

Date: 3 October 2006

ENGLISH ONLY

---

**Sixty-first session**

Second Committee

Agenda item 53 (c)

Sustainable development: International Strategy  
for Disaster Reduction

## **Global Survey of Early Warning Systems**

### *Summary*

A global survey of early warning systems was undertaken at the request of the Secretary-General with a view to advancing the development of a global early warning system for all natural hazards. The survey report released on 27 March 2006 concludes that while some warning systems are well advanced, there are numerous gaps and shortcomings, especially in developing countries and in terms of effectively reaching and serving the needs of those at risk. The survey report recommends the development of a globally comprehensive early warning system, rooted in existing early warning systems and capacities. It also recommends a set of specific actions toward building national people-centred early warning systems, filling in the main gaps in global early warning capacities, strengthening the scientific and data foundations for early warning, and developing the institutional foundations for a global early warning system. This conference paper, which complements the report of the Secretary-General on the International Strategy for Disaster Reduction (A/61/229), summarises the main outcomes of the survey and outlines the steps that the International Strategy for Disaster Reduction and its Platform for the Promotion of Early Warning plan to take to stimulate and where necessary coordinate follow up activities.

## **Contents**

- I. Introduction
- II. Origins and Conduct of the Survey
- III. Main Findings of the Survey
- IV. Recommendations of the Survey
- V. Conclusions and Proposed Follow-up to the Survey

## I. Introduction

1. Over the last decade, disasters have affected about 2.5 billion people and claimed the lives of nearly 900,000 people. The number of disasters is increasing, with growing impacts on poor nations and communities. Disasters occur when a natural hazard event overwhelms a community's capacity to cope, and the rise in impacts is largely due to growing populations and growing vulnerability to natural hazards. Disasters and the development process are intimately linked. Unsustainable development practices are a key factor in the increase of disasters, while disasters threaten livelihoods as well as international and national efforts to advance socio-economic development and eradicate poverty, posing a serious obstacle to the achievement of the Millennium Development Goals<sup>1</sup>.
2. It is not possible to prevent the occurrence of natural hazards but much can be done to build understanding and capacities to reduce the vulnerabilities that too often lead to disasters. At the World Conference on Disaster Reduction<sup>2</sup>, held in Kobe, Hyogo, Japan, 18-22 January 2005, a total of 168 Governments supported by numerous organisations adopted the *Hyogo Framework for Action 2005-2015: building the resilience of nations and communities to disasters*<sup>3</sup>, a landmark document that sets out strategic goals, priority areas of action and institutional responsibilities for substantially reducing disaster risk over the decade. It identifies the need for developing early warning capacities and improved preparedness and response, as part of a comprehensive approach that includes the integration of disaster risk reduction into development planning and practices and building a culture of prevention and capacities for resilience.
3. Past experience has shown that early warning can be a highly effective tool for saving lives and property in natural hazard events. Although the frequency of disasters has noticeably increased over the last fifty years, death tolls from disasters have declined, in large part owing to early warning systems and associated preparedness and response systems. The enormous losses of life in the major droughts, storms and floods of last century are now rare. It is not uncommon for early warnings to lead to the evacuation of a million people from areas at risk. For example, evacuations based on the hurricane forecasting and warning of Hurricane Katrina in 2005 undoubtedly saved many thousands of lives, even though the event also clearly demonstrated the limitation of scientific and technical early warning systems and the importance of a comprehensive disaster risk reduction approach, including public awareness and education for enhanced preparedness and response.
4. General Assembly resolutions on the International Strategy for Disaster Reduction have consistently recognised the importance of early warning as an essential element of disaster risk reduction<sup>4</sup>. Many key international agendas, forums and resolutions also refer to early warning systems as an important tool for disaster risk reduction, including the Yokohama Strategy and Plan of Action for a Safer World which was adopted at the World Conference on Natural Disaster Reduction, Yokohama (1994)<sup>5</sup>, the Barbados Plan of Action for Small Island Developing States (1994)<sup>6</sup>, the Johannesburg Plan of Implementation of the World Summit on Sustainable Development (2002)<sup>7</sup>, the Second International Conference on Early Warning, Bonn (2003)<sup>8</sup>, the United Nations Report of the International Meeting to Review the Implementation of the Programme of Action for the Sustainable

Development of Small Island Developing States, Mauritius (2005)<sup>9</sup>, the meeting of G8 ministers in Gleneagles (2005)<sup>10</sup>, and the Third International Conference on Early Warning, Bonn, (2006)<sup>11</sup>. Early warning is an important objective in the processes of the United Nations Convention to Combat Desertification, in the food security activities of many United Nations and other international organisations, and in other humanitarian and environmental fields. Effective early warning systems will be an essential component of climate change adaptation strategies, given the projections of the Intergovernmental Panel on Climate Change<sup>12</sup> of increases in extreme weather and climate conditions in a warmer climate.

## II. Origins and Conduct of the Survey

5. In January 2005, shortly after the Indian Ocean tsunami tragedy and with the recognition that thousands of lives would have been saved if an effective tsunami early warning system had been in place in the region, the Secretary-General called for a global early warning system that addressed all natural hazards and covered all nations. Subsequently, in his March 2005 report to the Summit on the Implementation of the Millennium Declaration *In larger freedom: towards development, security and human rights for all*<sup>13</sup>, he requested that a global survey of capacities and gaps for early warning systems be undertaken:

*“The countries of the Indian Ocean region, with the help of the United Nations and others, are now taking steps to establish a regional tsunami early warning system. Let us not forget, however, the other hazards that people in all regions of the world are exposed to, including storms, floods, droughts, landslides, heat waves and volcanic eruptions. To complement broader disaster preparedness and mitigation initiatives, I recommend the establishment of a worldwide early warning system for all natural hazards, building on existing national and regional capacity. To assist in its establishment, I shall be requesting the International Strategy for Disaster Reduction secretariat to coordinate a survey of existing capacities and gaps, in cooperation with all United Nations system entities concerned, and I look forward to receiving its findings and recommendations.”*

6. The survey requested by the Secretary-General was coordinated by the secretariat of the International Strategy for Disaster Reduction through its Platform for the Promotion of Early Warning. At the 11<sup>th</sup> Inter-Agency Task Force on Disaster Reduction<sup>14</sup> in May 2005, a working group was formed to provide guidance and support to the survey process and the preparation of a report, with the following members: Asian Disaster Preparedness Center, Global Fire Monitoring Center, Intergovernmental Authority on Development’s Climate Prediction and Applications Centre, International Telecommunication Union, United Nations Development Programme, United Nations Environment Programme, United Nations Human Settlements Programme, United Nations Institute for Training and Research, United Nations Office for the Coordination of Humanitarian Affairs (Co-Chair), United Nations University Institute for Environment and Human Security, and World Meteorological Organization (Co-Chair). Discussions at the 11<sup>th</sup> Inter-Agency Task Force on Disaster Reduction concluded that the survey should draw on readily available materials rather than undertake any new baseline studies.

7. At the end of 2005, the United Nations General Assembly expressed its support through its resolution (A/RES/60/195) for the completion of preparations of

the global survey and invited Member States to provide inputs to assist the secretariat of the International Strategy for Disaster Reduction in preparing the survey.

8. The survey examined the available information that Governments and organisations had provided in the preparations for the Second International Conference on Early Warning in October 2003, and for the World Conference on Disaster Reduction in January 2005, the latter comprising including 122 country reports. In addition, Governments, relevant United Nations bodies and the Inter-Agency Task Force on Disaster Reduction member organisations were invited to update their information for the purposes of the survey study. Twenty-three Governments<sup>15</sup> responded to this further request for information on their capacities and gaps in early warning. Information also was received from the members of the abovementioned working group of the Inter-Agency Task Force on Disaster Reduction and from other organisations including the United Nations Children's Fund, the secretariat of the United Nations Convention to Combat Desertification, World Food Programme, Food and Agriculture Organization, Asian Disaster Reduction Center, ProVention Consortium, and South Pacific Applied Geoscience Commission.

9. The survey considered early warning systems for the hydro-meteorological and geological hazards principally, but also for related biological, environmental, humanitarian and industrial factors where relevant – for example famine, locust plagues, and forest fires. It sought to identify early warning gaps and capacities, as well as opportunities for remedies, for all parts of the world, and to develop recommendations for future action by Governments and organisations towards developing more effective early warning systems in line with the Secretary-General's recommendation. The survey considered institutional and governance mechanisms for warning systems. Many natural hazards span territorial borders and therefore require common practices and a range of international and regional mechanisms for data sharing and warning dissemination. The survey report also includes an annex that lists the numerous regional and international organisations and their roles in supporting the development and operation of early warning systems.

10. A group of experts was convened by the secretariat of the International Strategy for Disaster Reduction and met in December 2005 to review a working draft report and to provide inputs, and the working group of the Inter-Agency Task Force on Disaster Reduction also provided inputs. A consultation draft was circulated in January/February 2006 and the pre-print version of the report was launched at the Third International Conference on Early Warning, Bonn, Germany, 27 - 29 March 2006 by the Under-Secretary-General for Humanitarian Affairs<sup>16</sup>. The report was reprinted later in 2006 with minor corrections and editing.

### **III. Main Findings of the Survey**

11. Considerable progress has been made in developing the knowledge and technical tools required to assess risks and to generate and communicate forecasts and warnings, particularly as a result of growing scientific understanding and the increased use of modern information and communication technologies. Early warning system technologies are now available for almost all types of hazards and are in operation in at least some parts of the world. The existing expertise and technical capacities in these early warning systems provide a good basis for the creation of an

effective globally comprehensive early warning system - not as a monolithic centralised system, but as a network of systems.

12. Nevertheless, there are significant inadequacies in existing early warning systems, as illustrated by the experience of the Indian Ocean tsunami in late 2004, Hurricane Katrina in the Gulf of Mexico in 2005 and other recent events such as heat waves, droughts, famine, wildfires, tsunami, floods and landslides. Early warning systems especially in developing countries lack basic equipment, skills and financial resources and are for certain hazards are even non-existent. A major challenge is to integrate the knowledge and insight of relevant social and economic communities into the predominantly technically based existing systems.

13. One of the survey's key findings is that the weakest elements in early warning systems are the dissemination of warnings and the preparedness to respond. This is true for developing and developed nations alike. Warnings may fail to reach all those who need to take action, including local authorities, community-based organisations and the public at large, and often the warnings are not properly understood or may not be taken seriously. A good understanding by the public and by community organisations of their real vulnerabilities and the risk posed by an event is often lacking. Root causes of such failures appear to be inadequate political commitment, weak coordination among an often-diverse group of actors, and insufficient public awareness and participation in the development and operation of early warning systems.

14. Other important findings of the global survey are as follows:

- i. Early warning systems are based on the nature of the hazard involved: the early warning needs for tsunami and for drought, for example, are very different. Current systems have been developed based on the technical knowledge of the hazard and national circumstances. Global capacities for early warning must build on these roots and be integrated with international policy and technical capacities. A global early warning system must therefore be conceived of as a network of systems, with collaboration among the responsible authorities to exchange data and knowledge, to complement operational capacities and to prepare the public in a coordinated way.
- ii. There are wide disparities in how the different hazards are handled. Weather-related hazards are generally well covered worldwide through the national meteorological and hydrological services of the World Meteorological Organization system, and forecast accuracy has improved greatly over recent decades. These types of capacities need to be extended to other hazards and to be complemented by other risk reduction measures.
- iii. There are limited capacities for effective early warning systems in many developing countries, in particular the least developed among them, and in some cases they are virtually non-existent. Key requirements appear to be the development of national integrated risk reduction and risk management capabilities, and improved technical equipment and training.
- iv. By considering all hazards and vulnerabilities together, in a multi-hazard approach, and with a focus on reducing disaster risk, it should be possible to obtain gains in institutional effectiveness, operational efficiency, and public preparedness in respect to early warning systems.

v. The shortcomings that are present will require sustained attention by Governments and relevant organisations, as recognised in the Hyogo Framework. Some gaps, such as tsunami early warning systems, are now clearly identified and are subject to significant capacity building efforts, but many others remain to be given appropriate attention.

#### **IV. Recommendations of the Survey**

15. The survey's principal recommendation is that a global early warning system should be developed, based on existing capabilities. Four additional recommendations provide a more detailed framework of specific proposed actions, each of which is described as concrete a form as possible. The recommendations cover matters of technical expertise, societal engagement, and governing institutions and are mainly aimed at Governments, international organisations and authorities responsible for the safety of citizens.

16. **Recommendation 1: Develop a globally comprehensive early warning system, rooted in existing early warning systems and capacities**

A global early warning system will require long-term sustained action by diverse players, strong political commitment to engender public action and to make early warning a core task of national policy and disaster risk reduction strategy, strong international support and coordination, with clear roles and responsibilities, and wide participation of non-governmental organisations, private sector and regional organisations. Specific actions are needed to build national capacities, fill the main gaps in global warning capacity, strengthen science and data foundations, and develop the global institutional foundations, as elaborated in the following four recommendations.

17. **Recommendation 2: Build national people-centred early warning systems**

Country-based early warning systems are needed for the protection of the citizens and also provide the building blocks of the global early warning system. They involve national, district-level, and community-based capacities and are only complete when the necessary capacities for warning dissemination and preparedness and response are in place. The main challenges for countries are firstly, to build or strengthen institutional capacities, and secondly, to effectively engage the affected population in the system. National action on early warning systems should be incorporated into, and should materially contribute to the national implementation of the Hyogo Framework. On this basis, the following tasks are recommended as priorities.

***Specific proposed actions for recommendation 2:***

- i. Adopt the guiding principle that the country's early warning systems must be people-centred in addition to being technically sound.
- ii. Establish (or strengthen) a multi-party early warning roundtable, such as a subcommittee of the national platform for disaster reduction, to ensure coordination among the key actors and the integrated implementation of early warning capabilities across all hazards and all user needs.
- iii. Ensure at national level that the authority and political responsibility for issuing warnings are established in law and are appropriately assumed, and that the chains of command for the dissemination of warnings are clearly established.

- iv. Undertake a systematic national survey of all early warning system needs, covering hazards and vulnerabilities, institutional and social factors, and existing system capacities, performance and gaps.
- v. Develop a long-term national plan for the systematic strengthening of early warning systems, covering technical and social elements, seeking synergies among the different hazard components, and with clear definitions of the targeted populations and the expected performance of the systems.
- vi. Where appropriate, request the support of the United Nations Resident Coordinator and the World Bank to support project identification and resourcing, in partnership with other donors, United Nations Development Programme, relevant United Nations technical agencies and programmes, and non-governmental organisations.
- vii. Establish a national strategy and standards for warning dissemination that target stakeholders' needs and interests and reach to local level, and engage both the public and private sectors, especially the media, in their development.
- viii. Stimulate community-based risk assessment and early warning systems through the assignment of specific responsibilities for risk reduction and emergency management to local bodies, the support of local training and information needs, and the use of traditional knowledge and experience in warning system design.
- ix. Develop necessary curricula and institute a public education programme that reaches all the population at least once each year to enable them to understand the risks they face, the nature and meaning of warnings and the appropriate responses to take.
- x. Undertake annually a well-publicised exercise to demonstrate and test national early warning systems, evacuation plans and public response, preferably involving all or large fractions of the at-risk population.

**18. Recommendation 3: Fill the main gaps in global early warning capacities**

There are many gaps to be filled, particularly at national and regional levels, and much work to be done to decide how best to fill them. The development of a globally comprehensive early warning system will require multiple actions at all levels and in all sectors, and covering hundreds of issues and criteria. Nevertheless, it is recommended that the following tasks be adopted as immediate priorities.

***Specific proposed actions for recommendation 3:***

- i. Conduct a detailed survey of gaps and needs in respect to weather-, climate- and water-related extreme hazards, and associated vulnerabilities and warning capabilities, particularly in the developing and least developed countries, and to develop plans for the systematic strengthening of early warning capabilities for these hazards in countries in need.
- ii. Identify and fill, on a country-by-country basis, the key gaps in operational forecasting and warning systems within each national meteorological and hydrological service, such as for severe storms, flash floods, storm surges, dust, and sand storms.
- iii. Establish, where not already present, a minimum basic meteorological early warning service in all countries affected by tropical cyclones, covering technical needs and linkages to dissemination and preparedness mechanisms.
- iv. Implement monitoring, forecasting, and early warning systems for the 100 flood-prone rivers of the world that most threaten large populations, including

multilateral arrangements for monitoring, data sharing and early warnings exchange for basins that span more than one country or territory.

- v. Build or strengthen tsunami warning systems in all tsunami-prone basins, as part of a globally coordinated system, through the development of regional intergovernmental coordinating groups, multilateral systems for observational and data systems, networks of national tsunami centres, and national tsunami programmes.
- vi. Prepare and implement integrated plans for coastal risk warning, mitigation and management systems, covering tropical cyclones, storm surges, and coastal flooding, founded on cross-disciplinary and regional cooperation.
- vii. Establish a global network of drought monitoring centres for all drought-prone regions, incorporating existing networks, and support them to design and implement a global drought and food security warning and response system, including effective monitoring systems.
- viii. Devise institutional mechanisms and agreements under United Nations and regional intergovernmental auspices to solve the problem of repeated failure by Governments and international donors to effectively respond to early warnings for food security in Africa.
- ix. Prepare a global survey of all volcanic risks that threaten significant populations, covering hazards and vulnerabilities, and establish a mobile volcano monitoring capability that can deploy necessary equipment at short notice to emerging volcanic risk areas, supported by a ready-reaction task team of experts.
- x. Support the development of the intergovernmental agreements and resourcing necessary to implement a global wildland fire monitoring and early warning system, based on existing initiatives and partnerships.
- xi. Implement a pilot project on landslide monitoring and early warning in every country that has suffered significant loss of life from landslides in the last decade, harnessing lessons learned from Central American systems developed after Hurricane Mitch and community-based models in Kenya and Uganda.
- xii. Implement under strong international support one major early warning project in each of the least developed countries, chosen on the basis of an assessment of the country's hazards, vulnerabilities and existing early warning capabilities, and as a first demonstration step of a long-term plan towards an integrated national warning system for all hazards.

#### **19. Recommendation 4: Strengthen the scientific and data foundations for early warning**

Scientific and technical expertise and capacity are well recognised as core features of early warning systems, particularly in respect to hazards and to operational systems. However, there are several areas of weakness, such as in knowledge of some hazard processes and risks, lack of hazard and vulnerability mapping, and the limited engagement of relevant social sciences. It is recommended that the global early warning capacity be based on a strong foundation of knowledge and data, and that the following actions be taken as priorities.

##### ***Specific proposed actions for recommendation 4:***

- i. Establish internationally agreed standard methods for monitoring and mapping natural hazards and related societal vulnerabilities, including hazard-relevant vulnerability indicators and their tracking, and prepare working tools to enable their implementation by countries.

- ii. Prepare a comprehensive catalogue of information on extreme geological hazards, such as the return periods and scales of future eruptions, the identification of overdue locked-fault segments, and the location and characteristics of areas of unstable terrain prone to landslides.
- iii. Design and implement a pan-African project to overcome the continent's deficit in hazard monitoring systems and to build related capacity in data analysis, forecasting, and warning.
- iv. Develop through Group on Earth Observation mechanisms a comprehensive long-term globally comprehensive plan for observational and communications requirements to meet the data needs for all early warning system requirements.
- v. Upgrade the World Meteorological Organization-coordinated Global Telecommunication System to support high-speed links to all countries and develop its capacity to handle data streams and communication of warnings for all hazards.
- vi. Identify and implement capacity-building programs needed to establish and maintain the observational and telecommunication infrastructure for reliable and efficient delivery of warnings to populations at risk.
- vii. Establish an international framework agreement on the regional and basin-wide data exchange necessary for early warning, including standardised nomenclature, through a consultation process among affected countries and building on existing agreements including Resolution 40 of the World Meteorological Organization Congress–XII, May-June 1995.
- viii. Make early warning concerns a priority in the International Strategy for Disaster Reduction mechanisms for scientific and technical advice, including through the establishment of a high-level international science panel on extreme and natural hazards to identify and quantify the occurrence and potential impacts of such hazards.
- ix. Develop an international agenda on science and data-related needs for early warning, as part of the International Early Warning Programme, with the active participation of national scientific groups, including young developing country scientists, and associated training initiatives.
- x. Establish a United Nations coordinated web-accessible portal that provides access to information on natural hazards and early warnings, including current and emerging risks, as a collaboration of the agencies and institutes already engaged in providing these services.

**20. Recommendation 5: Develop the institutional foundations for a global early warning system**

The mechanisms of international and regional governance, coordination and support form one of the two pillars of a globally comprehensive early warning system, the other pillar being the country's capacities. These mechanisms provide clarity on the roles and capacities of the relevant organisations, support necessary institutional partnerships, coordinate technical development, and ensure appropriate mechanisms of accountability to Governments. The priority tasks are as follows.

***Specific proposed actions for recommendation 5:***

- i. Affirm through appropriate United Nations processes the goal to build a comprehensive global early warning system, rooted in existing early warning systems and capacities, and including necessary supporting governance mechanisms.

- ii. Request the International Strategy for Disaster Reduction system to facilitate the development of the comprehensive global early warning system, guided by the Hyogo Framework, and including overall strategies, clarification and documentation of mandates and responsibilities, definition of standards and terminology, support of capacity building, fostering of partnerships, and the development of an International Early Warning Programme for multi-party action on these issues.
- iii. Call on regional organisations, including the United Nations economic and social commissions and organisations concerned with disaster reduction, preparedness and early warning, to foster partnerships and prepare strategies and plans to support the development of early warning systems in their regions.
- iv. Undertake an assessment of the institutional mechanisms, capacities, and operational experience of the World Meteorological Organization, and apply the lessons learned, and where advantageous the available capacities, to the development and operation of early warning systems for hazards not currently mandated to the World Meteorological Organization system.
- v. Assign or reaffirm the responsibility for the global governance and coordination of early warning systems for geological hazards to the United Nations Educational, Scientific and Cultural Organization, in collaboration with the World Meteorological Organization and the International Council for Science-affiliated science organisations that currently are the main bodies active in geophysical monitoring and warning, and strengthen the United Nations Educational, Scientific and Cultural Organization's capacities to effectively meet this responsibility.
- vi. Confirm the responsibilities for the global governance and coordination of early warning systems of the Food and Agriculture Organization for food production and food security, United Nations Environment Programme for environment status and stress, Office for the Coordination of Humanitarian Affairs of the United Nations Secretariat for complex emergencies, including the World Food Programme and the United Nations Children's Fund's roles in the Inter-Agency Standing Committee for Humanitarian Action, and the World Health Organization for health-related aspects of disasters, while recognising also the related responsibilities and competences of other United Nations and United Nations associated actors, and the need for United Nations System coordination.
- vii. Call on the United Nations Office for Outer Space Affairs and the Group on Earth Observations to coordinate the integration, improvement and sustainability of the observing systems and data exchange policies needed to support the comprehensive global multi-hazard early warning system, and request the International Telecommunication Union to incorporate early warning system telecommunications needs into the specifications for the Next Generation Network.
- viii. Identify and prioritise the challenges for developing multi-hazard approaches, such as in legislative, organisational, technical, and capacity building areas, and develop necessary strategic partnerships with relevant actors at international, regional, and national levels and follow-up action plans.
- ix. Request the World Bank and the United Nations Development Programme to jointly facilitate necessary planning and coordination of, and support for, the inclusion of early warning systems development in national poverty reduction strategies and development plans, and request the United Nations Department of

Economic and Social Affairs to support the follow up to the World Summit on Sustainable Development Johannesburg Plan of Implementation on this subject.

## **V. Conclusions and Follow-up to the Survey**

21. Early warning is a readily understood concept and early warning systems are well advanced for many hazards. There is widespread recognition of the need for early warning systems as an essential component of strategies to build resilience to natural disasters. Without further efforts at the local, national, regional and international levels, some hazards will continue to strike without warning and existing early warning systems may continue to fail to reach people at risk or may fail to elicit appropriate life-saving and property-saving responses. Accordingly, the Secretary-General in his report on the International Strategy for Disaster Reduction (A/61/229) has encouraged Member States and organisations to develop a global early warning systems for all hazards and all communities, based on existing systems, and to address the associated technical and organizational gaps and needs, as recommended in the Global Survey of Early Warning Systems.

22. The survey report provides a valuable starting point for the task by outlining the main issues and identifying a range of specific needs for action by Governments, United Nations agencies and other organisations concerned with early warning systems development. Coordinated planning is now needed to define priorities and practical objectives to be achieved, and to engage the attention and participation of all relevant early warning system stakeholders. This should take place through existing relevant mechanisms, including through the International Early Warning Programme that was launched by major early warning stakeholders at the World Conference on Disaster Reduction in January 2005 and is supported by the Platform for the Promotion of Early Warning. Follow-up action was discussed at the Third International Conference on Early Warning, held in Bonn, 27-29 March 2006 following the release there of the survey report, and an advisory committee for the International Early Warning Programme was formed. Further discussions occurred at the World Meteorological Organization Symposium on Multi-Hazard Early Warning Systems for Integrated Disaster Risk Management, held in Geneva on 23-24 May 2006.

23. The secretariat of the International Strategy for Disaster Reduction and its Platform for the Promotion of Early Warning will provide a lead in stimulating and where necessary coordinating follow up activities on the global survey, including through the following tasks.

- i. Convening a meeting of the advisory committee of the International Early Warning Programme to review the survey's recommendations, to devise a suite of concrete follow-up actions and to develop commitment to implement the survey's recommendations, including through contributions to the International Strategy for Disaster Reduction system's joint work programming process.
- ii. Inviting the agencies identified in the survey report's recommendations to formulate appropriate responses in accordance with their mandates and special fields of expertise.
- iii. Establishing focal points among agencies and Government bodies engaged in early warning systems development for appropriate follow up of the recommendations.

- iv. Disseminating the survey report to all Governments and relevant national stakeholders in order to stimulate political commitments and follow up activities at national and sub-national levels.
- v. Promoting the survey at international or regional meetings and other events related to early warning systems and disaster risk reduction and raising awareness of the need to follow up on its recommendations with agencies and Governments.
- vi. Applying the outcomes of the Third International Conference on Early Warning<sup>17</sup> to address the survey's recommendations, including through the application of the Developing Early Warning Systems: Checklist and the promotion of projects submitted to the Early Warning Project Portfolio<sup>18</sup>.
- vii. Promoting the survey and its recommendations with donors and seeking support for the implementation of early warning developments, especially with respect to the needs of least developed countries.
- viii. Establishing a systematic monitoring, evaluation and reporting mechanism on progress on the survey's recommendations, linked to the processes to monitor and report on the implementation of the Hyogo Framework.

---

<sup>1</sup> United Nations Millennium Declaration (A/RES/55/2)

<sup>2</sup> World Conference on Disaster Reduction, <http://www.unisdr.org/wcdr/>

<sup>3</sup> Hyogo Framework for Action 2005-2015: building the resilience of nations and communities to disasters, <http://www.unisdr.org/eng/hfa/hfa.htm>

<sup>4</sup> General Assembly Resolution (A/RES/60/195)

<sup>5</sup> Yokohama Strategy and Plan of Action for a Safer World (1994), [http://www.unisdr.org/eng/about\\_isdr/bd-yokohama-strat-eng.htm](http://www.unisdr.org/eng/about_isdr/bd-yokohama-strat-eng.htm)

<sup>6</sup> Barbados Plan of Action for Small Island Developing States (1994), <http://www.un.org/esa/sustdev/sids/sidstbc.htm>

<sup>7</sup> World Summit on Sustainable Development (WSSD), Johannesburg, 26 August to 4 September 2002, [http://www.un.org/esa/sustdev/documents/WSSD\\_POI\\_PD/English/WSSD\\_PlanImpl.pdf](http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf)

<sup>8</sup> Second International Conference on Early Warning, <http://www.ewc2.org/>

<sup>9</sup> United Nations Report of the International Meeting to Review the Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States, Port Louis, Mauritius (A/CONF.207/11)

<sup>10</sup> Response to the Indian Ocean disaster, and future action on disaster risk reduction at the Gleneagles G8 meeting (2005) [http://www.g8.gov.uk/Files/KFile/PostG8\\_Gleneagles\\_Tsunami.pdf](http://www.g8.gov.uk/Files/KFile/PostG8_Gleneagles_Tsunami.pdf)

<sup>11</sup> Third International Conference on Early Warning, [www.ewc3.org](http://www.ewc3.org)

<sup>12</sup> Reports of the Intergovernmental Panel on Climate Change (IPCC) are available at [www.ipcc.ch](http://www.ipcc.ch)

<sup>13</sup> In larger freedom: towards development, security and human rights for all Report of the Secretary-General (A/59/2005), <http://www.un.org/largerfreedom/>

<sup>14</sup> 11th Inter-Agency Task Force on Disaster Reduction, <http://www.unisdr.org/eng/task%20force/tf-meeting-11th-eng.htm>

<sup>15</sup> Argentina, Azerbaijan, Bangladesh, Bolivia, Canada, China, Cyprus, Egypt, El Salvador, Georgia, Greece, Guatemala, Iran (Islamic Republic of), Jamaica, Jordan, Mauritius, Philippines, Portugal, Serbia-and-Montenegro, Sweden, United Arab Emirates, Yemen and the European Commission.

<sup>16</sup> <http://www.unisdr.org/ppew/info-resources/ewc3/Global-Survey-of-Early-Warning-Systems.pdf>

<sup>17</sup> Third International Conference on Early Warning, EWC III, [www.ewc3.org](http://www.ewc3.org)

<sup>18</sup> Early Warning Project Portfolio, <http://unisdr.unbonn.org/ewpp/>