



SECOND CONFERENCE OF THE OECD NETWORK ON THE FINANCIAL MANAGEMENT OF LARGE-SCALE CATASTROPHES

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CONCLUSIONS

Session I

Learning from the past and looking ahead: Thailand and South East Asia five years after the tsunami, and facing the threats of global warming

- During the five years following the December 2004 Indian ocean tsunami while progress has been made in disaster risk prevention and preparedness in SEA countries, in many countries the situation remains critical and much still needs to be done. In particular it appears that efforts to develop a sustainable financial protection system against future catastrophes have been very limited. As a result, most of these countries remain extremely exposed financially to disasters that might occur in the near future.
- Identified priorities for urgent action include improving data collection and data quality on risk exposure at international, national and local scales, engaging in systematic training and institution-building in national agencies and departments, building the “last mile” of communications to rural and remote populations to enable rapid alerts, and better integrating the efforts of governments bodies at all levels.
- On a donors’ side, one of the lessons learned from the 2004 tsunami is the importance of promoting equity, transparency and integrity in aid disbursement and embracing community participation in recovery efforts. Special procedures to manage funds received by international donors in a fair and transparent manner have been introduced and tested in order to ensure accountability and prevent corruption in the rescue, relief and reconstruction phases. However, major efforts must now be made with respect to financial planning and *ex ante* allocation of future potential disaster costs, since SEA countries continue to rely heavily on *ex post* assistance by donors.
- There is a need for a sharing of knowledge and information on how insurance mechanisms can help mitigate catastrophe exposure by providing some incentives and also help promote a resilient society capable of managing catastrophe risks, which has become a critical pillar of sustainable development. Yet the development of insurance solutions as a financial management tool depends critically on the establishment of sound and sustainable disaster risk management at the country level.



- From an operational viewpoint, in order to effectively apply market-based disaster risk transfer solutions, such as insurance , reinsurance and alternative risk transfer instruments, the levels of exposure and vulnerability to natural hazards must be reduced through governmental efforts. In other words, it is important to recognise that public investments in risk reduction measures can facilitate the implementation of a risk transfer mechanism at affordable rates.
- Combined with a fast increase of population and assets in high risks areas, changes in climate patterns toward more frequent extreme events are likely to be already affecting the economic costs imposed on a number of the SEA countries, and will increase going forward. Special attention should be devoted to the future impact of hydro meteorological risks in the SEA region.
- Awareness about the urgency of climate change challenges and their potential socioeconomic impact on the participating countries should be raised.
- There remains an urgent need to identify, in a co-ordinated international effort, the most appropriate ways to proceed to set up disaster risk transfer and risk financing mechanisms in developing countries. Combating the effects of climate change will require a global solution built on a common but differentiated responsibility. SEA should contribute to this global solution, by implementing both mitigation and adaptation measures.
- The design of appropriate climate change adaptation plans, will require research on concentrations of rising risk and the exploration of alternative risk reduction mechanisms.
- The insurance industry can play an important role, in particular around the adaptation to climate change, through sharing its knowledge on risk quantification as well as in providing new coverages for innovative low carbon technologies.

Session II

Natural hazard awareness and disaster risk reduction education

- Natural hazard awareness and disaster risk reduction education are a foundation and pre-requisite for effective catastrophic risk management strategies at country and regional levels.
- The *OECD Policy Handbook on natural hazard awareness and disaster risk reduction education* with its three-step approach:
 1. improve knowledge of the key features of the relevant natural hazards and disaster risks;
 2. identify the behaviour and perception changes that the strategy is aimed at inducing in the target audiences;



3. identify the most appropriate tools and methods to convey the information and to educate stakeholders and induce action

provides important guidance to policymakers in this field, and it can be fruitfully utilized by governments as a benchmark to assess the current situation and identify the next steps.

- The *OECD Policy Handbook* complements other international principles, such as those contained in the *UN Hyogo Framework for Action*, insofar as its focus is on the economic consequences of natural hazards, and on the ways in which financial management strategies based on a clear *ex ante* allocation of disaster costs can provide powerful tools to increase risk awareness and to induce the desired behaviour and perception changes.
- Disaster risk education efforts should be aimed at improving knowledge of the economic consequences of natural hazards and the costs associated with disaster events as well as knowledge of available financial protection tools, including insurance.
- Despite significant improvements, very often initiatives in the SEA region have concentrated on limited activities and have been implemented in areas recently hit by major disasters.
- Identified priorities include:
 - developing systematic efforts starting with clear needs assessments, strategies and an approach that looks for opportunities;
 - improving the technical capacity to design curricula and training materials and creating a cadre of trainers and educators;
 - building the capacity at community level;
 - supporting community financial preparedness.
- An important obstacle to overcome is the potential reluctance of public authorities to disseminate information on hazards that have not materialized recently in a certain area, since the public knowledge of true risk exposures and vulnerabilities may negatively affect the value of land and property in that area.
- Disaster risk reduction education must also target members of the parliament and of local authorities who play a crucial role in disaster risk management.
- The insurance industry needs to cooperate with other interested parties to enhance people's risk awareness and promote risk reduction education.
- It is important to focus on the organisational and collective aspects of risk awareness ("collective intelligence") and to build an ethical and cultural component into risk awareness strategies.



Session III

Hazard mapping, risk assessment, and insurance coverage of natural catastrophe risks

- The availability, accuracy and reliability of data and information on hazards and risks, including the social and economic impact of catastrophic events, play a fundamental role in the design and implementation of efficient financial management strategies to cope with large-scale catastrophes.
- The insurance and reinsurance industries have been very active in this field and they continue to play an important role, in partnership with the public sector, in promoting disaster risk assessment and modelling, as well as research in catastrophic risk exposures and vulnerabilities. However there is a need for information to be harmonised. The information's usefulness would be enhanced if greater consistency can be obtained between the repositories.
- In several countries there is a need to further improve hazard mapping and its on-line provision to assist catastrophic risk planning for individuals, communities, and governments, especially in those areas with lower insurance penetration.
- Natural hazard maps should be integrated, stored and managed in a transparent and consistent way: mapped hazard information should be made publicly available and it should be used for long term planning and infrastructure decision making.
- Hazard data should be regularly updated where climate change is altering hazard levels or there is improved science.
- The Global Earthquake Model (GEM) initiative constitutes an important first step in this direction, but other natural perils should be considered as well. Moreover, the current level of risk assessment and modelling techniques and methodologies is not always matched by the quality of available data.
- It is extremely important for public authorities to be able to assess economic exposures and losses, including those relating to public assets and critical infrastructures. Governments should consider establishing procedures and criteria to quantify total economic losses caused by disasters.
- The OECD can play an important role in promoting the collection, harmonisation and dissemination of catastrophe data and information, an essential but missing step in measuring the economic and social costs of large-scale disasters.
- The development of harmonised taxonomies and categories will facilitate access to and comparison of information, data and statistics on catastrophe losses and possibly also on catastrophic risk exposures on a global scale.



Session IV

Catastrophe-linked securities and the role of capital markets in promoting the growth of global capacity to absorb natural catastrophe risks

- Catastrophe-linked securities provide a mechanism for the transfer of catastrophe risks to capital markets, and may provide an additional layer of protection to traditional insurance and reinsurance arrangements or serve to reduce reliance on these arrangements.
- CAT-linked securities may also create opportunities for the transfer of catastrophe risks that are currently not covered by insurance markets, thus potentially broadening the overall financial coverage of such risks. This is especially important in light of the increasing costs of catastrophes due to several factors, including the impact of climate change on extreme weather events.
- Since the availability of financial compensation and risk transfer tools *ex ante* may enhance economic efficiency and performance, CAT-linked securities should be carefully considered by policymakers not only because they may be able to significantly expand the capacity of the private insurance and reinsurance sector to cover disaster losses in the context of an integrated CAT risk management strategy, but also because they may constitute innovative risk transfer tools for governments themselves.
- The OECD Network and its High-Level Advisory Board have identified key drivers, impediments and issues in the further development of CAT-linked securities and made the following recommendations that were shared and endorsed by conference participants:
 - The collection and dissemination of high-quality data on CAT risks and losses according to harmonised criteria should be promoted. To this end, governments should consider:
 - encouraging a greater level of detail and harmonisation in the parametric data collected and made available by national meteorological, seismological, and hydrological agencies on catastrophe events;
 - encouraging and sponsoring national agencies of meteorology, hydrology, and seismology to install hazard monitoring equipment and recording systems able to capture the parameters of extreme events when they happen, at sufficient density of instrumentation and guarantee of recording that these readings can be employed for developing second-generation parametric trigger structures;
 - encouraging a greater level of detail and harmonisation in the collection and dissemination of data concerning insurance market exposure to CAT risks;
 - assisting in the creation and fostering of mechanisms to help track insurance industry losses resulting from a catastrophic event.



- It is very important to enhance transparency in the CAT-linked securities market by promoting public dissemination of offerings, prices, triggers, trading volumes and other information concerning transactions in both the primary and the secondary market for CAT-linked securities.
- Governments should examine and assess the appropriateness of using CAT-linked securities to transfer some of their CAT risk to capital markets..A prerequisite for the effective use of CAT-linked securities by governments - as witnessed by the experience of Mexico - is the performance of a comprehensive country risk assessment, with a view to identifying, hazards, exposures, vulnerabilities, and the specific needs for risk transfer solutions.
- The accounting, solvency and prudential rules presiding over the CAT-linked securities market deserve special attention and any unnecessary impediment should be removed. The nature and extent of the risk transfer provided by CAT-linked securities must be carefully examined and assessed, in accordance with the principle of substance over form.
- The role of CAT-linked securities as diversification tools in asset portfolios requires more study. Further research is warranted as the market has greatly developed in the recent years, providing additional yield and return statistics. The impact of moral hazard on pricing indemnity-triggered CAT bonds, the quantification of basis risk in CAT-linked capital market structures, and the trade-off between basis risk and moral hazard all require further investigation.
- Finally, it is important to encourage further education on CAT-linked securities at all levels. The demand and supply in the CAT-linked securities market depend on the education of potential investors and sponsors. The acquisition of the requisite education, i.e., knowledge to participate, in the market is one of the most important barriers to entry and so to growth. A proper understanding of the CAT-linked securities market by governments and regulators is necessary for the establishment of an appropriate legal, regulatory, and tax framework for these securities.