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Integrating Early Warning into Relevant Policies

The elements for integrating early warning for natural hazards and risks into relevant policies specifically address public authorities and should be seen as a tool to support the successful application of the existing **Guiding Principles for Effective Early Warning** (www.unisdr.org) produced during the International Decade for Natural Disaster Reduction (IDNDR, 1990-1999).

Good governance includes the protection of the public from disasters through the implementation of disaster risk reduction policies. Although natural phenomena, by definition, cannot be prevented, their human, socio-economic and environmental impacts can and should be minimized through appropriate measures, including risk and vulnerability reduction, early warning and preparedness.. A strong focus is often given to these problems, during or in the immediate aftermath of a disaster. Disaster risk reduction measures require ongoing attention in order to effectively reduce the growing vulnerability of communities and assets.

Governments, both national and local are fully expected, by their constituent populations and neighbouring nations, to reduce the exposure of people and assets to the effects of disasters. Below you will find some suggestions, based on examples and world wide best practices, of elements that need to be taken into account to effectively integrate monitoring, early warning and response systems, into disaster risk reduction policies and plans and programmes supporting sustainable development.

Public policy for disaster reduction starts with **political commitment and high-level authority** for the coordination of various national agencies and sectors and their participation in policy-making. Warnings are based on technical information and monitoring of risks, but it requires a political decision to act upon a warning. The most critical and immediate response to a disaster will depend on authorities and institutions at various levels. Local government, local institutions and communities must be empowered to participate in the entire policy making process, so they are fully aware and prepared to response.

Early Warning for disaster reduction is a legitimate matter of public policy at the highest national levels for two main reasons:

- The first one is **public safety, and the protection of human lives**. In the 1970s, natural disasters alone claimed nearly 2 million lives. By the 1990s, even though the occurrence of disasters was greater, fatalities had fallen to under 800,000. Although the total number of people affected by disasters did increase markedly during that time, the above figures show that it is possible to reduce the loss of life.

- The second is the **protection of the nation's resource base and productive assets** (infrastructure and private property or investments) to ensure long-term development and economic growth. Conversely, by reducing the impact of disasters, a government avoids the financial –and political- burden of massive rehabilitation costs. To be effective in that regard, early warning systems must be combined with other risk reduction measures. Again, during the 1990s, direct economic losses reached an estimated US $629 billion[1], seven times more than the 1960's.

Investing in early warning systems as part of disaster reduction is neither simple nor inexpensive, but the benefits of doing so, and the costs of failing to, are considerable.

For instance:

- Early warning and disaster preparedness 'pays for itself' many times over the life of the warning system because of its ability to reduce human and economic loss.

- The reduction of environmental losses can, if properly managed and publicized, have both long-term benefits to the economy, and short-term benefits for the administration in-charge.

- A country can strengthen its stature and influence in international relations by a good handling of 'externalities', or indirect effects, on neighbouring nations, and by taking a leading role in the management of common waterways and ecosystems. Coordinated management, including disaster reduction by thirteen nations sharing the Danube river, or by countries along the Mekong, are good examples.

From a public policy viewpoint, early warning, disaster preparedness and prevention must be part of a single, well integrated process and policy. The decision to act upon receipt of warning information is political in character. Normally, action resulting from warnings should be based on previously established disaster management procedures and capacities of organizations at national and local level. These procedures and capacities may also require strengthening in some cases, in particular in developing countries.

Key elements for successful implementation:

✓ **Understand the most likely risks, likelihood of disasters and their potential consequences**. Although natural disasters are not always predictable, they are most often generally foreseeable. Many natural hazards can be foreseen, or anticipated, from past experience, the analysis of current patterns of land use, or population distribution.

Policy decisions should be based on a sound assessment of risk. Two elements are essential in the formulation of risk: the probability of occurrence for a given threat – **hazard;** and the degree of susceptibility of the element exposed to that hazard– **vulnerability.** The negative impact, or the disaster, will depend on the characteristics, probability and intensity of the hazard, as well as the susceptibility of the exposed elements (both people and assets based on

[1] 2002 World Disasters Report, International Federation of Red Cross and Red Crescent Societies.

physical, social, economic and environmental conditions).

While considerable advance has been made in forecasting and monitoring of disasters, the accompanying vulnerability and risk information is often missing. Policy makers should utilise standardised methodologies to promote the assessment of hazards and vulnerabilities and generate risk scenarios and risk maps.

Information provided by risk assessments will support the effective application of early warning systems.

✓ **Establish proper priorities.**
Scarce resources must be allocated wisely. Decision makers must rely on the above definition of risk assessment, and take decisions which haves the highest 'value' in relation to avoided losses, such as investing in local early warning systems, education, or enhanced monitoring and observational systems .

✓ **Clarify responsibilities.**
Develop institutional networks with clear responsibilities. Multi-disciplinary research, multi-sector policy and planning, multi-stakeholder participation and networking relevant organizations are fundamental science and research (including social sciences and cultural aspects), land use planning, environment, finance, development, education, health, energy, communications, transportation, labour and social security as well as national defence. This may imply the need for decentralisation in the decision making process and enhancing local governments and communities responsibilities.

Benefits that accrue from such connections include improved efficiency, credibility, accountability, trust and cost-effectiveness, a unified strategic framework for decision making on issues of common concern, lessening duplication of efforts, as well as mandating an appropriate division of responsibilities.

The spectrum of collaborative processes and activities includes various ways of sharing information, joint research and integrated databases through to participatory strategic planning and programming.

✓ **Establish and strengthen legal frameworks.**
Just as for any other aspect of public policy, early warning systems, as well as other disaster reduction applications need to be motivated and based within governmental responsibilities, especially since response to disasters may require exceptional executive powers for a specific period of time but its success cannot be accomplished without the benefits of widespread decision-making and the participation of many others.

While disaster management and response co-ordination can benefit from centralized command there is an increasing recognition of the need to

decentralize disaster risk reduction, including early warning system responsibilities.

Along with the decentralization of power and devolution of governing authority, disaster risk reduction, at the local community level needs to be encouraged, and be coordinated by municipalities, townships, and local communities.

✓ **Developing effective communication strategies**.
The context of early warning system communications has two aspects; the hardware aspect relates to the maintenance of communication infrastructure, i.e. the necessity to build or strengthen robust hazard-resistant communication systems; the software aspect relates to the maintenance of relationships, i.e. the need to establish and maintain effective links and working relationships among the stakeholders involved in the early warning communication chain.

Wishing not to appear 'alarmist', or to avoid criticism, local and national governments have sometimes kept the public in the dark when receiving technical information on imminent threats. The lack of clear and straightforward information, when contrasted with the reality of a disaster, and a profusion of conflicting news or rumours, can sometimes confuse people and undermine their confidence in public officials. Conversely, there are quite a few cases where the public may have refused to heed early warnings from authorities, and have therefore exposed themselves to danger or forced governments to impose removal measures. In any case, clear and balanced information is critical, even when some level of uncertainty remains.

✓ **Securing resources.**
A substantial amount of resources are needed to ensure monitoring mechanisms, effective early warning procedures, concerted disaster reduction. To a great extent, the capacity to secure resources to do this –versus undertaking a competing public program—depends on the quality and credibility of the overall system: understanding threats, clear priority setting and institutional networks, and appropriate legislative dialogue. Human resources are also essential. Capacities and competences in administrations, in particular at local levels requires ongoing support.

" More effective prevention strategies would save not only tens of billions of dollars, but save tens of thousands of lives. Funds currently spent on intervention and relief could be devoted to enhancing equitable and sustainable development instead, which would further reduce the risk for war and disaster. Building a culture of prevention is not easy. While the costs of prevention have to be paid in the present, its benefits lie in a distant future. Moreover, the benefits are not tangible; they are the disasters that did NOT happen. "

Kofi Annan, "Facing the Humanitarian Challenge: Towards a Culture of Prevention", UNGA, A/54/1

These elements for integrating early warning into disaster risk reduction policies are not exhaustive and are a first step in supporting the effective integration of early warning of natural disasters into public policy. Further guidance need to be provided to different audiences and addressing identified constraints and shortcomings in the effective application of early warning systems.