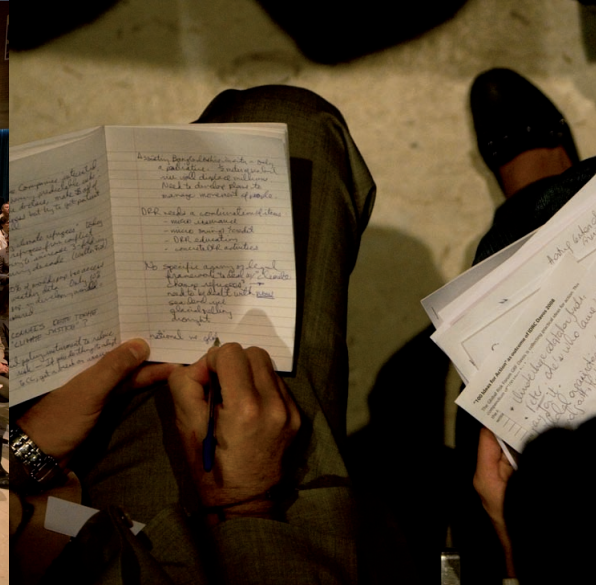


IDRC Davos 208

“100 Ideas for Action” to support the Hyogo Framework for Action



**GLOBAL RISK FORUM
GRF Davos**



International Strategy for
Disaster Reduction



The Contribution of the Global Risk Forum GRF Davos...

The combination of the world's growing population with expanding urbanization and generalized globalization has greatly aggravated the risk potential to all communities and nations. Urban risk has become a planetary phenomenon. Climate change will worsen the situation. Safety and security need to be considered in a holistic manner. The need for an "integral risk management" approach has led to the creation of the Global Risk Forum GRF Davos, a Foundation established under Swiss law in Davos, Switzerland.

„From Thoughts to Action“ by closely linking practice, science, policy and decision making in the search for sustainable solutions.

GRF Davos, through its various activities, aims at serving as a center of excellence in knowledge and know-how exchange and transfer for the application of timely and appropriate risk management strategies, tools and practical solutions, thus, reducing vulnerability for all types of risks and disasters to protect life and limb, property, environment, critical infrastructure and all means of businesses for the global community on a sustainable basis.

GRF Davos contributes to closing gaps between science, policy and application by bringing together a broad group of experts, policy makers, practitioners, scientists and key players from governments, international organizations, civil society and the private sector in the areas of risk prevention and risk management. Public-private partnerships have to play a substantial role. GRF Davos supports and contributes to those indispensable global efforts.

... to the UN Hyogo Framework for Action 2005 - 2015

The Global Risk Forum GRF Davos is an initiative that fits within the international efforts undertaken by governments and organizations to implement and advance the Hyogo Framework for Action, led by the United Nations through the International Strategy for Disaster Reduction UN-ISDR. GRF Davos aims at supporting these efforts, as reflected in a joint agreement signed with UN-ISDR, to facilitate and encourage the combined involvement of political authorities, professionals and practitioners of all relevant disciplines, and the public at large.

The UN-ISDR Secretariat, at its next Global Platform for Disaster Risk Reduction (GPDRR), held in June 2009 in Geneva, will discuss and promote the "100 Ideas for Action" process and use a GRF Davos pillar, the IDRC Conferences, to promote the outcomes of the Global Platform and the search for practical solutions. GRF Davos, with the IDRC Conferences, the Risk Academy and the Platform for Networks therefore acts as a knowledge and transfer facility from science and technical experience to practice in order to reduce disaster risks.

In this brochure, GRF and UN-ISDR would like to present the 'Ideas for Action' that were proposed by the participants of the IDRC Davos 2008 conference as measures to reduce disaster risk, to promote disaster prevention and to increase resilience. Ideas in areas that will shape the future work of GRF Davos.

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Foreword



Walter Ammann,
President of the
Global Risk Forum
GRF Davos,
Switzerland

“From Thoughts to Action”... is the motto of the Global Risk Forum GRF Davos, the foundation the International Disaster and Risk Conference (IDRC) is a part of, thus expressing the importance of transferring scientific knowledge to applicable know how. Earthquakes, flooding, food shortages, terrorism, devastating diseases – catastrophes dominate the daily news. But also gradual, emerging developments have an increasing importance and demand our attention: how can enough food be produced for a growing population in a changing climate? How can we avoid environmentally forced migration, or how can life-threatening diseases be kept from spreading in an increasingly globalized world? GRF Davos with its three pillars – the IDRC Conferences and Workshops, the Risk Academy and the Platform for Networks – promotes to find answers and solutions, thus supporting and contributing to the the indispensable global efforts of the UN Hyogo Framework for Action and the UN Millennium Development Goals.

GRF Davos reflects the necessity to consider risk, safety and security in a holistic manner and to involve and to create interactions between all key players, from line ministries and disaster and risk management authorities to academic institutions and the private sector – public-private partnership playing a key role in vulnerability and disaster risk reduction.

Fully in line with the GRF Davos motto “From Thoughts to Action”, the goal of the IDRC Davos 2008 was to come up with “100 Ideas for Action” – which should lead to concrete projects and actions in areas, which have been identified as important for climate change adaptation and for disaster and risk reduction during the conference and the idea collection. Let us the ideas being followed by concrete, joint efforts. A global collaborative risk reduction management process by closely linking practice, science, policy and decision making in the search for sustainable solutions becomes increasingly important as the risk landscape gains in complexity.

IDRC Davos 2008 patronage

IDRC Davos 2008 is very proud and thankful for the continuous, strong support of over 25 United Nations and International Organisations, in particular of the three UN partner organisations:

UN-ISDR UN International Strategy for Disaster Reduction, Geneva, Switzerland

UNESCO UN Educational, Scientific and Cultural Organization, Paris, France

UNEP UN Environment Programme, Nairobi, Kenya

Dr. Walter J. Ammann
President GRF Davos
Chairman IDRC Davos 2008
www.grforum.org

The IDRC Davos 2008

International Disaster and Risk Conference

After the successful launching of the IDRC-idea with the first global International Disaster and Risk Conference in 2006 in Davos and the first regional IDRC conference held in Harbin, China, in 2007, IDRC was back in August 2008. This conference followed its holistic, multidisciplinary approach when addressing the different kinds of risks affecting society today. Risks which might be far beyond any particular stakeholder's capacity to control and that may adversely affect multiple parties across geographic borders, sectors and industries.

More than 1200 people from around 100 countries participated in the conference (for regional attendance refer to Fig. 1) and took part in over 100 plenary and parallel sessions, poster sessions, workshops and training courses. Moreover, 23 organizations and companies exhibited their activities, products and services during the conference. Two associated conferences – the "1st International Conference on Critical Infrastructure Protection and Resilience" and the "Young Scientists in Contest" have been organized in parallel.

IDRC Davos 2008 attempted to find answers and offered solutions to today's challenges in managing risk, reducing disasters and adapting to climate change. It became once more obvious that the approach must be that of integrated risk management – across subject areas, professions and sectors – encompassing natural and social sciences, engineering, and scientific understanding with business, policy responses, and citizen participation. Stronger ties with adequate public-private partnership models have to be built among risk management communities and sectors, and approaches should be devised to move towards a more truly integrated way of thinking about disasters and risks.

1276 participants from around the world

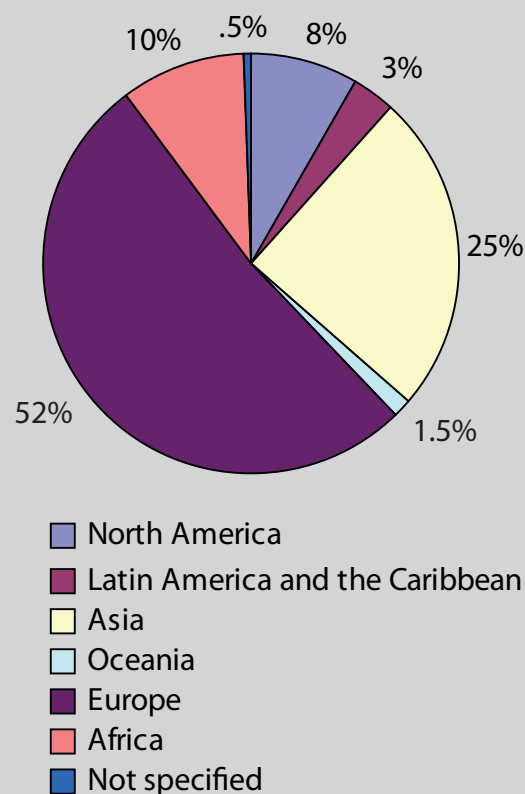


Fig. 1: Regions represented by participants of the IDRC Davos 2008 (in percent)

Conference Topics

“Public-Private Partnership – Key for Integral Risk Management and Climate Change Mitigation and Adaptation”

- Motto IDRC Davos 2008 -

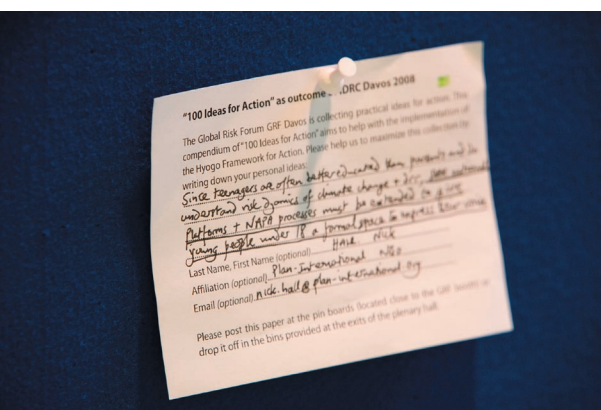
How do we move to a safer world and how can our current know-how support this change process? IDRC Davos 2008 focussed on crucial issues in four key areas of risk management, related to climate change and to disaster and risk reduction, both substantive and functional, as well as on an in-depth review of one of this year’s most significant, devastating disaster, the Wenchuan earthquake in China, that will help draw lessons for the future.

Topics covered at the IDRC Davos 2008 conference in Davos

- Harmonization of risk reduction and adaptation to climate change
- Protection of critical infrastructures
- Pandemics and diseases
- Open Forum about climate change induced migration and food security
- Integral risk management
- The Wenchuan earthquake in China on 12 May 2008

The IDRC Davos 2008, in a holistic approach, addressed a broad range of risks and threats including natural hazards, risks of a technical, biological and chemical nature, but also climate change, pandemics and terrorism, with a clear focus on a consistent and systematic risk management approach, to be able to take effective and efficient decisions for disaster and risk reduction and mitigation measures, which lead to transparent and comparable results in different risk situations.

IDRC Davos 2008’s conference motto on public-private partnership reflects the necessity to involve and to create interaction between all key players for a successful risk reduction process and to support and improve the holistic risk management approach.



The “100 Ideas for Action” Concept

Whereas the outcome of the IDRC Davos 2006 was a “Davos Declaration”, which stressed the self-commitment of all participants, the goal of IDRC

Davos 2008 was to come up with “100 Ideas for Action” – ideas that should lead to concrete projects in areas, which have been identified as important for climate change adaptation and disaster and risk reduction. More than 600 ideas have been collected during the IDRC Davos 2008 conference for the compendium of the “100 Ideas for Action”, a number that clearly demonstrates the high commitment of the conference participants for substantial problem solving.

Proposals have been collected by filling-in specific ballots for a collection box, by individual statements expressed on the conference “red chair”, on our conference computers, as a specific outcome of the plenary and parallel sessions, and many more opportunities resulting in many good statements, interesting proposals, and creative suggestions.

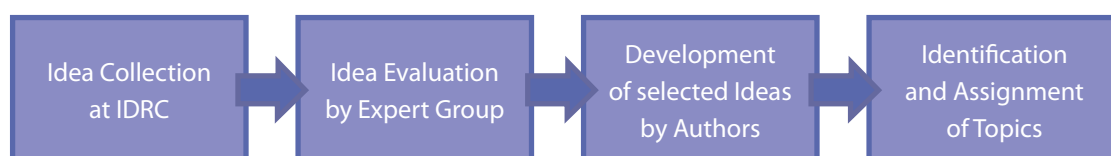


Fig. 2: The “100 Ideas for Action” process from the idea collection to the topic assignment.

The ideas had to be relevant to disaster and risk reduction and climate change, practical in their application, and preferably innovative.

An expert group evaluated the ideas and a selection of sixteen proposals that have genuine potential to be picked up by an organization, an agency or an expert, for actual application or implementation were further developed by the author who proposed the idea originally.

For information on the “100 Ideas for Action” process refer to Figure 2.

International expert group

An international expert group supervised the “100 Ideas for Action”- project and took part in the selection process of the examples published. A complete list of all collected ideas is given in the appendix of the online version of this document (www.grforum.org).

Marco Ferrari (GRF Davos, Chairman)

Ian Burton (Prof., University of Toronto, Canada)

Glenn Dolcemascolo (UN-ISDR, Switzerland)

Mohsen Ghafory-Ashtiany (Prof. IIES, Tehran, Rep. of Iran)

Terry Jeggler (UN-ISDR, Switzerland)

Adolfo C. Mascarenhas (Prof., Links Trust, Tanzania)

Norio Okada (Prof., Kyoto University, Japan)

Peijun Shi (Prof., Beijing Normal University, China)

Alois Sieber (EU-JRC Ispra, Italy)

Following the evaluation, topics of importance were identified from the idea proposals and the ideas were assigned to the following themes (A-N):

- A. Harmonizing climate change and disaster risk reduction measures
- B. Strengthening (continuous) education and training
- C. Promoting public-private partnership
- D. Searching for disaster risk financing tools
- E. Improving early warning and raising public awareness
- F. Improving communication and media coverage
- G. Sharing knowledge, know how and data
- H. Advancing the integral risk management approach
- I. Improving critical infrastructure protection and resilience
- J. Creating one world - one health - one environment - one legacy
- K. Reducing the vulnerability of public buildings and services
- L. Relieving reasons for environmentally forced migration
- M. Addressing urban risks
- N. Creating standards and guidelines

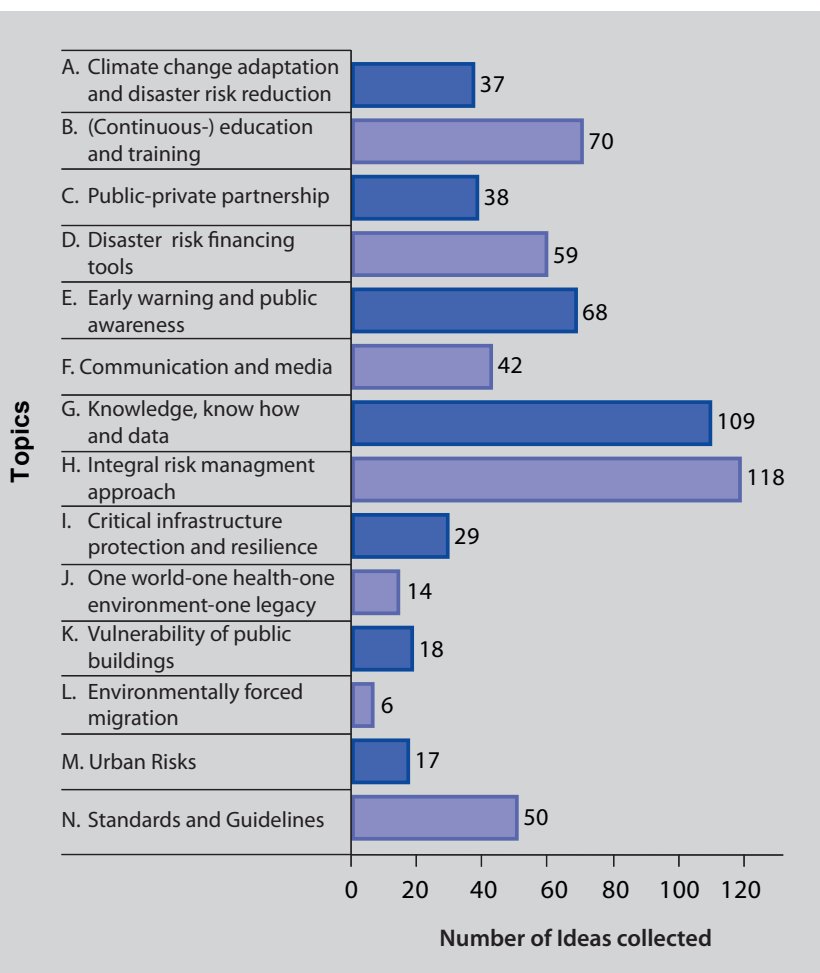


Figure 3 shows the topics and the numbers of ideas that fall within each theme.

The “100 Ideas for Action” turned out to be a big success, not only in terms of numbers but also being the results of collective thinking from a group of over thousand people over a five-day period, looking for solutions to the problems we address in our daily work in disaster and risk reduction management.

GRF Davos now dedicates itself to promote the collected ideas and topics of concern and would like to thank all participants for having contributed to this exciting experience.

Fig. 3: A total of 675 ideas were collected and assigned to fourteen identified main topics of importance (A-N). The graphic on the left shows the numbers of ideas that fall within each topic.

Topics and Selected Project Ideas

More than 600 ideas were collected as outcomes of the plenary and parallel sessions, the “Red Chair” interviews and the many individual ideas expressed during the conference. These ideas were reviewed, selected and allocated to topics of concern (see Figure 2 and 3), which will serve as input for the future focal areas of GRF Davos. In total 100 ideas are presented in this brochure. In the following pages, the topics are explained more fully and the sixteen most dominant ideas that were singled out are presented as examples. The remaining eighty-four of the 100 ideas are listed in the chapter following this one. For a complete overview of all submitted ideas, refer to the online appendix at www.grforum.org.

A. Harmonizing climate change adaptation and disaster and risk reduction measures

The number, intensity and especially the consequences of disasters due to natural hazards are increasing as a consequence of climate change. For the poorest countries and communities, the consequences are especially devastating: the threat to people, the loss of homes, jobs and educational prospects traps people and communities in a desperate cycle of poverty. Linking climate change adaptation with disaster and risk reduction, underlining the crucial importance of those links and the necessity for coordinated strategies and action at all levels – on a national and a global level, is needed. There are opportunities for the disaster reduction community to benefit from the climate change mitigation and adaptation community and vice-versa, through working more closely together. Mainstreaming climate change adaptation and disaster and risk reduction clearly reveals huge benefits for the two communities to be made, by harmonizing their efforts and working very closely together.

Idea A.1: Climate change vulnerability and adaptation: linking research with policy practice at the local level

Background: The capacity to adapt to the impacts of climate change in both industrialised and developing nations is likely to become one of the biggest challenges the human race will face over the coming decades. Fundamental research on the science of climate change is continuing to reveal detailed aspects about the climate system at an ever increasing rate. However, linking the latest physical science research to the policy community responsible for conducting vulnerability assessments and developing adaptation policies at the local level continues to be a challenging task. The question often lies around the representation of uncertainty in the scientific results as they are applied to the local scale and how this uncertainty may be translated into practical integrated vulnerability assessment and adaptation policy development and implementation. Furthermore, local scale institutions and community groups are often left with the burden for conducting and

implementing these tasks, often with very little resources.

Proposal: It is intended that this idea “Linking research with policy practice at the local level” be translated into a global scale collaborative research project with a focus on investigating the challenges and impediments faced by local level managers and policymakers in different industrial and developing country contexts.



Hon. Maria Mutagamba, Minister of Water and Environment, Uganda—Plenary Speaker

Key questions include:

- How do institutions conduct locally relevant assessments of climate change impacts and vulnerability? What types of methods or methodologies are used to do this?
- How do managers and policy makers incorporate the latest climate science into the policy-making process? How is uncertainty dealt with? How is adaptive capacity assessed?
- How is the policy process linked to operational adaptation policy and adaptive capacity and practices at the local level? Is the adaptation process proving successful?
- What are the main impediments to successfully linking climate change research with adaptation policy and practice at the local level?

In answering these pressing questions, a proposed output of this research is to develop generic methodological guidelines (published in both the academic literature as well as other more accessible grey literature) aimed at both researchers and local level managers, policy makers and practitioners that may be faced with the urgent task of translating climate change research into vulnerability assessment, adaptation policy and then into practice. It is intended that the methodological guidelines will include a database of best practice cases.

(a contribution of Geraldine Li and Stephen Dovers, Australian National University, Australia)

Idea A. 2: Create fora on climate change adaptation - with a focus on youths

Background: Youth have increasingly been recognized as a major resource in the search for solutions to major social problems, including complex issues ranging from pollution to peace-building. Climate change adaptation offers a unique opportunity to harness the energy and creativity of young people.

Proposal: The preparation and implementation of a series of training workshops at the national level for youth-led or youth-focused organisations, NGOs and interested individuals, with the specific intention of convening youth participation in the debate on climate change adaptation.

In each participating country, workshops should be held to enhance youth participation and learning. Each of these events should be structured to help students design, implement and monitor local action projects having to do with climate change adaptation. The workshops should be vehicles to promote meaningful youth participation—1 or 2 days—with experienced facilitators who can help them to explore ideas, identify issues of potential conflict; and plan for local solutions to a global problem. The workshops can be built along the blueprint for catalysing youth on this issue, a set of guidelines produced last year by YMCA, Boy Scouts, IFRC, UNICEF and other agencies, entitled “Climate Change Adaptation: Taking Action Now.”

(a contribution of Frederick Spielberg, UNICEF, Geneva, Switzerland)

“Reducing risk and vulnerability is a crosscutting issue with shared responsibility among public and private sectors and individuals themselves, and it is an essential component of sustainable development at all levels, be it global, national or local”

- Salvano Briceño, Director, UN-ISDR Secretariat, Geneva, Switzerland -

Idea A. 3: Initiate local workshops (municipal or lower level) where disaster risk reduction (DRR) officials, climate change adaptation (CCA) experts and communities learn together and frame a joint strategy for future development with CCA and DRR in mind

Background: Just as there is a relationship between disasters and development, there is also a relationship between climate change adaptation (CCA) and disaster risk reduction (DRR). The possibly mutually beneficial relationship between the two fields of study are unfortunately not always reflected in the development of any kind of relationship between the experts in the two different fields.

Local communities (that include people as well as organisations) are the client base of the officials responsible for disaster risk reduction, and are also co-producers of any risk reduction effort because community involvement is required if risk reduction is to work. Communities will also be co-producers of any climate change adaptation strategies.

Proposal: It is therefore important to bring together communities, climate change adaptation specialists and disaster risk reduction officials to:

- come to a common understanding of climate change, disasters, climate change adaptation and disaster risk reduction
- explore the effects of climate change that the specific community can expect
- frame preparedness as well as risk reduction priorities
- jointly develop preparedness strategies and risk reduction projects for joint implementation in the community
- jointly develop advocacy strategies to influence decision-making levels above the local level regarding disaster risk reduction in anticipation of climate change
- jointly implement strategies and projects

Such a process can be facilitated by NGO's with the relevant skills and expertise or can become government programmes with initial external funding. Partnerships could also be good delivery vehicles for such projects.

(contribution of Johan Minnie, University of Stellenbosch, South Africa)

*Salvano Briceño
Director, UN-ISDR,
Switzerland—
Plenary Speaker*



B. Strengthening (continuous) education and training

Current deficiencies and failures in vulnerability and risk reduction and in a holistic, sustainable risk management approach are not a lack of science but of easy to apply, practicable know how implementation, of trust in scientific approaches and are due to still existing gaps between the various sectors and stakeholders involved. Knowledge sharing, the transfer to applicable know how and bridging gaps between science with its various disciplines – politics – administration – the business sector and society as a whole have to be improved and accelerated, based on a rigorous issue and knowledge management. Topical knowledge and new technologies have to be transferred and disseminated from the world of academic science to business and society as efficiently as possible so that they have an impact on the scientific community and on society at large, and can enhance both commercial and non-material value creation. Knowledge and know how sharing and adequate capacity building are crucial to increase risk awareness and to promote a culture of resilience.

Idea B. 1: Train future generations in “life skills” through a global program in schools: basic first aid and life saving, what to do for the disasters that they might face along with their families, and how to plan for their own survival

Background & Proposal: Basic to our educational programs where reading, writing and maths are taught is the need for training future generations in “life skills” – core knowledge that we all need as we mature, take our place in the world, have children of our own, and become responsible for our own safety and that of others around us. Training must be age-appropriate and ideally a vital part of community school programs. Young people will gain expertise through repetition and a building block approach of adding skills and knowledge that will serve them for a lifetime.

Three fundamental categories should be taught globally to ensure a culture of preparedness around the world:

Basic first aid and life saving:

- Personal safety.
- Assess the situation.
- Request help.
- Clear the airway.
- Resuscitate and check for heartbeat.
- Stop bleeding.

Knowledge of threats in community or region:

- Natural disasters.
- Manmade and national security threats.
- Awareness, warnings and appropriate actions.

Ensure family preparedness and self-sufficiency for several days:

- Plan for home, school, work and travel.
- Stockpile items for in-house sheltering with loss of power, water and communications.
- Prepare ‘Go-Kit’ for evacuation.
- Rehearse your plans.

(contribution of Avagene Moore, Emergency Information Infrastructure Project EIIP, USA)

Promote early learning and training, from preschool age on, in order that the ideas become part of the culture. Put oneself in the place of the affected population and find simple and accessible solutions.

- Anonymous contribution to the 100 Ideas for Action -

Idea B. 2: Raise awareness of risk and risky behaviour in children by using mass media

Background: It is well known that today the mass media have a great influence on children. Sometimes, these influences might be even higher than the influence of teachers. This is certainly true in developed countries, and might become true in a similar way in developing countries as well.

Proposal: Films to educate children on risks. Depending on the age of the target group, cartoons (e.g. like "The Simpsons"), adventure films or appropriate documentations (e.g. in the style of Walt Disney "The living desert", Discovery Channel or Weather Channel") can be powerful ways to educate children and teenagers. Such films should make children aware of risks and risky behaviour. The children should be made aware of how to react in certain situations (e.g. floods, hurricanes, earthquakes, thunderstorms, avalanches, fires, accidents etc.). They should learn about early warning signals (e.g. in case of tsunamis or developing tornadoes) and the potential risks of e.g. aftershocks that might lead to collapse of damaged buildings. Basic and simple rules should be taught (e.g. not to try and fight against the stream in a flood but to swim with the stream and try to reach an object in the direction of flow. In case of fire to keep close to the ground and if possible use wet textiles to cover mouth and nose). The idea might not be limited to films but also expandable to computer games.

(a contribution of Markus Aichinger, Allianz, Germany)

*"Ordo Sakhna"
Kyrgyz folkloric
concert at the IDRC
Davos 2008*



Idea B. 3: Improve the capacity of non-skilled first responders

Background: The effective intervention of government agencies to manage casualties in the immediate aftermath of a mega disaster is often restricted by many technical and circumstantial factors. However it was observed during the last decade that in any type of disaster, volunteer members of the affected and surrounding communities form a huge supportive force to meet most urgent tasks including managing the dead. This was best witnessed in 2004 Asian tsunami disaster in all affected countries. Currently these non skilled first responders are playing a vital role in managing mass casualties during the immediate post disaster phase of major disasters occurring in various countries.

“IDRC is a great opportunity to increase knowledge and to share experiences”

- Walter Fust, CEO/ Director General Global Humanitarian Forum GHF, Geneva, Switzerland -



Walter Fust,
Director
General, Global
Humanitarian
Forum (GHF),
Switzerland—
Plenary Speaker

Proposal: Improve the capacity of non-skilled first responders. The management of the dead in mass disasters is a time consuming, multi disciplinary and multi stage task. It is a medico-legal emergency which should be commenced during the immediate post disaster period. Non skilled first responders comprise an easily accessible, readily available task force, for the purpose of managing the dead specially in recovery, transportation and disposal of the dead in mass disasters.

The capacity of these first responders should be developed via community based disaster management schemes. The services of first responders could be greatly enhanced by pre training and close supervision through integrated mass casualty management plans in less resourced countries.

(contribution of Clifford Perera, University of Ruhuna, Sri Lanka)

Idea B. 4: Improve the common, popular understanding of disaster risk reduction (DRR) by involving pupil and teachers through competitions, e.g.: How safe is my city? How safe is my school? How safe is my way to school?

Background and Proposal: Pupils present their personal experiences with natural (and/or human) risks, they have been confronted within their local environment (with the support of their schools/teachers):

- Describe their views of risks in their city, their school, their way to/from school
- Develop formats/models of application for groups of pupils and families (educational materials, draft projects, visiting critical points...)
- Describe themes related to DRR and Sustainable Development
- Describe how to meet/face/mitigate problems of Natural (Human?) Hazards
- Present their results of selected areas
- Participate in topic-related discussions with experts

By doing this, they give insights into the local threats and importance of their environment, and explain the position of their local area within the global framework of disaster-prone regions.

The whole project might be launched by the GRF Davos Team within the ISDR framework and the “International Year of Planet Earth (IYPE) in cooperation with UNESCO, UNU and others through national Educational agencies, based on a competition named „Pupils meet Disaster Risk Reduction“ - requesting them to present their insights of their “own” risky areas.

The individual local projects shall be carried out by teams of pupils supervised by their teachers during teaching-lessons, through working groups and focused projects, as well as in their free-time. The call for proposals, the development of the „competition“ and their results shall be launched and presented on specific “web-sites”, e.g. GRF-Davos, ISDR, IYPE, UNESCO etc.

(contribution of Wolfgang Eder, Past UNESCO Director “Earth Sciences”, University Munich; inspired by Geoparks Terra Vita, Germany)

C. Promoting public-private partnership

The IDRC Davos 2008 conference motto was “Public-Private Partnership – Key for integral Risk Management and Climate Change Adaptation” – and consequently to poverty eradication and to sustainable development as a whole. Efficient solutions for effective disaster reduction requires the involvement of all stakeholders in the public and the private sectors and of society at large, sharing interest, knowledge and know how, cooperating closely in developing common standards, financing common solutions, and sharing benefits. Individual safety and public security in principal should not be seen differently. The private sector should be encouraged to foster a culture of disaster prevention, putting greater emphasis on, and allocating resources to disaster preparedness activities such as risk assessments and early warning systems. Public-private partnership is crucial as a cooperative venture between the public and private sectors, built on the expertise of each partner, that best meets clearly defined public and private needs through the appropriate allocation of resources, risks and incentives, in terms of both business opportunities and continuity. Key issues are on how to move solely response-oriented corporate reaction to humanitarian emergencies towards areas such as risk transfer, corporate social responsibility in reducing the vulnerability of communities, better risk assessment and to the overall reduction of the potential impact of disaster on their own businesses.

Idea C. 1: Solve the problem of data sharing

Background: In many countries, data owned by governments is not available. Additionally, the data format is an issue for easy exchange.

Proposal: Ideas for solutions or first steps: (1) Check options for an “open source” approach (like for software), (2) Raise awareness for this issue (e.g. by taking this up as a main topic at other events), (3) Have an independent facilitator with a great network at hand who could open doors.

(Outcome of the workshop/special discussion “Public-Private Partnership in Public Data and Private Results Sharing”)

*Hans Peter Michel,
Mayor of Davos,
welcoming the
participants*



D. Searching for disaster risk financing tools

The rising impact of disasters – in particular due to natural hazards – results in driving up the cost of disaster relief and recovery, for both the public and the private sector. Innovative forms of disaster risk financing could make societies more resilient by sharing or even absorbing the burden of a financial impact of a large catastrophe. Innovative risk transfer mechanisms should be developed and promoted, which allow managing disaster expenses more efficiently by funding them before instead of after a disaster occurs. Already existing capital market instruments allow governments to protect their budgets at lower opportunity costs and ensuring funds for immediate relief and recovery. Many people in developing countries have the necessary initiative to change their situation and overcome their poverty but are lacking financial resources. In addition, disasters pose a continuous, additional threat which may endanger or even destroy their efforts. Microfinance tools tailored to their specific needs may provide adequate solutions.

Idea D. 1: Develop pilot projects demonstrating how earth observations and weather forecast models can be applied to micro-insurance (small farming, indicator based insurance)

Background: In most developing countries, insurance companies are unable to offer insurance policies to small farmers because the high cost of claim processing makes the insurance cost unpayable to the farmers.

Proposal: Index-based insurance provides a way to easier and less costly verification processes, therefore making it affordable for small farmers. Basically, what would be needed is applications that allow the insurance companies to analyze easily weather and climate patterns, along with the frequency of small-droughts, heavy rains, floods and other weather related events that affect the production, to establish the values of the insurance policies, and once the policy has been purchased, provide information to monitoring data that would serve as evidence of such events to ease claim processing.

The impact of related losses and the corresponding human and social costs could be significantly diminished while maintaining a profitable business for the insurance companies.

(contribution of Francisco José Delgado, Water Center for the Humid Tropics of the Caribbean and Latin America CATHALAC, Panama)

Idea D. 2: Provide incentives for preparing against disasters

Background: Insurers can provide an incentive for preparing for disaster. At present, homeowners make improvements to their homes (to increase resilience), the home insurance premiums are raised (with the raised value of the home). Insurers should reward the homeowners with lowered premiums.

Being prepared for the possibility of a natural hazard is known to increase the resilience of homeowners to disaster, and improve their ability to recover following disastrous events. But for the most part, at-risk homeowners are poorly prepared. Insurance providers can play a role in increasing preparedness levels by supporting homeowners who prepare with financial incentives in the form of lowered home insurance premiums.

The research explores the reasoning processes behind people's preparedness for wildfire. Many homeowners that were interviewed have foregone making substantial preparations around their homes because if these preparations increase the value of their property (like installing roof-top sprinkler systems, using fire-safe construction materials etc), they must pay higher premiums to have the property adequately insured. In the case of bushfire, well prepared properties are much more likely to be defensible during bushfire activity, meaning insurance claims in the aftermath of wildfire will ultimately be lower or fewer.

Proposal: If homeowners have chosen to prepare their property well, insurers must utilise mechanisms that can accommodate these activities and reward preparedness rather than dissuading it with raised premiums. Lower home insurance premiums for well prepared households in conjunction with effective risk communication techniques may be an excellent means by which to increase preparedness for natural hazards.

(a contribution of Tim Prior, University of Tasmania, Australia)

IDRC "...will become the bridge and the platform which can link and congregate worldwide specialists and practitioners of disaster risk management..."

- Shaoyu Wang, Professor, HIT Harbin Institute of Technology (HIT), Peoples Rep. of China -

*Shaoyu Wang,
Professor, Harbin
Institute of Technology,
speaking in a Plenary
Session*



E. Improving early warning and raising public awareness

Early warning and preparedness is internationally recognized as a high payoff activity to reduce disaster impacts, but it needs to be better promoted and more effectively developed, especially in vulnerable developing countries with increased regional cooperation, as well as of training, education and awareness raising. Effective early warning systems must be an integral part of disaster risk reduction strategies in national development frameworks and require cooperation amongst many actors, developing multi-hazard approaches, with a special focus on people at risk, their vulnerability and their socio-cultural context. To be effective and complete, an early warning system should be based on comprehensive hazard and risk knowledge, a monitoring and warning service, dissemination and communication service and interlinked response capability. Warnings have to be understandable for those at risk in all situations and knowledge, plans and capacities ready for timely and appropriate actions. To be successful over the long run, a strong political commitment and durable institutional capacities are necessary, which in turn depend on public awareness and an appreciation of the benefits of effective warning systems.

Idea E.1: Increase the use of mobile phones in natural disasters

Background: In any major natural disaster, communications invariably suffer extensive damage and become unusable. Thus, not only access to the stricken populace becomes a problem but communicating any information in or out of the area also suffers. Mobile phones are a technological innovation, which have acquired very wide usage. Almost all individuals of society own this little piece of technology. Fortunately, it has potential for considerable expansion and can easily absorb some hi-tech features. This versatility makes it an ideal platform to be used in calamities.

Proposal: However, to become effective in natural disasters, mobile phone companies need to be taken on board and persuaded/convinced to add following features to mobile phones:

- A special emergency frequency, which should be able to receive broadcast transmissions (Like Guard Frequency in Aviation).
- A special small battery only for use of the above emergency feature.
- A transponder in the phone enabling the owner to be pinpointed if buried under collapsed debris.
- Since mobile phone transmission towers are also prone to damage in disaster areas rendering all phones unusable, the mobile phones should be able to receive transmissions broadcast via satellite aimed at the target area.
- Information regarding relief efforts/availability in adjoining areas can be mass transmitted.

(a contribution of Shabbir Ahmed, Ministry of Education, Pakistan)

Idea E. 2: Install a standardized database on disaster risk information

Background: Walk the talk rather than just sharing knowledge and expertise from many, many conferences. A centralised world body should enter a joint effort with the respective countries' leaders to come up with standardised database on disaster risk information. Countries having similar climatic condition of the same disaster risk can take similar preventive measures to encounter the problem. All countries in the world should be classified accordingly with their level of the respective disaster risk and their time of occurrence.

Proposal: Sharing knowledge, expertise and experience on any disaster risk reduction are very crucial for all countries in the world. By having a centralised world body in coordinating a joint effort from all the countries in the world having similar climatic, geographic and topographic condition pertaining to the same disaster risk, a standardised database on disaster risk information with regards to preventive measures, climate change, economic, social and environmental impact, education, capacity building, public awareness, project development guidelines, mapping, monitoring, prediction and early warning system, watershed management, policy and best management practices can be made available to all government authorities. Thus all new and past case studies and countries experiences on disaster risk presented at the national or international arena should be classified and noted according to their level of risk and time of occurrence. The phrase "walk the talk" is therefore timely, rather than just conveying knowledge, expertise and experiences annually at various national and international conferences.

(a contribution of Roslan Zainal Abidin, Universiti Teknologi Mara, Malaysia)



*Xiulan Zhang,
Beijing Normal
University (BNU),
Peoples Rep. of
China—Plenary
Speaker*

“IDRC Davos 2008 is expected to address both the scientific and societal implications of risks of different nature.”

- Badaoui Rouhban, Chief of Section for Disaster Reduction,
UNESCO, France -

*Badaoui Rouhban,
Chief of Section for
Disaster Reduction,
UNESCO, participating
in the IDRC Davos 2006*



F. Improving communication and media coverage

Communication and the media play an important role for efficient preparedness and emergency management. Public perceptions and opinions often determine the resolution of high concern, high stress, or emotionally charged issues. They have a profound impact on an organization's success. Trust and credibility are central to effective communication about topics of high concern like early warnings and directives on how to prepare for and react in the emergency phase. One of the most important keys to communication success is an organization's ability to establish, maintain, and increase trust and credibility with key stakeholders, including administration, regulatory agencies, citizen groups, the private business sector, and most important the general public. The media, and in particular the electronic media, play a key role in providing the public with timely and understandable information about the current situation or in advocating for support for disaster relief. Disasters and risks often have international dimensions or at least implications. It is therefore also important to have just in-time, international information and knowledge sharing possibilities on disasters and emergency situations. Web-based tools may serve as information and active communication exchange platforms.

Idea F. 1: Promote the importance of disaster preparedness by media.

Background: News media which mainly consists of newspapers and TV are mostly owned by private investors and obviously, their main objective is to make a profit. However, news media is also very influential in shaping people's attitude and behavior. Research has consistently shown that adults get informed about almost any subject from these sources more than anything else.

Owners and editors of news media should feel some responsibility towards the public from which they make their living. Instead of aiming to shock or entertain the public at all times they could also help to inform the people about disasters. Especially the TV which is more effective in populations with low reading skills can be more influential in guiding the people about disaster mitigation and preparedness.

Proposal: Although goals of the media and government officials may not always coincide, an appointed spokesperson experienced with the media can enlist its aid. Officials can also prepare teaching material to be used by the media that are not didactic but will appeal to the public and will inform them at the same time. A close cooperation of the media with government agencies responsible for disaster mitigation and preparedness will benefit both partners and also the public.

(contribution of Necati Dedeoglu, Akdeniz University, Turkey)

Idea F. 2: Adopt community-based information campaigns (CBIC)

Background: The aim of Community Based Information Campaigns (CBIC) is to develop a culture of safety and resilience through the use of innovative communication that has a strong acceptance in the local population.

Proposal: The concept of the CBIC is to empower the local disaster risk management groups or committees to design, plan and implement relevant and well-targeted information campaigns. The process includes various steps:

- Capacity development of local committee or group members in Disaster Risk Reduction.
- Capacity development in communication skills.

- Financial and technical support to develop the campaign messages and communication methods. These are most effective based on committee members intrinsic knowledge of culture and beliefs, gaps in risk and risk reduction knowledge, attitudes and practices and the traditional entertainment. Entertainment is one of the best media to convey messages and learning.
- Support in evaluating and replication of the campaign if needed.

This type of activity contributes to the third priority for Action of the Hyogo Framework.

(a contribution of Isabelle Bremaud, Oxfam GB, Guatemala)

G. Sharing knowledge, know-how and data

Science worldwide is producing extensive knowledge on all kinds of topics relevant for disaster and risk management. An extensive number of lessons learned from past disasters and many good practice examples exist – and still, applicable know how for affordable solutions often is limited. Reasons are due to a lack in knowledge transfer, in publicly available data, in accessibility to information and data, in language problems and many more issues. Knowledge management and knowledge and know-how transfer instruments will provide the opportunity to improve the dissemination of topical knowledge and new technologies to be transferred from the world of academic science to business and society, to share lessons learned from past disasters and to collect community based know how and experience. The instruments to develop should be able to promote the worldwide exchange of know-how, data and experience, to target solutions and promote good practice in integral risk management and climate change adaptation for an improved understanding, assessment and management of disasters and risks that affect human safety, on security, the environment, critical infrastructures, the economy and society at large, also in order to establish common practices and provide access through common data base accessible via internet.

Idea G. 1: Set-up a worldwide knowledge base of emergencies with a list of solutions that have been adopted, and estimate their effectiveness

Background & Proposal: The object of the suggested research are the processes on Earth, including climate change, internal and external changes on Earth due to human actions. The subject of the proposal is the set-up of a geo-informational knowledge base, which contains data about the influence of different factors on risks (including human life risks) based on precedent knowledge. Therefore, a database of early warning and consequences of emergency (especially of man-caused). The primary aim is to create an informational space which contains various data in order to lower risks and reduce time of restoration after man-caused disasters.

We have enough experience in creating local geo-informational knowledge bases, which helps us to prevent emergencies and reduce human losses. But none of our previous work includes the possible connection of climate and geological changes, the possibility of forecast making based on controlling nature environment in different ranges (acoustic, infrared, radio, etc.). For example, long before an earthquake in Spitak (Armenia) moderate changes were detected on radar devices. Creating an integrated knowledge base of all monitored parameters can help us to discover hidden connections between different parameters in order to increase the term of forecast.

(contribution of Alexander Ya. Kuzemin, Kharkov National University of Radio Electronics, Ukraine)

H. Advancing the integral risk management approach

There is a need for an on-going analysis, review and assessment of all potential risks facing society at all levels, and for a comprehensive approach that ensures that all risks are considered when designing prevention, preparedness and early warning measures to reduce risks. Intervention and recovery strategies and measures will remain an important part of the whole risk circle. Solutions have to be appropriate, affordable and robust and priorities set accordingly. Their effectiveness and efficiency has to be periodically checked based on agreed indicators. Integral risk management presupposes recognition of risk reduction as a political priority, a clear knowledge of hazard patterns, a deep understanding of the risks involved, and an awareness and capacity for the populations concerned to act in the appropriate ways. This also implies that all stakeholders concerned work together in a coordinated manner, with shared objectives and responsibilities. Risk Officers at national or regional level, coordinating all authorities for prevention, preparedness and response should improve the coordination.

Idea H. 1: Share the knowledge for risk reduction

Background & Proposal: The knowledge and the tools for risk assessment should be readily available for everyone (website publications, software and collaboration between experts). Once the risk can be assessed using standardized scientific methods, the risk reduction strategy should be devised by the country based on its own resources and culture. This way risk reduction efforts can be propagated and promoted in different countries at a minimum cost. This knowledge sharing would benefit both developing and developed countries.

(refer to the video archive at www.grforum.org to view the full contribution of Tahmeed Malik Al-Hussaini, Bangladesh University of Engineering & Technology BUET, Bangladesh)

*Marco Ferrari,
GRF Davos Board
Member,
Switzerland—
Session Moderator*



Other Topics of Importance

A number of other topics of importance have been addressed during the conference and are on the GRF Davos radar. They are subsequently listed without an already elaborated version by one of the idea providers.

I. Improving critical infrastructure protection and resilience

During and after a disaster, the functioning of critical infrastructures and services like educational and health care facilities, water and energy production and distribution systems, IT and communication systems, financial and social services, etc. is of vital importance. Disruptions of these systems and services may have a local origin but subsequently lead to devastating transnational impacts with tens of millions of people affected. Natural hazards like droughts, floods, cyclones, earthquakes, landslides, tsunamis, or wildfires may damage critical infrastructures leading to secondary but even more important damages and consequences. Comprehensive protection of critical infrastructures and improving the resilience of complex systems is important, considering the emerging threats in an international context and addressing new risk patterns within the communal, national and international context. The necessity for an integrated risk management approach within clearly defined institutional frameworks becomes obvious to protect critical infrastructures more effectively, and improving their resilience.



*Stefan Engler
President, Government of the
Canton of Grison, Chur
Welcome Address Opening Ceremony*

J. Creating one world – one health – one environment – one legacy

Human and animal health, wildlife, food security, sustainable development and an adequate legal framework are prerequisites to achieve the Hyogo Framework for Action and the Millennium Development Goals. Bridging the various gaps between environmental, humanitarian and development actors and communities and removing institutional obstacles is important. As an example, any local outbreak of a pandemic disease poses instantly a global



*Peijun Shi,
Vice-President,
Beijing Normal
University (BNU),
Peoples Rep. of
China—
Plenary Speaker*

threat to public health and welfare, economy and social stability. Recent events have shown that an outbreak in one region has an immediate impact on all other regions worldwide. Such developments are all the more potentially disastrous that new diseases have appeared about which little or nothing is known. Infectious diseases in humans and animals are spreading, and links between the two are becoming more frequent; climate change will influence and most probably aggravate existing patterns. Taking stock of the current health threats and the evolution of the spread of pandemics and diseases in the past, a holistic approach in prevention, early warning and intervention is important to reduce negative human, economic and social impacts.

K. Reducing the vulnerability of public buildings and services

Communities suffer not only from the loss faced by individual people and families, but also to a very large extent from the loss and damage to critical common structures like schools, hospitals, and public administration and service buildings. How to reduce their vulnerability to an extent that no human losses have to be expected and that they remain functional during and after a main disaster are important issues. Hospitals as an example should not be damaged in a disaster to an extent that they have to be evacuated, causing an additional emergency instead of providing support and relief. Public buildings often have to serve as temporary housing for homeless people. The unlimited availability of public services during and after an emergency situation is of crucial importance to keep time for full or at least partial recovery as short as possible. Global campaigns addressing the importance of functional public buildings and services and providing good practice examples will help to improve a still unsatisfactory situation.

L. Relieving reasons for environmentally forced migration

The world's growing population, expanding urbanization and globalization have greatly aggravated the risk potential to all communities and nations. Disasters affect all parts of society in all regions of the world, irrespective of region or status of wealth and development. Climate change will influence precipitation and temperature patterns and thus affecting the availability and quality of drinking water, increasing the risk for droughts, influencing diseases patterns for humans, and have an existential impact on livestock and crops. As a result of a combination of such current issues, health and food security, but also economic growth will be endangered in many developing countries, leading to increased internal displacement and to forced migration. To find ways on how to limit the effects of climate change on internal displacement, forced migration, food security and sustainable development will become one of the key issues to be addressed by the global community for the next decade.

M. Addressing urban risks

Currently, half the world's population are living in urban areas. A recent UN report reveals that about 70 percent will be city dwellers by 2050, with cities and towns in Asia and Africa registering the biggest growth, and resulting in 27 "megacities" with at least 10 million population by mid-century compared to 19 today. But the report also forecasts that at least half the urban growth in the coming decades will be in the many smaller cities with less than 500,000 people. For the same period, the population living in urban areas is projected to rise from 3.3 billion to 6.4 billion. The urban areas of the world are expected to absorb all the population growth expected over the next four decades while at the same time drawing in some of the rural population, which should lead to about 600 million fewer rural inhabitants in 2050 than today. New principles, policies, and strategies, innovative mechanisms and methods have to be designed to address the variety of risks that face these rapidly expanding areas, from natural hazards to technical and biological risks, from pandemics to terrorism. The necessity to address such risks in their multiplicity and integrated manner is becoming more and more an imperative.



*Selvi V. Radhika,
Minister of State
for Home Affairs,
Government of
India—Key-Note
Speaker*

N. Creating standards and guidelines

To be able to take effective and efficient measures in a holistic risk management approach, standardized procedures are needed to analyse and assess hazards and risks and to evaluate appropriate measures for risk reduction. All kinds of standards and guidelines are needed, like e.g. a commonly agreed terminology on risk and climate change related terms, or standards in risk classification and risk assessment. How to measure the resilience of networked infrastructure or social systems, or how to evaluate the effectiveness and efficiency of preventive measures taken are further issues to be clarified. Practical guidelines on how to be prepared for a disaster and on how to act in an emergency or relief phase of a disaster could provide additional support to reduce risks. Standards commonly agreed upon will also accelerate the R&D- process for products and facilitate their production and implementation. The ICT-domain in particular with products to be developed for disaster and risk relevant data bases, information and communication software, etc. could benefit of international standards.

*"Red Chair"
Interview during
the IDRC Davos
2008*



More Ideas... ... to Be Put Into Action!

Be inspired by more ideas given by the participants of the IDRC conference, which include representatives from science, the business world, international organizations as well as practitioners and many more. Out of over 600 collected ideas for Action, selected ones were presented more detailed in the previous chapter. Below you will find the remaining of the chosen hundred. Some might not be entirely new but are not necessarily well known to all parts of the disaster and risk community, a reason to promote them further at this place. The ideas are presented by topic, but sorted randomly within the topics.

For a complete list of all ideas received, refer to the Global Risk Forum website at www.grforum.org

A. Harmonizing climate change and disaster risk reduction measures

Ask every country what they have done to implement the **Hyogo Framework for Action**. Undertake a study to show how disaster death tolls were dramatically cut over the last century.

Handbook on similarities between climate change adaptation measures and disaster risk reduction measures - how to harmonize the two efforts.

Establish **local level networks**/call center to address climate change and DRR.

Re-**assessment** of protection measures are needed over periods of time to cope with climate conditions.

It is important to develop meaningful **community partnerships on CBDRM and climate adaptation** at the community level. Shared learning dialogues are an excellent tool to promote the establishment of such partner-

ships between different sectors and spatial levels.

Climate change will be a greater issue for our children and future generations. Thus, we need to find **ways to involve, activate, and energize youth** on this important issue and help them use new technologies (e.g. YouTube) to create enthusiasm and momentum for climate change.

B. Strengthening (continuous) education and training

International risk management will benefit a lot from **increased education and knowledge management**. A lot of experience exists in different sectorial areas for technical hazards and natural catastrophes. This knowledge should be put together and disseminated to the people in the different countries and different areas.

Game is the basis for knowledge and communication. Friendly and **interactive games** can be an opportunity to involve young people in understanding the natural and anthropogenic hazards and risks. As an example, see the web-site: e-oikos.net.

Courses for the climate change negotiators to rise their awareness for disaster risk reduction.

Give **community**-based energy sources (non-carbon based), land and suitable crops/medical care and free public education to sustain the community.

Help us to provide a **Global Emergency Medical Net** (GEMNET), and independent, global, multidisciplinary, apolitical and standardized trained organisation providing help in the aftermath of natural disaster at the disposal of

the affected country (tuition, educating program online).

In the UK, there are **resilience fora** at the regional and local levels. They bring together representatives of emergency services, planning and the community. There are also media resilience fora with representatives of local and regional mass media. The idea is similar to FEMA's Project Impact, introduced under Clinton, abandoned under Bush Jr.. With cultural adaptation, the idea could be applied in many other places, but it needs a mechanism to ensure that recommendations are implemented (i.e. that a forum is not simply an emasculated talking shop. Therefore, (1) design and set up a resilience forum, (2) give it a very clear brief, (3) create an accountability mechanism and a robust means of implementing recommendations and ensuring change.

Project **HELP** proposal: H is for hope in research, E and P stand for education and prevention, both of which need to be linked to solve problems, and the L stands for leadership.

Education is of course a key to disaster reduction, and also to disaster management. This suggestion will focus on professional, not public, education, although the latter is obviously vital too. **Professional education** requires (1) the aggregation of a body of information and skills to teach, (2) the formulation of a curriculum, (3) its use in teaching, (4) conferral of qualifications (diplomas, degrees, etc.) as a form of official recognition of educational achievement, (5) creation of official roles (employment, voluntary, appointment) that fully utilise qualifications. The weakest link is the last one, no. 5. Authoritative analysis and decision making re-

quire qualified people. Let us work on that, but at the local level, as well as the international level, for there is too much discrepancy between international expertise and local ignorance. Training standards need to be more universal.

However well-prepared, staff of **hospitals** are quickly burnt out during disasters because of physical and psychological reasons. To address this, staff of another hospital (not in the same region) can get acquainted with its sister hospital before the disaster and replace the tired staff after 3-4 days of initial work.

In order to achieve an efficient code of practice for administration and enforcement systems, education and **training programs for all building personnel** (building officials, buildings inspectors, contractors, etc.) is critical. Registration programs of design-engineers, architects and contractors should also be considered.

Local and international researchers should work with **students from disaster affected regions** to monitor (long-term, 10 + years) the evolution of recovery efforts in biophysical and socio-economic systems.

Organize **international knowledge activities** for children on resilience. We have defined a program book in France: <http://www.iff-rme.fr/default.htm>.

Educate politicians of developing countries in disaster management, to help them make good decisions.





Peter Croll,
Director, Bonn
International
Centre for
Conversion (BICC),
Germany—
Session Moderator

Hospitals should remain functional after hazards strike. The preparedness of **health facilities** can be facilitated by health professionals and those in other disciplines, such as engineers, who are trained together in courses which address risk assessment, emergency planning and incident command systems. The Hospital Preparedness for Emergencies (HOPE) has been developed and implemented in Asia over the past 7 years with support from USAID/OFDA.

Novel approaches to disseminating **information through games** to open-minded children. Knowledge imparting while having fun (teachers and students).

First aid education and emergency relief procedures through school curricula have not given desired results. Most countries have deleted them from curricula. All such Education can be imparted through a **UN-sponsored, well-thought out and well-made film**, which can be shown to the maximum number of school children ONCE. The film may have a story-like script and should cover all natural disasters like earthquakes, tsunamis, landslides, floods, etc. Children are likely to learn more and remember more of the emergency procedures/relief measures by seeing them in a film.

Educate governments/public sector about insurance/reinsurance/capital markets solutions that help them to **finance** natural disaster risk more efficiently.

Adaptation as part of lifestyle: part of education curriculum; part of public service institutions and code; mainstreamed in media and communications; mainstreamed in livelihoods value chain; mainstreamed in “local” social and religious systems.

Train municipality staff involved in disaster reduction **GIS-use** (e.g. open source GIS such as ILWIS).

Providing “**tool kits**” for countries to develop their disaster reduction programs. The tool kit should cover areas such as risk management, disaster management, training aids, resources available.

C. Promoting public-private partnership

Latin America and the Caribbean should continue to expand existing **partnerships** using champions such as the office of foreign disaster assistance, the org. of american states, the pan-american health org., USAID, insurers and others. Keep a database of noteworthy dates that have had an impact on policy-making in DRR.

D. Searching for disaster risk financing tools

Incentivize insurance payments after disasters pay only 80% of covered loss, if a given structure is simply re-built. Pay 120% if the structure is redesigned to meet the latest standards to meet green house gas and adaptation criteria. Will have leverage effect.

Existing methods/procedures for **economic loss assessment** should be compiled and analyzed and made available (e.g. on IDRC website).

Pre-disaster: **social business** should use dividends of social insurance to invest in critical infrastructure of weatherproofed structures. Social business: produce dividends, then converse resources to build DRR infrastructure.

During disaster: deliberate **assessments of “in-kind” resources vs. monetary**. Post-disaster: assess social entrepreneurship before emergence of outside resources.

Scaling up disaster risk reduction and climate adaptation interventions depends on the ability to justify public investment in these activities. A key aspect of action therefore is the development of simplified software and other tools that organisations and stakeholders can use to demonstrate the economic viability of such investments.

Allocation of 10-20 % of UN funds for post disaster response and travel cost toward **building safe schools and hospitals**.

Key principles for public intervention: **promote catastrophe risk financing** within the DRA framework, enhance sensitive catastrophe risk markets, use risk-based signal to encourage risk mgmt, create public subsidy program, develop customized cat risk solutions.

Losses are born by government and households in developing countries. **Insurance** penetration is low. Key principles for improvement: promote catastrophe risk formality in the dialogue with developing countries. Enhance competitive models. Use CMI based signal.

E. Improving early warning and raising public awareness

Without **community participation**, DRR will fail. We need a forum/secretariat dedicated to finding strategies to raise community awareness of risk and of their capacity to act.

Greater integration of **scientific information and GIS data** to set up prevention systems and increase awareness of disasters.

Develop an **early warning system**, complemented by electricity companies, that builds a device in your home, which they can trigger in case of a crisis or a disaster. Pilot in New Zealand.

An international body, such as UNESCO, would develop a series of **films on disaster preparedness** that would be used in schools around the world. In this way, a standard educational tool would be created and updated.

Development of **early warning alert service** (e-mail and sms for terrorism, earthquake, etc.) that is provided to organizations and customized to meet their needs.

Further research is needed on how **warning signs** are interpreted and understood by the public in order to design more accurate alarm systems that attract a larger range of population (cultural, physical, age, gender, etc.).

Ways that **terrorists** attack: vehicle weapons, hand weapons (hand-delivered bombs have gained popularity recently), suicide bombing (recent phenomena), chemical, biological and radiological weapons (future threat). All normal people should be trained to protect themselves.

Glimpse of a Plenary Session at the IDRC Davos 2008



Need for understanding of the materials (i.e. geometries of building, minimal or light-weight ornamentation, window design, glass design and cladding design) can work as countermeasures. We have to find **new materials for school buildings** to protect children. Shelters may serve as first line of defense against planted bombs. Volunteers should be organized in all areas of the city. Incident command system and response process at the terrorist attacks in Turkey in 2003 may be taken into consideration as an example.

Create political will by regularly training politicians through simulation programs (no games, but real time simulation).

Introduce the concept of „**Chief Risk Officers**“ (have a holistic view about risks to identify priorities) at country (eg. even in Prime Minister’s Office) or municipality level.

F. Improving communication and media coverage

Early learning and training, from preschool age children so the ideas become part of the culture. Communication at all levels, it seems we are not doing it in some places. Put oneself in the place of the affected population and find simple and accessible solutions, that they can accept and carry out.

Create an **international award** for acknowledging politicians who have taken

Childrens delegation from Japan



elective disaster risk reduction measures to protect their citizens.

IDRC, perhaps in cooperation with another organization such as UNESCO, sponsors an annual **award for the best journalism** in the promotion of a culture of prevention. The winning journalist is invited to IDRC and his/her work is featured in program material. A radio or TV report is replayed at the banquet. The dinner would also be the venue for the award. This idea acknowledges the important role of the media and also promotes good journalism in an area of critical importance.

Communication **“common access protocol”** across institutions and interfaces (including community interfaces) for communicating risks and vulnerabilities in real time.

Train reporters on how to cover disasters, but more importantly on the coverage of success stories in prevention.

G. Sharing knowledge, know how and data

Make **data** on hazard and past loss events easily accessible for all stakeholders in risk management, including research and insurances. This increases awareness and allows risk based developments. Central web based source that links to these data sources.

We propose forming an interdisciplinary **post tsunami/cyclone rapid response survey team** to assess damage from engineering, social/natural science perspectives. Data will be used to help prioritize recovery and reconstruction efforts.

To analyse existing procedures and methods for land and space **inventory of buildings** applied at different levels: urban, regional, glo-

bal; to identify the best practices in the field and make it available at the GRF website.

Support research that aggregates the **lessons learned** and distribute this research widely. Perhaps an annual survey that could be released at the IDRC as a press event to hold on to reporters through the first several days.

Environmental management is a good solution but not always the only one. **Guidelines** should be developed but they should be applicable in different local situations. Find a way to express cost at future risk to convince politicians to act now and not react afterwards. Gap between what solutions are possible and what is actually used. Transform knowledge into applicable solutions. Inter-linking existing projects and knowledge-holders and development organizations.

Develop a **mentoring program**, e.g. using the GRF network, to provide an opportunity for individuals, organizations and countries to learn from one another.

To analyse existing data sources on building stock with global or regional coverage for application within global near real time systems for **loss assessment** due to strong earthquakes; to encourage the organisation to make these data sets available, e.g. at the GRF website.

Prevention Web as DRR network platform. **Survey map** on how participants are connected (informal knowledge). ExxCire as emergency management forum to share information to reduce disaster. Limitation is internet access (we need to acknowledge the network limitations). La Red (since 1992) has the fundamental impact in disaster research in L.A.

An international, easily accessible repository for **best practice** in disaster risk reduction, with a built-in mechanism for extracting the general lessons from specific practices. There are similar initiatives, but not large enough.

Organize an international evaluation system as **ISO on quality for eco-resilience** of organisations.

H. Advancing the integral risk management approach

United Nations should adopt the **resolution that the protection from disasters is a basic human right** and the national governments should be put under obligation to protect their citizens from disasters.

Install **international and interdisciplinary centers of disaster management** and preventions. The center has to do both capacity building and aid in case of disaster.

Red Cross performed a study on **community response** to the tsunami. They came up with four lessons learned: (1) Improve community first response. Recommendation: train and equip volunteers. (2) Standardize messages. Recommendation: ensure meaning. (3) Improve EWS to public warning interface. Recommendation: ensure communities/local authorities receive timely and actionable EWS. (4) Help authorities develop big picture. Recommendation: develop an EWS policy and regulatory framework.

Disaster Management is so important that it should become one of the main objectives of the **UN Millenium goals**.

Latin America and the Caribbean should continue to expand existing **partnerships** using



*Roland Schenkel,
Director General,
European
Commission Joint
Research Centres,
Belgium*



Discussions during
a Plenary Session
at IDRC Davos
2008

champions such as the office of foreign disaster assistance, the org. of american states, the pan-american health org., USAID, insurers and others. Keep a database of noteworthy dates that have had an impact on policy-making in DRR.

Food grain reserves should be ready; grain storages are necessary for global **food crisis**.

Academic researchers are in a position to work with local coastal disaster-affected organizations to help establish **baseline data** (i.e. what were the pre-disaster conditions in the biological and socio-economic communities).

Community awareness for **wildfire/bush-fire management**: fire management policy should concentrate on people, developing self reliance, and moving away from technological approaches to wildfire management and suppression.

Life cycle management and life cycle costing are effective risk management tools that can provide framework for development of integrated and strategic mitigation measures.

I. Improving critical infrastructure protection and resilience

In order to realize **safer buildings**, it is essential to take protective measures for existing buildings/housing stock in cost-efficient way, based on a firm scientific basis and thorough assessment of the existing situation. To provide better quality for new buildings/housing, it is desirable to take into consideration the choice of building materials and construction methods that are understandable for builders, and suitable for future climate change.

Global **loss databases** about past natural disasters should be freely available/accessible (through the IDRC website for example) and be transparent.

The architects and engineers should come up with an **alternate building material** to the existing steel and concrete method. The new material should be equally robust, lasting and yet should be light to cause minimal damage in earthquakes.

Food distribution in grocery stores etc. Continuous replenishment reduces costs and stocks, but increases the risk in the supply chain. Solutions: printed list of foods that can be consumed under different circumstances in an emergency situation, minimum stock at all level in the supply chain, trainings for staff and companies in grocery business, transport more information to government and NGOs - should work together more. Identify, communicate and train! Sophisticated infrastructure increases vulnerability. Awareness of this needs to be increased.

Create **community facilitator** and make them able to advocate for making their community resilient and sustainable.

Small-scale **water bodies** (tanks and ponds) to be considered as critical infrastructures to mitigate flood/drought and as an option for climate change adaptation.

J. Creating one world - one health - one environment - one legacy

One world - one health - one environment - one legacy: **policy development and implementation** strategy.

Availability of better **quality data**. Institutional cooperation is necessary. Communities need to feel a greater sense of ownership in order to effectively implement disaster risk reduction.

We must create a **global institute** supported by governments of all countries for strategies to help people. A world without borders.

K. Reducing the vulnerability of public buildings and services

See online appendix.

L. Relieving reasons for environmentally forced migration

See online appendix.

M. Addressing urban risks

Community-based **disaster management planning** should not just focus on large disasters but also on the everyday risks (like water-quality, solid wastes, drainage etc..). This will motivate the communities to realistically prepare their own disaster reduction plans with greater sense of ownership.

N. Creating standards and guidelines

Databases from reliable sources (insurers, meteo companies) should be created as a basis for comprehensive disaster assessment.

As the same kind of disasters happen over and over, install an independent global and regional institution to **map community risk** at national levels so NGOs, governments and international agencies can plan programming and install preparedness and risk reduction measures based on risk probabilities.

Design and implement a simple, robust **method of risk identification** and contingency planning for emerging risks (such as pandemics) and implement if necessary through legislation at the local authority level.

Data needs to be compiled to update **models** in vulnerable countries. The governments should be responsible for creating this proposed **database**.

Interoperability of **network** support tools should be considered a high priority and ethical responsibility in order to maximize the continued effort and facilitate interconnectivity.

Emergency planning should go towards a sort of international standardization. The aim is to have high compatibility between different cultures of emergency.

Utilize world **health guidelines** to minimize waste of drugs and supplies when sent for a disaster. Needs to be more international focus on determining usefulness of donations.

Panel of a Session at the IDRC Davos 2008



Next Steps... ...and How to Become Involved



*Nisha Pillai,
BBC News
Presenter, UK—
Session Moderator*

The 100 foremost ideas that were collected at the IDRC Davos 2008 are presented in this brochure, many more are listed on our website www.grforum.org. GRF Davos would appreciate your involvement in the realization of ideas or your contribution as a sponsor or provider of other resources. GRF Davos will further promote ideas to be taken-up by other organizations and institutions. Additionally, the proposed ideas will serve as input into the UN-ISDR Global Platform to be held in Geneva, Switzerland, in June 2009.

Did a specific idea catch your attention? Do you want to put one of our collected ideas into action? There are several options to become involved with your organization, institution or business:

- **Take-up an idea and develop a project** – Would you like to take up one of our collected ideas, develop it and put it into action within your organization? Let us know and we will promote your project on the GRF website.
- **Be a partner of a project** – You have part of the resources, infrastructure and the expertise, but need to find partners? Let us know and we will promote your project and your additional needs on the GRF website and will search for partners. We bring together interested individuals, parties or partner projects ourselves.
- **Fund a project as a sponsor** – Would you like to become engaged in our “100 Ideas for Action” and contribute by financing a project? GRF Davos will provide you with all relevant documents for your decision to take (detailed project description, financial statements, realisation schedule, etc.). Your contribution will be recognized on our website and all the other project related outcomes.

If you take up one of our collected ideas, please let us know:

- in order to track the success of the “100 Ideas for Action”
- to coordinate with other interested partners
- to promote the projects on our website
- to encourage other individuals, organizations and institutions to take up ideas as well

GRF Davos appreciates if you mention the origin of the idea on your homepage and in publications with the reference “GRF Davos - 100 Ideas for Action”, and where available the name and the affiliation of the idea provider.

GRF will provide a special “100 Ideas for Action” section on its website where the progress of the ideas will be displayed and new ideas can be submitted. Furthermore, the ideas will be promoted and discussed on the Platform for Networks, the GRF networking tool.

www.grforum.org

The Global Risk Forum

GRF Davos

The Global Risk Forum GRF Davos aims at linking practice, science, policy and decision making in the search of sustainable solutions. This is achieved through our three institutional pillars, with their activities complementing each other:



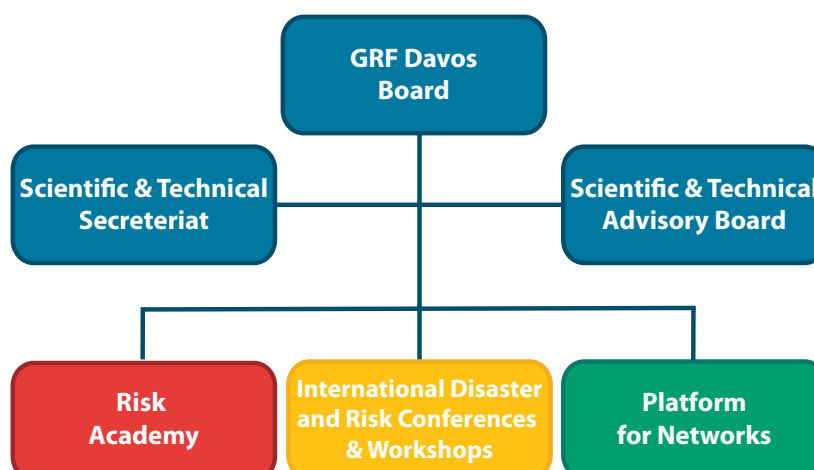
- The **International Disaster and Risk Conferences (IDRC) and Workshops**: a platform for all stakeholders involved with disaster and risk management that meets alternatively in Davos and in another part of the world to promote inter- and trans-disciplinary exchanges and share experiences.



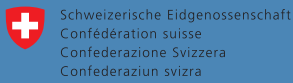
- The **Risk Academy**: a think tank and a solution provider with own research capabilities, a knowledge and know-how transfer instrument that provides continuous education courses, training, workshops for the dissemination of topical knowledge and new technologies, and more.



- The **Platform for Networks** is a web-based “professionals’ platform” where practitioners, experts, experienced and young scientists, decision-makers in disaster and risk management have the opportunity to share their knowledge, experiences, projects, problems and ideas.

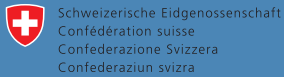


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