lessons learned' from reviews of these projects. It was found that the *catalytic role* of scientific projects in the field of disaster reduction within the Decade is directly related to the level at which they illustrate the fundamental shift from "science" to practical application; from sectoral to inter-disciplinary action; and how to defuse political opposition and overcome financial hurdles. Progress has also been made in addressing legal and economic aspects of disaster reduction, and insurance aspects.

Conclusions Significant contributions have been made by the scientific community in promoting disaster reduction as an integral part of sustainable development, and in improving international information exchange and communication assertion. Progress has also been made in the practical involvement of national and local scientific institutions and experts in relief and risk reduction activities in disaster-prone developing countries.

The scientific community has not yet given sufficient priority to the practical implementation of disaster reduction measures at local level, to greater involvement of local communities, and in giving special attention to the poorest sector of society. Now is the time to translate the results of the very useful research work done, within the framework of the Decade, into practical applications. Increased collaboration between the scientific community and IDNDR National Committees would be one way of strengthening these aspects.

1.2 Local and community level

Scientific activities developed in collaboration with local authorities, NGOs, the private sector, the vulnerable communities, and the local scientific communities, can be summarized as follows:

Local governments: Scientific institutions supported various local government projects, focusing on disaster reduction, training workshops and practical manuals for local level applications, within the framework of the Decade. A major event, attended by many scholars, was the 2nd International Conference "Local Authorities Confronting Disasters" held in Amsterdam in 1996. Conclusions from this, and other, conferences concerning 'prevention and response' indicate that: (1) Disaster management is a process, running the full cycle of mitigation, preparedness, response, recovery and rehabilitation; (2) Mitigation practices are necessary for sustainable development. (3) In some places, authorities should avoid investing scarce resources into over-sophisticated equipment, but rather use these resources to apply more basic mitigation measures; (4) Technology transfer should be applied carefully, in accordance with local and cultural traditions; and (5) Public awareness concerning risks and potential threats should be raised. The role of local authorities in confronting disasters can be characterized as: Local authorities should direct efforts, not only locally, but also influence regional and national policies and priorities; and Local authorities should be careful not to depend solely on regional and central governments.

Need for collaboration. Within this framework of roles and priorities, increased collaboration should be initiated between the scientific communities, and local authorities through their organizations, such as the International Union of Local Authorities (IULA), and the Local Authorities Confronting Disasters & Emergencies (LACDE). This collaboration should be made operational and more effective, to systematically assist in IDNDR activities in the field of local and community vulnerability reduction.

NGOs: The formation and establishment of an Asian group of NGOs dealing with disaster relief and reduction - during the World Conference - was an important initiative within the framework of the Decade. It was also a remarkable achievement, as most NGOs involved in disaster management are basically relief-oriented. It is regretted that follow-up capacities in the Decade Framework have been insufficient to provide such important initiatives with the necessary support. Therefore no significant contribution has been made to bring the NGOs effectively into the Decade Framework.

Need for collaboration. The importance of preparing feasible scientific outputs, specifically addressed to NGOs, has generally escaped the attention of the scientific community within the Decade. Practical scientific support to NGO organizations should be strengthened. Attempts should also be made to bring NGOs into the Decade Framework, and to enhance the operational contacts between the scientific community and NGOs in the field of community vulnerability reduction.

Private business sector. Only few initiatives have been undertaken by the scientific community to involve the private business sector in the Decade activities. Some seminars, conferences and exhibitions, organized by the private sector have been used to outline the strategies of the Decade, and to outline the role of the scientific community. The private sector representatives clearly recognize the need for their involvement, but lack the staff and financial means for longer term investments in basic research. This can be a cause for shorter term ad-hoc contributions.

Need for collaboration. Collaboration between the private business sector, and the scientific community at all levels should be analyzed and further enhanced.

Vulnerable communities: A proposal for a "network addressing the needs of vulnerable communities", and the preparation of some publications addressing the needs of vulnerable communities, were some of the few scientific activities within the Decade directed towards this target group. Some of the disaster reduction programmes, endorsed by STC, also focused on strengthening the capacities of the affected communities, in terms of self-planning, decision-making, implementation and maintenance of disaster reduction measures.

Need for collaboration: More initiatives of these types need to be taken by the scientific community, in collaboration with local authorities, NGOs, the private sector, and the vulnerable communities themselves, during the next three years. This can be done by creating practical networks focusing on local and community level action; publications addressing regional issues, including good examples of community level experiences in disaster reduction; and the development of training modules addressing leaders of vulnerable communities.

Using local scientific capacities: For the preparation of vulnerability reduction programmes - especially at the local and community level - full use should be made of indigenous national and local staff, expertise and institutions, who have an intimate knowledge of the socio-cultural, political and economic backgrounds of the society. An other reason for using local expertise is that disaster reduction is a sub-process, and should neither be ahead, nor falling behind the speed of other developments. Disaster reduction activities should ultimately become a permanent task of local authorities, such as those in charge of development planning, transport, health and finance.

Need for collaboration: The scientific community can take various initiatives, in cooperation with IDNDR National Committees and UN Disaster Management Teams, in establishing multi-disciplinary disaster reduction teams, including representatives from national and local government, local scientists and NGOs, to help vulnerable municipalities and communities address disaster reduction systematically.

1.3 Conclusions

Role of scientific institutions. Where they exist, national scientific institutions are crucial in assisting the national government in policy-making, standard setting and legislation, but for practical implementation at community level, the local scientific institutions and NGOs, in close collaboration with the local government levels, are crucial.

Implementation strategies. Two strategies to achieve practical action at the various levels have emerged: (a) practical implementation of disaster reduction as an integral part of sustainable development; and (b) a gradual conversion of operational civil protection organizations, at all levels, into integrated disaster response & risk reduction organizations. Both strategies are considered equally valuable and complementary.

Gaps between disaster reduction & development. Sustainable development cannot take place without addressing disaster risks. The extent to which hazards affect society depends on the vulnerability of that society. Disaster reduction is in many cases carried out as an activity that is separate from the day-to-day development process. The international, national and local scientific communities should assist in reducing these professional barriers.

Gaps between disaster relief & reduction. Efforts are needed by the scientific communities, in collaboration with national and local governments and NGOs, to help assess the overall direct, indirect and secondary socio-economic impacts of disaster relief. Without denying the high humanitarian value of relief efforts, extensive indirect and secondary damage is often caused to local (especially traditional) economies as a result of relief operations.

Scientific institutions and UN agencies. The results of reviews of demonstration and other projects *at least point in the direction* that: (a) projects submitted by scientific institutions, seem to be stronger in terms of addressing global (mainly hazard-related) issues, including documentation, implementation, progress and regularity/ quality of reporting compared to those submitted by the UN and other agencies, and that (b) in terms of practical aims and objectives, focused on practical application in the field, the projects of the UN and other agencies seem to be generally stronger.

Need for increased collaboration. In case the previous statement proves to be correct (on the basis of more reviews) it can be concluded that increased cooperation between scientific institutions and specialized UN agencies in drafting project aims and objectives for research in disaster reduction - linked with practical implementation mechanisms - may be mutually beneficial and may lead to more practical and useful results for disaster reduction at local and community level.

PART II. Consolidating research & applications

2.1 Approach

Same goals. At this crucial moment, all innovative, and practice-oriented capacities in the scientific community - and in STC in particular - are needed to scrutinize present gaps and priorities, and to provide scientific results, which will satisfy all Decade partners. This should be done while considering the 'lessons learned', and within the limited time left for intervention and action. The research activities, and their practical applications, should be developed with the same goals, and lead to clear, unified results and research strategies for the "final event" of the Decade.

Dual focus. Instead of using traditional "top-down" approaches, such as UN and other international channels, the 'message' should be spread that the Decade needs to be firmly rooted at the local and community level. A highly innovative and balanced "top-down + bottom-up" approach needs to be developed for this purpose. This will at the same time fulfil the expectations of many donors.

Implications. Acceptance of the above approach would imply, that all scientific projects, promotional campaigns, networks, inventories, research, connections with UN agencies, national contacts etc. need to be re-focused, to achieve more tangible results at the local and community levels. Reports will be needed from all ongoing and planned scientific activities, on how to adjust, and how to achieve practical results from all scientific partners, which can be presented during the "final event" in 1999.

2.2 Institutional aspects

A framework for scientific activities As a result of the recommendations in the Yokohama Strategy two different - and often opposite - mechanisms need to be integrated. One is the recognition that without 'top-down' international, and regional support, it will be impossible to channel international, regional and national knowledge for local and community level action. The other one basically requires a 'bottom-up' mechanism, that will stimulate action at the local and community level, using national, regional and international expertise and connections.

Adjusting the institutional set-up The scientific activities within the framework of the Decade should - practically and visibly - be positioned at the operational field level, clearly rooted, and surrounded by, Local Governments, NGOs, the private sector, and the vulnerable communities. It is obvious that in this model, the existing local scientific/technical communities should become important partners, being 'served' by the national, regional and international scientific communities. Where they do not exist, or are weak, a priority should be the establishment of a strong local scientific/technical community. The Scientific and Technical Committee (STC) should become the intermediate scientific body, responsible to keep the Decade at the field level, and the international scientific activities together. Two 'coordinator/facilitators' (economic & technical), serving STC, should be appointed to assist STC in this task.

Linking global and local action Intensive and timely discussions are needed between international scientific institutions, and involved UN agencies to discuss practical methods to relate global and local issues. At present various UN bodies are actively involved in either disaster relief or disaster reduction. Some of these organizations, notably UNESCO, WHO, WMO, UNCHS, UNDP, and UNEP, are mainly involved in disaster-reduction related initiatives. UNDP - including UNV - are probably closest to operational tasks, and could as such play a much more important role in assisting the scientific community in the execution of its tasks at the local and community levels.

DPC/SD The UN Department for Policy Coordination & Sustainable Development, (DPC/SD), which has served various Agenda 21 follow-up initiatives: (climatic change (ozone layers), desertification, and bio-diversity) is another important connection in this respect. Although it is clear that there are some differences between this organization and IDNDR, there are many more complementary aspects, and reasons for increased future collaboration. This became clear during the joint preparation of the DPC/SD & IDNDR Position Paper for the Conference in Barbados on Small Island States, which has been endorsed by DPC/SD, for final adoption by the UN General Assembly in July 1997.

Conclusion A crucial activity in this 'transition' - leading towards the end of the Decade - is a systematic, thorough and continuous evaluation of what has been, and will be produced by the scientific community for those Decade partners which so far have been 'under-served'.

2.3 Gaps

The following main gaps have been identified:

(a) Policy development:

Lack of capacities for the practical development of an IDNDR model for increased emphasis on the role of local government, NGOs and communities in disaster reduction actions;

(b) Research & applications:

- i. Socio-economic and legal aspects of disaster reduction: (e.g. loans and grant policies; connections with insurance). Socio-economic (*cost-effectiveness*), as well as the legal aspects, are 'undernourished' - if not ignored - fields in many disaster reduction projects.
- ii. 'Bridging' disaster relief & reduction: Insufficient attention has been paid to stimulating and supporting the gradual conversion of operational civil protection systems, into integrated disaster response and risk reduction organizations. Research will also be needed to guide the integration of disaster relief, rehabilitation, and recovery in field manuals for disaster management.
- iii. 'Bridging' disaster reduction and development Practical implementation of disaster reduction as an integral, and prioritized, part of sustainable development at the national, sub-regional and local government level is insufficiently addressed in many research projects.
- iv. Comprehensive Risk Assessment The approach by *type of disaster* precludes the notion of composite risks. As their accumulative effects are often a multiple of the single disaster type, much more attention should be paid to this aspect.

(c) Networks: (*absence of*)

- i. A 'network' for vulnerability and risk reduction at local and community level (*For the inventory, re-focusing & dissemination of existing materials, guidelines & training tools*);
- ii. Regional scientific networks for disaster reduction in Africa, CIS and Middle East;
- iii. UN agencies/scientific institutions 'network' and 'data bank' on research needs for disaster management

(d) Early warning

Lack of practical dissemination, and communication, systems of early warning information to vulnerable communities.

(e) Training:

Lack of capacities for development of simple training methods for communities.

(f) Evaluation: (*lack of capacities for*)

- i. Systematic review and evaluation of practical disaster reduction applications;
- ii. Creating a compendium of current knowledge in disaster reduction experiences;
- iii. Evaluation of overall results and impacts of the Decade as a major contribution to the IDNDR "final event"

2.4. Priority actions in the field

At least some of the following 'conditions' should be met to enable the scientific 'transformation' of the Decade into a balanced 'top-down + bottom-up' mechanism:

- Top-down and bottom-up mechanisms, created to stimulate community disaster reduction actions, should interact during all project preparation and implementation stages and at all levels.
- This dual focus and priority of the Decade, should 'infiltrate', and shape, all scientific - and other - activities of the Decade in terms of promotion, research and demonstration projects, compendia of current knowledge etc.
- In collaboration between international and national scientific institutions, systematic community vulnerability maps, and atlases, need to be produced per disaster-prone country, district and township, indicating type of community vulnerability, priority, and risk level.
- Involved UN agencies and scientific institutions should collaborate in the creation of international 'ready-stand-by' teams of specialists in drafting practical disaster reduction proposals, after a disaster has occurred, or in case of identified serious disaster threats.
- Involved UN agencies and scientific institutions should collaborate at a more practical level, and at an early stage, in drafting aims and objectives of disaster related research programmes. Urgent disaster related research needs should be identified by the UN agencies, and scientific institutions should subscribe, and apply for these research tasks, by providing outlines and staff-time.
- All (political, technical and financial) 'opportunities' in both post-disaster relief operations and pre-disaster development activities should be used by the scientific community to draw the attention to - and serve the needs of - vulnerable communities
- The scientific community should advocate that vulnerability reduction programmes are not developed FOR but together WITH the vulnerable communities. This will enhance the community role in project implementation, and maintenance.
- For vulnerability reduction programmes - especially at the local and community level - full use should be made of indigenous national and local staff, expertise and institutions, who have an intimate knowledge of the socio-cultural, political and economic backgrounds of that society. For very specific hazard and risk reduction aspects, foreign expertise may, of course, be needed.
- Community vulnerability reduction programmes should be planned and implemented as integral parts of regional and local development plans.
- Priority should be given to the development of practical systems for dissemination, and communication, of early warning information to vulnerable communities.

2.5 Implementation (*)

There are three key elements for the effective implementation of an integrated **strategy** to reduce risks from disasters:

1. 'Windows of opportunities'. *The major opportunity to develop and/or implement measures will come in the wake of a disaster. This is due to the temporary high profile of disaster preventive action which should be taken advantage of to secure resources and decisions.* Plans should therefore be developed and, where there are political or other obstacles to their implementation, they should be maintained in readiness for implementation at the appropriate time, such as when a disaster provides the necessary opportunity for swift action.
2. Priority to protect the poor. *Experience indicates that the poor are most at risk when disaster strikes.* Priority is necessary for appropriate measures to protect the poor and their property. Such measures should include economic inputs and community level programmes.
3. Fail-safe measures. *A balanced implementation strategy includes fail-safe measures, which can be used if other measures are not acceptable or not efficient.* It is, therefore, not advisable to confine disaster reduction to a single measure, such as structural improvements or laws. Implementation of planning for disaster mitigation is strongest where there is a related strategy of many parallel approaches

Three major **mechanisms** must successfully interact and collaborate, and fulfil certain **requirements**, in order to enable successful implementation of disaster reduction programmes:

- A. The main (national and local) governmental resources include (a) awareness, political will and commitment, (b) allocation of adequate resources, and (c) a strong leadership, management and co-ordination.
- B. The (national and local) government, NGOs, the private sector and the (national and local) scientific community should interact in developing the necessary knowledge and skills: (a) raising public awareness, (b) stimulating community participation, (c) providing training and education, and (d) research and development. The scientific community may take a leading role for creating these mechanisms.
- C. Legal framework, land use regulations, and economic incentives are the most important mechanisms to promote disaster reduction. Social sciences can make significant contributions in these fields.

(*) *Summary of relevant chapter in UNDR0 Manual "Mitigating Natural Disasters" 1991*

Annex. Resources

Financial and staff resources needed for:

Policy-development

- policy and practical development of a model for the Decade for increasing the roles of local government, NGOs and communities in disaster reduction actions;

Research & practical applications

Socio-economic and legal aspects of disaster reduction:

- practical economic measures.

'Bridging' disaster reduction and development

- implementation of disaster reduction as an integral part of sustainable development at the national, sub-regional and local government level.

'Bridging' disaster relief & reduction:

- model development for gradual conversion of operational civil protection systems, into integrated disaster response and risk reduction organizations.
- integration of disaster relief, rehabilitation, and recovery in the various field manuals for disaster management.
- development of systematic community vulnerability maps, and atlases, per disaster-prone country, district and township, indicating type of community vulnerability, priority, and risk level.

Stimulating Comprehensive Risk Assessment

- inclusion of disaster reduction aspects in the WMO CRASH programme

Networks

- development of a 'network' for vulnerability and risk reduction at local and community level ('networking, reference libraries, guidelines & training tools');
- development of a UN agencies/scientific institutions 'network' and 'data bank' on research needs for disaster management.

Early warning

- practical dissemination, and communication, of early warning information to vulnerable communities.

Training

- preparation of training methods for communities, based on existing materials.
- creation of international 'ready-stand-by' teams of specialists in drafting practical disaster reduction proposals, after a disaster, or in case of serious disaster threats.

Evaluation:

- systematic review of scientific projects in disaster reduction; and the expansion of compendium of current knowledge in disaster reduction;
 - evaluation of the overall results and impacts of the Decade as a major contribution to the IDNDR "final event"
-