ASIA-PACIFIC NETWORK FOR GLOBAL CHANGE RESEARCH

Climate Adaptation Framework
Capacity Development Final Report



Project Reference Number: CAF2015-CD03CMY-Ibrahim

Building Capacity for Reducing Loss and Damage Resulting from Slow and Rapid Onset Climatic Extremes through Risk Reduction and Proactive Adaptation within the Broader Context of Sustainable Development

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Final Report submitted to APN

OVERVIEW OF PROJECT WORK AND OUTCOMES

Minimum 2 pages (maximum 4 pages)

Non-technical summary

A three day four in-country learning labs on '"Building Capacity for Reducing Loss and Damage Resulting from Slow and Rapid Onset Climatic Extremes through Risk Reduction and Proactive Adaptation within the Broader Context of Sustainable Development"' was organized by the Centre for Global Sustainability Studies (CGSS), Universiti Sains Malaysia, in collaboration with International University and Vietnam National University (Vietnam), National University of Laos (Laos) and University of Battambang (Cambodia) from Year 2014-2016 in Kuala Lumpur (Malaysia), Ho Chi Minh (Vietnam), Vientiane (Lao PDR) and Siem Reap (Cambodia). There were about 50 selected participants in Malaysia and 20 in other three countries are sponsored by Asia Pacific Network for Global Change Research, APN. These learning labs Training Curriculum involved: (i) Discussion of South East Asia climate trend and scenario with focus on climatic extremes., (ii) Definition of disaster management terms, risk equations, disaster trends, population, urbanization and DRM, Malaysia and DRM, (iii)DRM-SD cycle components – Risk management (before the event) – Prevention and Preparedness; (xi) DRM-SD cycle – Disaster management side (after the event)– (xii) Training of risk reduction project management tools involving Logical Framework Analaysis (LFA), System thinking using Atkisson's Pyramid approach, and World Café for effective stakeholder discussion. The three day learning labs comprised personalised instruction and hands-on learning to develop risk reduction projects for country specific disasters. The backdrop of the entire discussion was the Hyogo Framework for Action 2005-2015, the Rio+20 outcomes The Future We Want and the Sendai Framework for Disaster Risk Reduction 2015-2030.

Keywords

Capacity building; Disaster Risk Management; Risk Assessment Methodology (RAM); Logical Framework Analysis (LFA); Atkinson's methodology

Objectives

The purpose of these unique learning labs is to bring together multiple stakeholders to explore ways to reduce the risk posed by climatic hazards before they are realised as disasters resulting in loss and damage.

The key objectives of the project were:

1. Address all technical terms involved in the DRM cycle, clearly explained the connection between DRM and SD, understood the inter-linkages between vulnerability, disasters, community involvement and sustainable development
2. Train participants on the use of an easy to use risk assessment methodology (R.A.M developed by CGSS)
3. Expose participants to loss and damage assessment approaches, helped prioritise adaptation options

4. Train participants on risk reduction project planning using Logical Framework Analysis (LFA) & Atkinson's methodology to develop and implement interdisciplinary risk reduction projects.

Amount received and number years supported

The Grant awarded to this project was:
US$ 23,000 for Year 1: 2014-2015
US$ 45,000 for Year 2: 2015-2016

Activity undertaken

Preparation of the training commenced in September 2014, with weekly planning and preparatory meetings. A detailed workshop brochure with programme was prepared in advance and distributed to all. To participate in the training, interested participants are required to fill in the "Expression of Interested Form". The selection processes was rather tight and were based on few criteria such as their background, role and their own perception on "Disaster Risk Management and the role of Government & Civil society. The project proponent and the three collaborators are responsible for participant's selections in their own country.

The first year of learning lab was accomplished on 3rd-5th December 2014 in Kuala Lumpur, Malaysia. The training was attended by 50 local participants from both local public and private institutions (funded by APN) and 12 invited international participants from the members of South East Asia Sustainability Network, SEASN (funded by SEASN).

This was followed by similar learning labs in Year 2 where the training was conducted in Ho Chi Minh, Vietnam (5-7 January 2016), Vientiane, Lao PDR (19-21 January 2016) and Siem Reap, Cambodia (2-4 February 2016). The training labs were attended by 20 participants, three collaborators in each respective country, four resource persons, one guest resource person and two secretariats.

Results

With the support of our collaborating partners in Vietnam, Laos, Cambodia and our resource person, Mr Robert Steele from Systainability Asia, Thailand, the partnership proved to be very successful in attracting potential participations and research networking. Thanks to APN and all collaborating partners, we have received favourable responds from our participants in all countries involved.

The material covered in the learning labs was consolidated through structured tutorials, and its practical application was accomplished through a suite of research problems that formed the core of the training. Participants worked in teams led by the resource person and facilitators (secretariats) throughout the three days, presenting their progress at the end of day three. The teams have continued to work on a guidance manual (a handbook) to be

distributed to all participants as post-training materials. The team is also working on several publications on DRM-SD Capacity Building led by the project proponent.

In addition, the training considered such an approach by factoring sustainable development (SD) considerations in all the four major phases of the DRM loop – Prevention, Preparedness, Response and Recovery. This is the uniqueness of the training. Thus, this training is tailored to address closely the capacity needs of APN's Climate Adaptation Framework 2012, and the outcome of the special APN workshop on CCA, DRR & L+D' Kobe, 21-23 August 2013.

An 86 page reference book, "Disaster Risk Management for Sustainable Development (DRM-SD): An Integrated Approach" developed mainly for community leaders and practitioners was also distributed to all participants in all countries.

This book, which was the main resource book for the training provides clear explanation for the four components of the DRM-SD cycle – prevention, preparedness, response and recovery - , definition of the DRM related terms, policy context of DRM-SD and in the last section explains how DRM becomes an integral element in Malaysia's national strategies and participation in international SD protocols. The presentation material is freely available on the website (https://cgss.usm.my/index.php/ms/research/apn), also for the benefit of those who could not attend.

All participants, resource person and secretariats have also been awarded certificates of participation and appreciation; and group photos.

Relevance to the APN Goals, Science Agenda and to Policy Processes

This learning lab is focused directly on the „Capacity Building" component of the recent APN call for proposal under the "CCA-DRR-L+D focussed activity" which is part of APN Climate Adaptation Framework. The need for awareness and focussed capacity building for CCA-DRR-L+D became very apparent during the „APN Climate Adaptation Framework Workshop on Climate Adaptation, Disaster Risk Reduction and Loss + Damage - Linkages, Priorities, and Limitations – during 21-23 August 2013. It also became clear that there is need for improved understanding of climate science, assessment and risk reduction for both slow and rapid climatic disasters, adaptation to build resilience, and efficient policies coupled with an empowered community to effectively reduce L+D.

Our workshops will address these issues by connecting risk to climate impact, vulnerability of exposure units and the role of adaptation in enhancing capacity to address risks. The thrust will be on ways to progressively reduce risk to acceptable levels; levels which if realised as disaster will be within the capacity of the communities to manage without very adverse loss and damage. The involvement of four universities, government and private sector disaster managers, and the community groups makes it a proactive engagement than the „event based reactive approach of the present. Thus, strengthening partnerships, risk reduction project development, specialised capacity building, documenting current approaches and recommending better approaches for improved policies are integral to the

training.

Policy relevance usually relates to either: (i) implementation issues of existing policies or (ii) existing policy gaps that need bridging. The training will address both issues although the emphasis will be on the former. We will use global agreements such as the Hyogo Framework, Rio outcome, ISDR guidelines and national policies for DRR and SD as a basis for our policy considerations. The pre-training research information from the participants and the CGSS training manual will be used to engage with the policy community to help mainstream DRR into development planning – this idea will be promoted as „development with a difference". The training will bring together diverse stakeholders from each of the four SE Asian countries at the national level and it will be an opportunity to strengthen their existing networks and to find better operational strategies. At a more regional level, we hope to link this initiative to the newly established SEASN network with secretariat at USM-CGSS and to APN Climate Adaptation Framework.

Self Evaluation

CGSS together with APN worked closely with our collaborating partners; International University, Vietnam National University (Vietnam), National University of Laos (Laos) and University of Battambang (Royal of Cambodia) to ensure the success of the program in each respective country. The workshop was attended by participants who are very ambitious, enthusiastic and keen in DRM-SD. The workshop received very favourable feedback from the participants and they strongly felt that this workshop should be continued in the future. The total budget given by APN was **USD68,000** (for two years) and the total spending cost for this workshop was **USD 21,620.40 (Year 1) and MYR 167,826.81 (Year 2).**

Participants are required to rank the effectiveness of programme at the end of the program. This evaluation lets us know the effectiveness of the program. Evaluation refers to a periodic process of gathering data and then analysing or ordering it in such a way that the resulting information can be used to determine whether your organization or program is effectively carrying out planned activities, and the extent to which it is achieving its stated objectives and anticipated results (Martinez, 2005). Patton (1987) highlighted that the evaluation is a process that critically examines a program and it involves collecting and analysing information about a program's activities, characteristics, and outcomes. Its purpose is to make judgments about a program, to improve its effectiveness, and/or to inform programming decisions.

Overall, participant's understanding before attending the programme was assessed and identified. Around 13% of the participants possessed a very low understanding while 16% of them have a low understanding. Meanwhile, participants who possessed medium and high understanding were recorded at a percentage of 51% and 19% respectively. After the programme ended, the percentage of participants who possessed very low and low understanding had declined sharply to none. In addition, the percentage of participants who possessed medium understanding has slightly increased to 26%. An incredible increment from 19% to 52% of participants who developed high understanding after joining the

programme was also witnessed. Meanwhile, 22% of the participants achieved a very high understanding.

Workshop content. The percentage of participants who were very highly and highly informed about the objectives of this workshop was 22% and 69% respectively. Conversely, the other 8% believed that they were moderately informed. Majority of the participants (93%) conjectured that the workshop has fulfilled their expectations while 5% presumed the workshop moderately met their expectations. The workshop content was highly job-relevant according to 93% of the participants while 7% of the participants felt that the content was moderately relevant.

Workshop design. According to 29% of the participants, the workshop objectives were very highly comprehensible. More than half of the participants believed the objectives were favourably clear while the other 10% believed the objectives were moderately clear. In term of learning experience, the workshop activities were stimulating for 91% of the participants. The activities in this workshop provided extremely sufficient practice and feedback for 16% of the respondents, while another 75% considered the activities were satisfactory. According to 8% of the participants, the difficulty level of the workshop was very highly appropriate while 64% of them considered the difficulty level was highly appropriate. Only 26% of the participant regarded the difficulty level as moderately appropriate. The predominance of participants (79%) agreed that the pace of this workshop was appropriate while only 21% of the participants concurred that the workshop pace was moderately appropriate.

Workshop results. The objectives of the workshop were accomplished by majority of the participants (89%) and of 11% achieved moderate objectives accomplishment. According to 66% of the participants, the knowledge garnered from this workshop were highly useful while 29% stated that the knowledge were very highly useful. Only, 5% of the participants found that the knowledge were of moderate usage. Majority of the participants (64%) opined that the workshop was a good way of learning the content while 31% opined that the workshop was the best way of learning. Meanwhile, 5% of the participants were moderately convinced by the statement.

Potential for Further Work

In order to ensure continuity of the project beyond APN‟s funding period, as part of the training we will be developing short interdisciplinary project proposals to address country specific L+D issues involving climate disasters with a view to reducing vulnerability and increasing resilience of target groups (see the summary programme). Another measure will be to encourage the participating Universities to become members of the newly established (October 2013) South East Asian Sustainability Network (SEASN), coordinated by CGSS, to ensure that we will remain engaged on a long-term basis. CGSS will also continue to support national teams through the coordinating institutions to develop full proposals and advise them on funding.

Publications

Published

Osman, O., Ibrahim, K., Koshy, K., Shabudin, A. F.A, Azhar, S.N. F.S (2016). Empowerment of communities towards disaster resilience through disaster risk management for sustainable development. Together We Stand. Tudor Rose.

Azhar, S.N.F.S (2016). Disaster Risk Management for Sustainable Development. UNESCO Green Citizen. http://en.unesco.org/greencitizens/stories/disaster-risk-management-sustainable-development

Upcoming

- Project Factsheets on project activities
- Journal article on DRM-SD Capacity building project entitled “Disaster Risk Management-Sustainable Development (DRM-SD) Building Capacity for Strengthening Resilience of Disaster Management Governance: An Approach”
- Peer-Review Featured Article for APN Science Bulletin
- Training Materials Handbook “Building Capacity for Reducing Loss and Damage by Natural Hazards: A guidance manual for good practices”

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Acknowledgments

We would like to thank Asia-Pacific Network for Global Change Research (APN) for funding this project, our collaborating partners Dr. Pham Thi Hoa (International University, Vietnam National University, Vietnam), Chhoeuth Khunleap (University of Batambong, Cambodia), Assoc. Prof. Dr Bouadam Sengkhamkhoutlavong (Asia Research Center, National University of Laos, Lao PDR), Mr Robert Doddridge Steele Jr (Systainability Asia, Thailand) and all participating organisations for their commitment and making the capacity building possible.

TECHNICAL REPORT

Minimum 15 pages (excluding appendix)

Preface

As climate change is inevitable and the effect is expected to increase every year, there is a need to formulate ourselves in dealing with cost of disasters in terms of the lives lost and the damages to the social, economic and environmental assets.

As one of the formulation measures, Centre for Global Sustainability Studies (CGSS), Universiti Sains Malaysia in collaboration with the Asia Pacific Network for Global Change Research (APN), Japan; International University, Vietnam National University (Vietnam); National University of Laos (NUOL) and University of Batambong (Royal of Cambodia) conducted hands-on training workshops for three days in Malaysia, Vietnam, Laos and Cambodia. We collate our resources to prepare a training curriculum to explain the DRM cycle in these four countries. In this training, the participants use the DRM-cycle to suit the capacity needs of the target groups in each country, whether their primary focus is pre-event risk management or post-event disaster management. Highlights of the training includes: (i) Discussion of South East Asia climate trend and scenario with focus on climatic extremes., (ii) Definition of disaster management terms, risk equations, disaster trends, population, urbanization and DRM, Malaysia and DRM, (iii)DRM-SD cycle components – Risk management (before the event) – Prevention and Preparedness; (xi) DRM-SD cycle – Disaster management side (after the event)– (xii) Training of risk reduction project management tools involving Logical Framework Analysis (LFA), System thinking using Atkisson's Pyramid approach, and World Café for effective stakeholder discussion. At the end of every workshop, we have received many good reviews of the training from all the participants.

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1. Introduction

Climate change is projected to increase in frequency, intensity and the cost of disasters in terms of the lives lost and the damages to the social, economic and environmental assets. A prudent approach would involve a host of pre-disaster win-win early adaptation interventions, making recovery faster and loss & damage manageable. If this is coupled with well-conceived response and recovery measures aligned to long-term interests of national development, each iteration of the DRM-SD cycle will improve risk reduction and resilience building. In order to bridge the gap between the *event* and the *process* based approaches and to integrate DRR with sustainability, there needs to be strong policy guidelines. This is highlighted both in the *Hyogo Framework for Action 2005-2015's* strategic goal that relate to 'the integration of disaster risk reduction into sustainable development policies and planning', and paragraphs 186-189 under the sub section 'disaster risk reduction' of the Rio+20 outcome 'The future we want'. The lack of integration in this area is the policy issue we propose to address.

In Southeast Asia region, the temperature increase is for ~ 1.0^{o}C per century with a projected rise of 3-4^{o}C under RCP 8.5 (Representative Concentration Pathway). The 'wetter region gets more wetter and drier gets more drier' (i.e. more 'warmer' and 'wetter' weather); extreme weather & climate events will become more frequent; extreme precipitation events over wet tropical regions will *very likely* become more intense and more frequent; there is high confidence that ENSO will remain the dominant mode of interannual variability in the tropical Pacific and due to the increase in moisture availability ENSO-related precipitation variability on regional scales will *likely* intensify and finally the sea level is projected to rise between 0.4-0.6 m and oceans are becoming more acidic.

In order to reduce the impact of climate disasters, therefore, the best time to intervene is at the risk level using a variety of measures as shown in Figure 1. While mitigation, adaptation and readiness will progressively reduce the risk from R1 to R3, relief, restoration and sustainable development approaches will be needed to increase the scope and pace of the post disaster interventions – enhancement of resilience - from D2 to D4. In general, emergency management is a nonstop process which involves four major steps: prevention, preparedness, response and recovery, with targeted tasks under each of these phases.

If we define risk more inclusively to cover both 'rapid onset-high impact' events such as floods and heat waves, and 'slow onset- high impact' events, such as climate change and poverty, we are in a position to relate DRM to SD. For example, we are in an advanced stage of *risk* as far as global climate change is concerned, and we are bordering on *disaster* stage for impacts and vulnerabilities of natural resources and biological diversity due to these changes. It is this risk that needs to be characterized and managed urgently, instead of waiting to settle all the arguments about uncertainties before taking action.

Prudent and proactive emergency management calls for making consistent efforts before, during and after a disastrous event happens. According to UNEP, hazard + vulnerability = risk while, UN ISDR uses the relationship, hazard x vulnerability/capacity = risk, to address the same situation. In both these cases, 'realized risk is disaster'. The training curriculum is developed thus to clearly explain the DRM cycle to suit the capacity needs of the target groups whether their primary focus is pre-event risk management or post-event disaster

management. It is against this background the sections *3.1-3.3* are developed.

Centre for Global Sustainability Studies (CGSS), Universiti Sains Malaysia in collaboration with the Asia Pacific Network for Global Change Research (APN), Japan; International University, Vietnam National University (Vietnam); National University of Laos (NUOL) AND University of Batambong (Royal of Cambodia) conducted a four in-country 'learning labs' (training workshops) for three days in Malaysia, Vietnam, Laos and Cambodia. This training is intended to bring together multiple stakeholders to explore ways to reduce the risk posed by climatic hazards before they are realised as disasters resulting in loss and damage.

The central focus of this unique training is personalised instruction and hands-on learning. The training considered such an approach by factoring sustainable development (SD) considerations in all the four major phases of the DRM loop – Prevention, Preparedness, Response and Recovery. This is the uniqueness of the training. Thus, this training is tailored to address closely the capacity needs of APN's Climate Adaptation Framework 2012, and the outcome of the special APN workshop on CCA, DRR & L+D' Kobe, 21-23 August 2013.

The training hope to address these issues by connecting risk to climate impact, vulnerability of exposure units and the role of adaptation in enhancing capacity to address risks. The thrust will be on ways to progressively reduce risk to acceptable levels; levels which if realised as disaster will be within the capacity of the communities to manage without very adverse loss and damage. The involvement of four universities, government and private sector disaster managers, and the community groups makes it a proactive engagement than the 'event based reactive approach of the present. Thus, strengthening partnerships, risk reduction project development, specialised capacity building, documenting current approaches and recommending better approaches for improved policies are integral to the training.

The three-day workshop addresses all technical terms involved in the Disaster Risk Management (DRM) cycle, clearly explain the connection between DRM and Sustainable Development (SD), train participants on the use of an easy to use Risk Assessment Methodology (R.A.M developed by CGSS), expose them to loss and damage assessment approaches, help prioritise adaptation options, and train them on risk reduction project planning using Logical Framework Analysis (LFA) & Atkissons Methodology (developed by AtKisson Group) to develop and implement interdisciplinary risk reduction projects. The backdrops of discussions were the Hyogo Framework and the Future We Want.

2. Methodology

As the training central focuses are personalised instruction and hands-on learning, participants were divided into a group of ten (in Malaysia) and a group of five (in other three countries). Selecting a group of participants with the right academic and professional background and organising a team of resource persons to handle the rigour of the curricular aspects were key to the success of the training. The announcements calling for participation made it clear that participants with disaster related background in Malaysia, Vietnam, Lao PDR and Cambodia may attend the workshop. As it will be conducted in English, participants were expected to have an adequate working knowledge of the language,

although we committed to hire a translator in Vietnam and Cambodia to translate into their lingua-franca language.

Following a rigours selection procedure, 60 participants (in Malaysia) and 20 participants (in Vietnam, Lao PDR and Cambodia) – with disaster related backgrounds, representing Malaysia, Vietnam, Lao PDR and Cambodia. The selection process involved careful consideration of the applicant's academic qualifications, professional experience, career background the overall suitability of the candidate to be a high-quality participant groups for the training.

The groups were monitored and mentored by facilitators throughout the training course. The training considered such an approach by factoring sustainable development (SD) considerations in all the four major phases of the DRM loop – Prevention, Preparedness, Response and Recovery.

The highlight of the Training Curriculum involves:

- Discussion of SE Asian climate trend and scenario with focus on climatic extremes.
- Definition of terms, risk equations, disaster trends, climate change and disasters, population, urbanization and DRM, Malaysia and DRM.
- DRM-SD cycle – Risk management side (before the event) – Prevention and Preparedness; the role of mitigation, adaptation and readiness; the role of science and technology for DRM.
- DRM-SD cycle – Disaster management side (after the event) – Response and recovery; the role of relief, restoration and recovery; closing the loop for resilience building, especially for the most vulnerable; sustainable living and human well-being.

The Approach

The DRM-SD Model

Figure 1 presents the DRM-SD Model, which represents a cyclic and iterative process where 'risk reduction' and 'resilience enhancement' are given equal importance. These are the pre and post disaster activities (shown as radii of the right and left hemispheres). It is assumed that the radius of the right hemisphere represents the full risk and that on the left, the full disaster. The key to the successful implementation of the model is the ability to progressively reduce risk through mitigation (R1), adaptation (R2) and readiness (R3) measures carried out 'before the event' under prevention and preparedness. The residual risk is shown by R4 which when realized as disaster (D1) is presumably small and manageable. The post disaster activities relief (D2), restoration (D3) and sustainable development (D4) will enhance resilience (reduced disaster) under response and recovery phases. The governance segment is the ever present enabling environment required for the other four components to operate efficiently. The checklist items shown outside the circle in pockets are examples of activities that form part of DRM-SD. This model requires that we move from an 'event-based' to a SD compatible 'process-based' approach for improved results. In this

approach, the overall risk (in the absence of any risk reduction measures) will be progressively reduced to a level where any resulting disaster from the residual risk will be considered manageable. This becomes more evident if we imagine a horizontal slizing of the DRM-SD cycle which will leave both 'preparedness and response' close to the event and 'recovery and prevention' away from the event. While hastily put-together 'preparedness and response' surrounding the disaster event may be likened to *reactive* sustainability measures, a more *proactive* response aligned to sustainability vision will be the 'recovery and prevention' father away from the event.

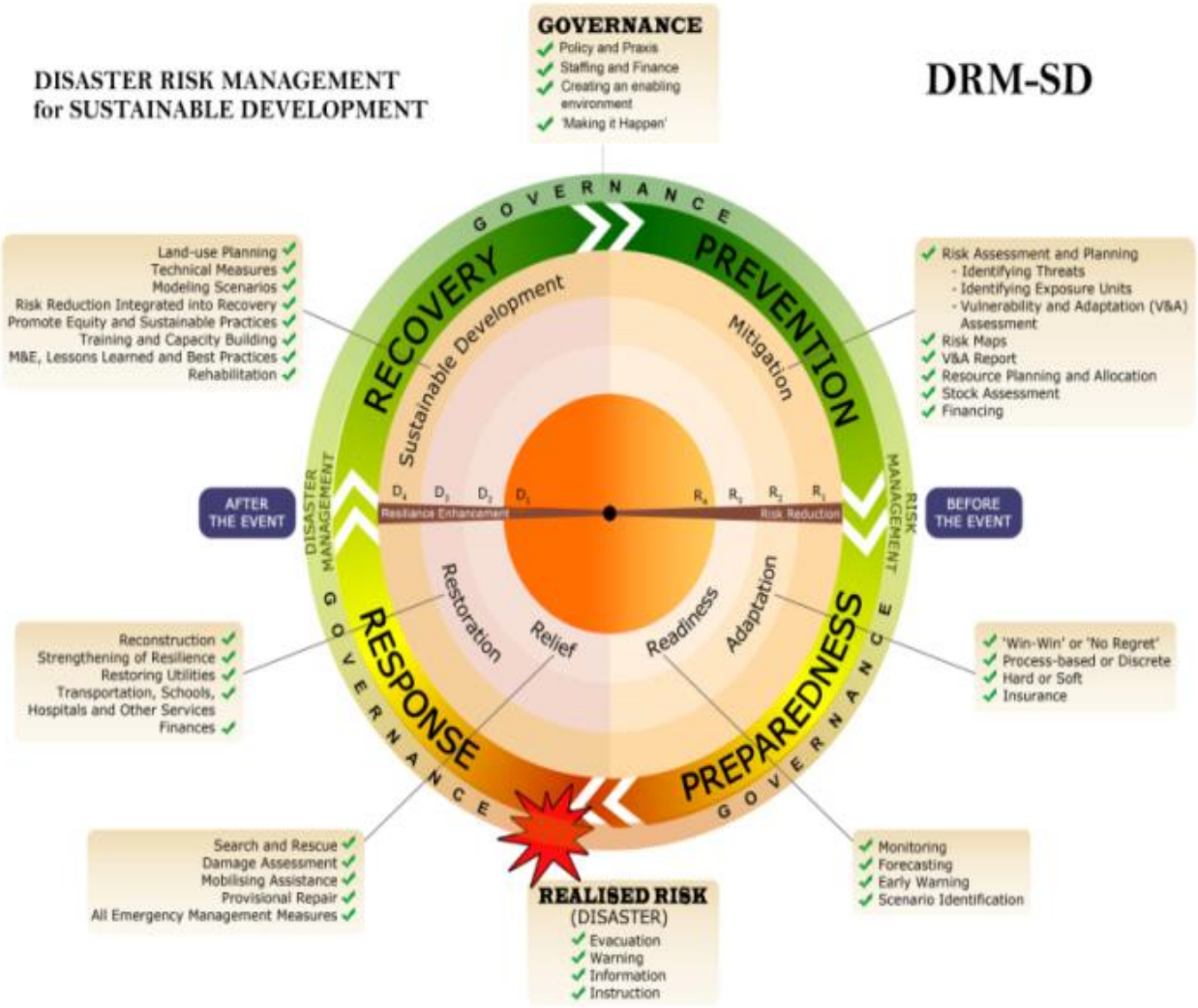


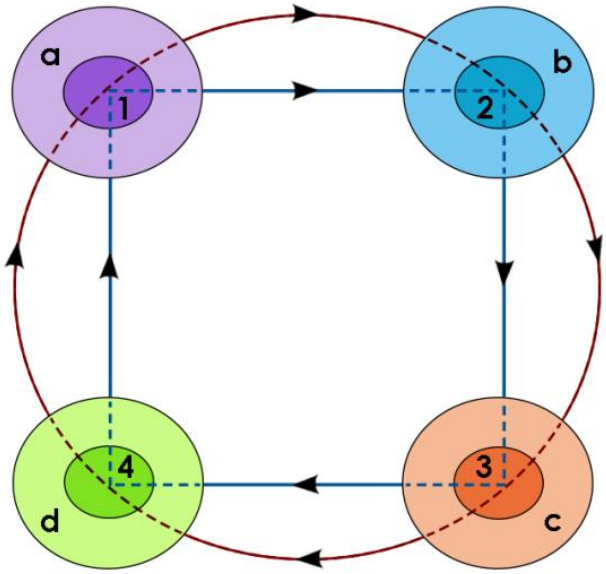
Figure 1: DRM-SD Model developed by CGSS

We believe that if these principles and new approach are adopted and practiced over the long term, a sustainable pathway can be found for all nations. As disasters are seen as realized risk, this approach requires preemptive action through sustainability compatible interventions.

Thus the novelty of DRM-SD is that it prompts strategic intervention at the risk level to continue reduce multiple risks posed by SD challenges to levels manageable by people and

planet alike through mitigation and adaptation. This approach will require us to take no-regret measures, while simultaneously intensifying efforts on more involved mitigation challenges that will require policy, finance and mind-set changes.

DRM-SD Cycle and World Café Approach



This is a practical approach to manage break-up group (stakeholder) discussion, very effectively during formally organised conferences/meetings. Let us consider a DRM-SD conference of 40 people whose focus is to discuss the four pillars of the DRM-SD model – Prevention (Prev), Preparedness (Prep), Response (Resp) and Recovery (Reco) – the 2Ps & 2 Rs – which are called the independent variables in this case. This number (4) decides the number of discussion locations or 'Tables' to be set up. This is shown in Fig Y1 by the bigger of the two concentric circles a, b, c & d. The smaller inside circles labelled 1, 2, 3 & 4 represent a pair (two people) consisting of a moderator (or host) and a scribe (a person to record and summarise the discussion) at each table. In this format of cycle 1, round 1 begins as shown in the diagram with table Prev discussing all aspects of prevention; table Prep, preparedness; and table Resp, response; and table Reco, recovery topics. Each table will consider as much of their table topic as possible; for e.g. Prev might consider, environment (rivers, drainage, agriculture), society (health, housing, education), economy (industry, business/trade, infrastructure) and governance (standard operating procedures (SOP), policy/action plan, finance aspects of flood disaster prevention. The preparedness group will discuss along the same line but from a preparedness angle. The same logic applies to the response and recovery table as well. Because it is the first time the groups are discussing sub-topic, let's say they take 60 minutes for round 1. The groups get up and move to the nest table in a clock-wise direction. While this happens, the facilitator and the scribe do not move – they remain on the same table all along. After the move has been completed, round 2 begin and proceed along the same direction. Because each table topic has been discussed initially for 1hr by the previous group, in round two only 40 minutes may be enough. Everybody is contributing to value addition to what has already been said or filling gaps. At the end of 40 minutes, round 3 begins and then after another 40 minutes round 4 begins and ends after 40 minutes. The advantage of this change of configuration and mode of discussion is that everyone gets to express their views on all four cycle themes and in between there is some physical activity too – getting up, moving etc. – that minimises fatigue. The moderator and scribe who have been stationary and the repository for all the discussion details will report to the plenary a summary of the overall discussion finally.

This pattern works very well for smaller groups. If the plenary has 80 people, each of the table could have a repeat table (overall 8 tables then) and so on. If the group is still bigger, say 240 people, still we can conduct world café to give everyone the chance to discuss all

the four thematic areas. In this case we need to have bigger groups. Say we divide 240 into four groups of 60 and each further down to 30+30 – the duplex arrangement. The fundamental difference here is that the group members will stay put while the moderator teams will rotate clockwise. Like before, each moderator will be responsible for Prev, Prep, Resp and Reco and regardless of which group they are with; their assigned subgroup theme will remain with them and be discussed.

A similar approach may be used for even larger groups, say 500 people and five thematic areas to be discussed. The group could be divided into 5 groups of 100 and each 100 further divided to 50+50 in a duplex mode. Thus there will be 10 separate groups of 50 people each who will stay put and moderator and scribe will keep moving. Following a major flood in Kelantan, north eastern Malaysia, we did conduct such a world café very successfully; just that we needed to make careful planning for grouping, electronic display of discussion progress etc.

Logical Framework Analysis (LFA)

Logical Framework Analysis (or Approach) (LFA) is an approach to develop well analysed and logical project framework and activities in order to plan and implement risk reduction projects and, for that matter any project at all. LFA thinking is usually presented as a logical framework (logframe or project structure) which is a matrix of rows and columns that shows a summary of the project design, activities and the indicators used to measure progress. In short, LFA is an instrument for objective-oriented planning, rigorous sound design and practical implementation of projects. As LFA is an 'aid to thinking' and is user driven, it has widespread and diverse applications, and it is flexible enough to accommodate the needs of projects regardless of their size and scope. The systematic application of the method, with good judgment and sound common sense, can help to improve the quality, and hence the output, relevance, feasibility and sustainability of project implementation in general.

By bringing stakeholders together to discuss problems in all its dimensions, set objectives and strategies for action, LFA encourages people to consider issues in detail, frame achievable expectations, and evaluate means of implementation. By stating objectives clearly and setting them out in a 'hierarchy of objectives' (organized as a 'cause-effect' decision points in LFA, this is called a 'Problem Tree and through a 'means-end' approach, an 'Objective Tree' is also constructed), the logframe matrix that results thus provides a means of checking the internal logic of the project plan, and ensures that activities, results and objectives are linked. It also forces planners to identify the critical assumptions and risks which may affect project success, thus encouraging a discussion on project feasibility. In stating indicators of achievement and means of measuring progress, planners are made to think about how they will monitor and evaluate the project right from the start. A clear identification of the activity schedule is also the basis for a well-thought out budget or resource schedule. All these key information is brought together in a single document – the logframe – which provides a useful and visible project summary.
The approach presented here, is not an end in itself, instead it is to be seen as a user-driven and objective-led project planning process which uses specific terms that help visualize and implement projects more successfully. Very often formal training will be required to fully benefit from the LFA methodology (Logframe for a non-performing restaurant).

System Thinking Approach

System thinking is a process of understanding how those things which may be regarded as systems influence one another within a complete entity, or larger system. In nature, systems thinking examples include ecosystems in which various elements such as air, water, movement, plants, and animals work together to survive or perish. In organizations, systems consist of people, structures, and processes that work together to make an organization "healthy" or "unhealthy".

Systems Thinking is seeking to understand the connections among elements in a system; what depends on what, what is causing what, where are information flows, where control decisions are made, what information flows are critical, and how best to manage or intervene in the system for desired results. The field of systems thinking has generated a broad array of tools that: (1) graphically depict the understanding of a particular system's structure and behaviour, (2) communicate with others about the understandings of the system; (3) design high-leverage interventions for problematic system behaviour. Systems Thinking also helps to move the focus away from events and patterns of behaviour (which are symptoms of problems) and toward systemic structure and the underlying mental models Systems thinking have been defined as an approach to problem solving that attempts to balance holistic thinking and reductionistic thinking. By taking the overall system as well as its parts into account systems thinking is designed to avoid potentially contributing to further development of unintended consequences. There are many methods and approaches to systems thinking (what systems thinking researchers call a "pluralism"). For example, the Water's Foundation presents that systems thinking is not one thing but a set of habits or practices within a framework that is based on the belief that the component parts of a system can best be understood in the context of relationships with each other and with other systems, rather than in isolation; and that systems thinking focuses on cyclical rather than linear cause and effect. Whereas, other models characterize systems thinking quite differently. Recent scholars, however, are focused on the "patterns that connect" this pluralism of methods, this search for universal patterns that cut across the pluralism of individual methods of systems thinking is called "universality."

Atkisson Compas

Although World Café and Mind Maps are effective ways to bring out the varied views and opinions of the groups involved, the results might still look compartmentalised, without much emphasis on inter-relationships or interdisciplinary. We need a way, therefore, to connect the dots among the discussion topics. This is where Atkissons compass becomes an important tool.

The Sustainability Compass (“Compass” for short) is a tool for orienting people to sustainability. Compass helps you bring people together around a common understanding of sustainability, and a shared vision for getting there. It also helps you monitor progress along the way. First developed in 1997, the Sustainability Compass has been used by companies, communities, organizations, schools and universities around the world.
The Sustainability Compass is easy to understand. A regular compass helps us map the territory and find our direction. This Compass does the same thing for sustainability. It takes

the English-language directions — North, East, South, West — and renames them, while keeping the same well-known first letters:

N is for Nature – All of our natural ecological systems and environmental concerns, from ecosystem health and nature conservation, to resource use and waste.

E is for Economy – The human systems that convert nature's resources into food, shelter, ideas, technologies, industries, services, money and jobs.

S is for Society – The institutions, organizations, cultures, norms, and social conditions that make up our collective life as human beings.

W is for Wellbeing – Our individual health, happiness, and quality of life.

Those four categories were developed by prominent sustainability theorists. The fact that these four words line up with the four directions of a compass was a happy coincidence, noticed in 1997 by Alan AtKisson while he was participating in an international seminar on sustainability indicators. He and his colleagues later developed the Compass idea into a complete set of tools, and since then, the Sustainability Compass has been spreading around the world. Compass has been used in very many diverse situations, ranging from corporate board rooms to indigenous community programs. The Compass can also be used to understand the major areas of focus by analysing the 17 Sustainable Development Goals (SDGs) into the four thematic directions and establishing their interconnectivity

People use the Sustainability Compass (and related tools developed by the AtKisson Group) to: a) Explain sustainability in clear, simple language, b) Teach sustainability and sustainable development, in a whole-system way, c) Provide a unifying symbol for sustainability and sustainable development programs, d) Convene stakeholders and manage their involvement in sustainability initiatives, e) Develop sustainability indicators and reports for organizations, companies, cities, etc. and f) Perform sustainability assessments and gap analyses for corporations

3. Results

About 60 participants from Malaysia and some Southeast Asia countries (training in Malaysia) and 20 participants in the other three countries (training labs in Vietnam, Lao PDR and Cambodia), were able to address technical terms involved in the DRM cycle and clearly explain connection between DRM and Sustainable Development.

The learning labs addresses these issues by connecting risk to climate impact, vulnerability of exposure units and the role of adaptation in enhancing capacity to address risks. The thrust will be on ways to progressively reduce risk to acceptable levels; levels which if realised as disaster will be within the capacity of the communities to manage without very adverse loss and damage. The involvement of four universities, government and private sector disaster managers, and the community groups makes it a proactive engagement than the „event based reactive approach of the present. Thus, strengthening partnerships, risk reduction project development, specialised capacity building, documenting current approaches and recommending better approaches for improved policies are integral to the training.

With the support from our collaborating partners Dr. Pham Thi Hoa (International University, Vietnam National University, Vietnam), Chhoeuth Khunleap (University of Batambong, Cambodia) and Assoc. Prof. Dr Bouadam Sengkhamkhoutlavong (Asia Research Center, National University of Laos, Lao PDR), the training was attended by 28 different organisation in Malaysia, 18 organisation in Vietnam, 16 organisations in Lao PDR and 7 organisation in Cambodia.

Participating Institutions and Organisations:

a) Capacity Building in Kuala Lumpur, Malaysia (3-5 December 2014):

Asia Research Center, National University of Laos (NUOL)
Centre for Global Sustainability Studies (CGSS), Universiti Sains Malaysia
Corporate Responsibility and Ethics Association for Thai Enterprise (CREATE)
Far Eastern University
Fire and Rescue Department Malaysia
International University Vietnam National University-HCMC
Kindness Malaysia
MERCY Malaysia or Medical Relief Society Malaysia
National Security Council (Johor, Malaysia)
National Security Council (Kedah, Malaysia)
National Security Council (Melaka, Malaysia)
National Security Council (Negeri Sembilan, Malaysia)
National Security Council (Pahang, Malaysia)
National Security Council (Perak, Malaysia)
National Security Council (Perlis, Malaysia)
National Security Council (Selangor, Malaysia)
Systainability Asia, AtKisson Group International, Thailand
Universiti Kebangsaan Malaysia (UKM)
Universiti Malaya (UM)
Universiti Malaysia Pahang (UMP)
Universiti Malaysia Sabah (UMS)
Universiti Pertahanan Nasional Malaysia (UPNM)
Universiti Sains Islam Malaysia (USIM)
Universiti Sains Malaysia (USM)
Universiti Teknologi MARA (UITM)-Shah Alam
Universiti Tun Hussein Onn Malaysia (UTHM)
University of Batambang (Royal of Cambodia)
World Wild Federation (WWF)

b) Capacity Building in Ho Chi Minh, Vietnam (5-7 January 2015):

Ca Mau Sub - Department Water Resources, Ca Mau Province
Caritas Vietnam - Ho Chi Minh City
Committee for Disaster Prevention and Search - Rescue - Bac Lieu Province
Committee for Disaster Prevention and Search - Rescue - Tien Giang Province
Con Dao National Park _ Ba Ria Vung Tau Province
Department of Agriculture and Rural Development - Ho Chi Minh City
Department of Agriculture and Rural Development - Khanh Hoa Province
Dong Nai Biopsprere Reverse - Dong Nai Province
Dong Nai Culture and Nature Reverse - Dong Nai Province

DRAGON Institute - Mekong - Can Tho University
Flood and Storm control - Irrigation Department of Thua Thien Hue Province
Hoa Sen University
International University Vietnam National University-HCMC
Management Board of Cham Island MPA - Quang Nam Province
Southern Institure Of Water Resources Research - Ho Chi Minh City
University of Natural Resources and Environment- Ho Chi Minh City
University of Science - Ho Chi Minh City
University of Technology - Ho Chi Minh City

c) Capacity Building in Vientiane, Lao PDR (19-21 January 2015):

Asia Research Center, National University of Laos (NUOL)
Cabinet Office of Ministry of Education
Division of Disaster Preparedness
Faculty of Engineering, National University of Laos (NUOL)
Faculty of Environmental Sciences, National University of Laos (NUOL)
Faculty of Water Resources, National University of Laos (NUOL)
Lao Youth Union
Ministry of Finance of Lao PDR
Ministry of Foreign Affair of Lao PDR
Ministry of Labour and Social Welfare of Lao PDR
Ministry of National Defence of Lao PDR
Ministry of Natural Resources and Environment of Lao PDR
Ministry of Public Health of Lao PDR
Ministry of Public Security of Lao PDR
Ministry of Public Work and Transport of Lao PDR
University of Health Sciences, Lao PDR

d) Capacity Building in Siem reap, Cambodia (2-4 February 2015):

Battambang Provincial Department of Environment
Buddhism for Development
International University
Meanchay University
Tbambmam Province
University of Batambang (Royal of Cambodia)
University of South East Asia

The learning lab was an excellent blend of theory, personalised instruction and hands-on learning where participants worked in groups of five (in Vietnam, Lao PDR and Cambodia)

and ten (in Malaysia) using training materials provided and sustainability tools shared our resource and guest resource person.
The training agenda:

DAY 1	
9.30 am – 10.00 am	**Training Overview** – Prof. Dr. Kanayathu Koshy
10.30 am – 11.00am	**Development with a Difference**- Prof. Dr. Kamarulazizi Ibrahim
11.00 am – 11.45 am	**Risk and Disaster:** Risk and Disaster Defined- Prof. Dr. Kanayathu Koshy
11.45 am – 12.30 pm	**Pre-Disaster DRM:** Discussion of SE Asian climate, Risk Management – Pre-disaster Stage: Prevention, Preparedness - Mr Robert Steele (Malaysia, Vietnam and Cambodia) -Dr. Suzyrman Sibly (Lao PDR)
1.30 pm – 2.30 pm	**THE EVENT:** Dealing with Disaster – Malaysia, Laos/ Vietnam and Cambodia representative
2.30pm – 4.00 pm	**POST-DISASTER DRM:** Post-Disaster : Disaster Management and Post-Disaster Stage: Response & Recovery - Linking to the Goals of Sustainable Development - Mr Robert Steele (Malaysia, Vietnam and Cambodia) -Dr. Suzyrman Sibly (Lao PDR)
DAY 2	
8.30 am- 10.30 am	**LFA for Project Management (Risk Reduction Project Design & Implementation)** - Prof. Dr. Kanayathu Koshy
10.45 am-12.45 pm	**1. AtKisson's Compass Methodology for Interdisciplinary Climate Risk Reduction Project Management** **2. Project Planning for Risk Reduction** - Mr Robert Steele (Malaysia, Vietnam and Cambodia) - Prof. Dr. Kamarulazizi Ibrahim (Lao PDR)
2.00 pm- 4.30 pm	**World Café Activity on DRM-SD** – Prof. Dr. Kanayathu Koshy
DAY 3	
8.30 am -9.30 am	**Case study 1 : The International Experience –** -Mr Robert Steele (Malaysia, Vietnam and Cambodia) -Dr. Suzyrman Sibly (Laos)
9.30 am - 10.30 am	**Case study 2 : The National Experience –** Malaysia, Laos/ Vietnam and Cambodia representative
10.30 am - 11.30 am	World Café Group presentations

**note: please refer appendix 1a, 2a, 3a and 4a for a detailed training agenda*

The training materials were professionally combined into a booklet for easy references and are served via the website (https://cgss.usm.my/index.php/ms/2-uncategorised/195-apn-year2).

The material covered in the lectures was consolidated through structured tutorials, and its practical application was accomplished through a suite of hands-on learning activities. The participants worked in teams lead by the resource persons and facilitators throughout the three days presenting their output and ideas at the end of the course. We are currently in the midst of preparing a post-training Capacity Handbook in accordance to the training accomplished in Malaysia, Vietnam, Lao PDR and Cambodia. Above all, the three day four in-country learning labs l was a success beyond expectations.

4. Conclusions

We are living in a century where most aspects of life will be affected by climate change. Therefore, an establishment of guiding principles is important in order to ensure the mainstreaming of climate change concerns within ongoing human development practices. Frequently, those people and communities most vulnerable to natural hazards are also vulnerable to other sources of hazard. For many people, livelihood strategies are all about building resistance from multiple hazards sources — economic, social, political, and environmental. At this point of view, the increase in perceived risk accumulating to an individual or group from not investing time or energy in natural hazard risk reduction, may be an accepted cost in the face of more immediate needs for security from economic collapse, social violence and conflict.

Recognising the risks involved, capacity building is the best option to empower communities towards disaster resilience, and through DRM-SD, continual innovation and improvement of the approach should be mainstream at all levels especially by public and private sustainable related institution. Capacity building is one of the best ways to approach community as a mean of knowledge based transfer on DRM-SD. Through capacity building, we are able to change the mind set of communities from triple bottom line perspective and develop socially responsible global citizen.

Moreover, in this three days four-in country DRM-SD capacity building programme, the participants became clear that there is a need for improved understanding of climate science, assessment and risk reduction for both slow and rapid climatic disasters, adaptation to build resilience, and efficient policies coupled with an empowered community to effectively reduce Lost and Damage (L+D). Besides, this programme has trained practitioners who will have the know-how and potential for leadership in Climate Change Adaptations (CCA), Disaster Risk Reduction (DDR), and Loss and Damage (L+D). Consequently, the skills developed during the training will be suitable for leadership roles in DRM and Climate Change project management, especially with vulnerable communities.

It is hoped that this training has facilitated the practitioners to plan for and respond to disasters more effectively, preserving lives and livelihoods, eventually preventing the effects of natural hazards from negatively impacting development.

5. Future Directions

In the past two decades, on average, more than 200 million people have been affected every year by disasters. Therefore the future directions should consider having a policy that relevance and relate either to: (i) implementation issues of existing policies or (ii) existing policy gaps that need bridging. Although, the training addressed both issues, the emphasis will be on the former since there are gaps in translating knowledge into action. While some of the countries Global agreements such as the Hyogo Framework and Sendai Framework, Rio outcome, ISDR guidelines and national policies for DRR and SD will be the basis for our policy considerations. The pre-training research information from the participants and the CGSS training manual will be used to engage with the policy community to help mainstream DRR into development planning – this idea will be promoted as 'development with a difference'. This is an integrative process consisting of bottom-up and top-down actions, local and scientific knowledge to mainstream DRR.

The training has brought together diverse stakeholders from each of the four SE Asian countries at the national level and it will be an opportunity to strengthen their existing networks and to find better operational strategies among their countrymen. At a more regional level, we hope to link this initiative to the newly established South East Asia Sustainability Network (SEASN) with the secretariat at USM-CGSS and to APN Climate Adaptation Framework.

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Appendices

Please refer to the Appendices attached

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APPENDICES

Introduction & Objectives :

CGSS togther with APN will be conducting a three day 'learning labs' (training workshops) in Kuala Lumpur,Malaysia to bring together multiple stakeholders to explore ways to reduce the risk posed by climatic hazards before they are realised as disasters resulting in loss and damage. The central focus of this unique training is personalised instruction and hands-on learning. This training will consider such an approach by factoring sustainable development (SD) considerations in all the four major phases of the DRM loop – prevention, preparedness, response and recovery.

The three-day workshop will address all technical terms involved in the DRM cycle, clearly explain the connection between DRM and SD, train participants on the use of an easy to use risk assessment methodology (R.A.M developed by CGSS), expose them to loss and damage assessment approaches, help prioritise adaptation options, and train them on risk reduction project planning using logical framework analysis & Atkissons methodology to develop and implement interdisciplinary risk reduction projects. The backdrops of discussions will be the Hyogo Framework and the Future We Want.

How to Register?

Please fill in and return us the prospective forms provided in our website http://cgss.usm.my to cgss@usm.my before :

3rd November 2014

Please feel free to contact us:

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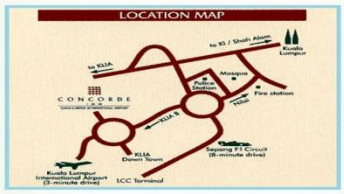

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Disaster Risk Management for Sustainable Development (DRM-SD) Capacity Building

Title :
Building Capacity for Reducing Loss and Damage Resulting from Slow and Rapid Onset Climatic Extremes through Risk Reduction and Proactive Adaptation within the Broader Context of Sustainable Development

Date : 3 Dec- 5 Dec 2014
Time : 8.30am – 11.00pm
Venue : Hotel Concorde Inn KLIA, Kuala Lumpur, Malaysia

Speakers :

PROFESOR DR. KAMARULAZIZI BIN IBRAHIM
Director,
Centre for Global Sustainability Studies,
Universiti Sains Malaysia , Malaysia

PROFESSOR DR. KANAYATHU CHACKO KOSHY
Professor of Sustainability
Centre for Global Sustainability Studies,
Universiti Sains Malaysia, Malaysia

DR. ROBERT STEELE
Director of Sustainability Asia, Senior Associate,
AtKisson Group International, Thailand

Collaborators :

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Dean of Faculty
Sociology and Community Development,
University of Battambang, Cambodia

DR. BOUADAM SENGKAMKHOUTLAVONG
Director of Asia Research Center,
Dongdok Campus, National University of Laos,Laos

DR. PHAM THI HOA
Director,RCE Southern Vietnam,
Vietnam International University, Vietnam

DRM Training Malaysia: Tentative Programme

Wednesday, 3 December 2014

8.30 - 9.00 am	- Regsitration
9.00 - 9.30 am	- Opening Remarks - Risk to Resilience
9.30 - 9.45 am	- Training Overview ***(Prof. Dr. Kanayathu Koshy)***
9.45 - 10.15 am	- Morning Break
10.15 - 10.45 am	- Development with a difference ***(Prof. Dr. Kamarulazizi Ibrahim)***
10.45 - 11.30 am	- **RISK and DISASTER**: Risk and disaster defined ***(Prof. Dr Kanayathu Koshy)***
11.30 - 12.30 pm	- **PRE-DISASTER DRM** : Discussion of SE Asian Climate, Risk Management – Pre-disaster Stage: Prevention, Preparedness ***(Dr. Robert Steele)***
12.30 - 2.00 pm	- Lunch
2.30 - 6.00 pm	- SEASN Board Meeting (Future of DRM-SD Capacity Building)
2.30 - 4.30 pm	- Parallel Session: DRM Experience sharing ***(Dr. Chhoeuth Khunleap, Dr. Pham Thi Hoa & Dr. Bouadam Sengkhamkhoutlavong)***
4.30 - 5.00 pm	- Tea Break
6.30 - 8.30 pm	- Dinner
8.30 - 9.30 pm	- **THE EVENT:** Dealing with Disaster
9.30 - 10.30 pm	- **POST-DISASTER DRM**: Disaster Management and Post-disaster Stage: Response, Recovery [Backdrop: IPCC AR5 and associated assessments, The Hyogo Framework for Action, The Future We Want, and national/regional Action Plans] ***(Dr. Robert Steele)***
10.30 - 11.00 pm	- Supper

Thursday, 4 December 2014

8.30 - 10.30 am	- **RISK ASSESSMENT & MANAGEMENT:** Assessment methodology for Loss and Damage; Risk reduction through Risk assessment - use of R.A.M. (CGSS Risk Assessment Methodology); Project planning for climate risk reduction: Use of Logical Framework Analysis (LFA) ***(Prof. Dr. Kanayathu Koshy)***
10.30 - 11.00 am	- Tea Break
11.00 - 12.30 pm	- AtKisson's Compass methodology for interdisciplinary climate risk reduction project management ***(Dr. Robert Steele)***
12.30 - 2.00 pm	- Lunch
2.00 - 4.00 pm	- **RISK REDUCTION-PROJECT PLANNING:** (Hands on activity.)
4.00 - 4.30 pm	- Tea Break
4.30 - 6.00 pm	- Project planning for risk reduction (Hands on activity)
6.30 - 8.00 pm	- Dinner
8.00 - 9.30 pm	- **CASE STUDY**: Case study 1 (international) (Guided group work)
9.30 - 11.00 pm	- **CASE STUDY:** Case study 2 (national) (Guided group work.)
11.00 - 11.30 pm	- Supper

Friday, 5 December 2014

8.30 - 10.30 am	- Climate risk reduction project summary presentation
10.30 - 11.00 am	- Tea Break
11.00 - 12.00 pm	- Recommendation and Closing

INTRODUCTION & OBJECTIVE

CGSS together with APN will be conducting a three day 'learning labs' (training workshops) in Sabah Sagon Hotel, Ho Chi Minh, Vietnam to bring together multiple stakeholders to explore ways to reduce the risk posed by climatic hazards before they are realised as disasters resulting in loss and damage. The central focus of this unique training is personalised instruction and hands-on learning. This training will consider such an approach by factoring sustainable development (SD) considerations in all the four major phases of the DRM loop – prevention, preparedness, response and recovery.

The three-day workshop will address all technical terms involved in the DRM cycle, clearly explain the connection between DRM and SD, train participants on the use of an easy to use risk assessment methodology (R.A.M developed by CGSS), expose them to loss and damage assessment approaches, help prioritise adaptation options, and train them on risk reduction project planning using logical framework analysis & Atkissons methodology to develop and implement interdisciplinary risk reduction projects. The backdrops of discussions will be the Hyogo Framework and the Future We Want.

HOW TO REGISTER ??

Please fill in and return us the prospective forms provided before or on **15 December 2015** via email to our collaborators:

1. Ms. Nguyen Thi Kim Tuyen
   ntktuyen@hcmiu.edu.vn

ENQUIRIES??

Should you have further enquiries, feel free to contact us:

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DISASTER RISK MANAGEMENT FOR SUSTAINABLE DEVELOPMENT (DRM-SD) CAPACITY BUILDING

Title:
Building Capacity for Reducing Loss and Damage Resulting from Slow and Rapid Onset Climatic Extremes through RIsk Reduction and Proactive Adaptation within the BroaderContext of Sustainable Development

Date: 5-7 January 2016
Time: 8.00am-5.30 pm
Venue: Sabah Saigon Hotel,
Ho Chi Minh, Vietnam

SPEAKERS

PROF. DR. KAMARULAZIZI IBRAHIM
Director
Centre for Global Sustainability,
Universiti Sains Malaysia,
Penang, Malaysia

PROF. KANAYATHU CHACKO KOSHY
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COLLABORATOR

DR. PHAM THI HOA
Director
RCE Southern Vietnam,
Vietnam International University,
Vietnam

PROGRAMME

5 January 2016	
	MC, Technical
8.30 am – 9.00 am	Registration
9.00 am – 9.30 am	Opening Remarks– Risk to Resilience
9.30 am- 9.45 am	Training Overview – Prof. Dr. Kanayathu Koshy
9.45 am-10.00 am	Morning Break
10.00 am-10.30 am	Development with a Difference- Prof. Dr. Kamarulazizi Ibrahim
10.30 am-11.15 am	**RISK & DISASTER**: Risk & Disaster Defined- Prof. Dr Kanayathu Koshy
11.15 am-12.15 pm	**PRE-DISASTER DRM**: Discussion of SE Asian climate, Risk Management – Pre-disaster Stage: Prevention, Preparedness- Robert Steele
12.15 pm-1.30 pm	Lunch
1.30 pm-2.30 pm	**THE EVENT**: Dealing with Disaster
2.30 pm-4.00 pm	**POST-DISASTER DRM**: Disaster Management – Post-disaster Stage: Response, Recovery (Backdrop: IPCC AR5 & Associated Assessments, The Hyogo Framework for Action, The Future We Want, & National/Regional Action Plans) - Robert Steele
4.00 pm-4.30 pm	Tea Break
6 January 2016	
	MC, Technical
8.30 am-10.30 am	**RISK ASSESSMENT & MANAGEMENT**: Assessment Methodology for Loss & Damage; Risk Reduction through Risk Assessment – Use of R.A.M. (CGSS Risk Assessment Methodology); Project Planning for Climate Risk Reduction: Use of Logical Framework Analysis (LFA)- Prof. Dr. Kanayathu Koshy
10.30 am-10.45 am	Morning Break
10.45 pm-12.45 pm	**RISK REDUCTION-PROJECT PLANNING**: Hands on Activity
12.45 pm-2.00 pm	Lunch
2.00 pm-3.00 pm	Project Planning for Risk Reduction – Hands on Activity
3.00 pm-4.30 pm	AtKisson's Compass Methodology for Interdisciplinary Climate Risk Reduction Project Management- Robert Steele
4.30 pm-5.00 pm	Tea Break
7 January 2016	
	MC, Technical
9.00 am-10.30 am	**CASE STUDY**: Case study 1 (international) – Guided Group Work
10.30 am-10.45 am	Tea Break
10.45 am-12.15 pm	**CASE STUDY**: Case study 2 (national) – Guided Group Work
12.15 pm-1.30 pm	Lunch
1.30 pm-3.30 pm	Climate Risk Reduction Project Summary Presentation
3.30 pm-4.30 pm	Recommendation & Closing
4.30 am-5.00 pm	Tea Break & End of Laboratory

*subject to changes

APPENDIX 2b

Capacity Building Banner (Vietnam)

INTRODUCTION & OBJECTIVE

CGSS together with APN will be conducting a three day 'learning labs' (training workshops) in Lane Xang Hotel, Vientiane, Lao to bring together multiple stakeholders to explore ways to reduce the risk posed by climatic hazards before they are realised as disasters resulting in loss and damage. The central focus of this unique training is personalised instruction and hands-on learning. This training will consider such an approach by factoring sustainable development (SD) considerations in all the four major phases of the DRM loop – prevention, preparedness, response and recovery.

The three-day workshop will address all technical terms involved in the DRM cycle, clearly explain the connection between DRM and SD, train participants on the use of an easy to use risk assessment methodology (R.A.M developed by CGSS), expose them to loss and damage assessment approaches, help prioritise adaptation options, and train them on risk reduction project planning using logical framework analysis & Atkissons methodology to develop and implement interdisciplinary risk reduction projects. The backdrops of discussions will be the Hyogo Framework and the Future We Want.

HOW TO REGISTER ??

Please fill in and return us the prospective forms provided before or on **15 December 2015** via email to our collaborator:

1. Dr. Boudam Sengkhamkhoutlavong:
   boudam_s@yahoo.com

ENQUIRIES??

Should you have further enquiries, feel free to contact us:

Secretariat (Malaysia):

1. Dr Noor Adelyna Mohammed Akib:
   adelyna@usm.my
2. Ms Sharifah Nurlaili Farhana Syed Azhar:
   sh.nurlaili@usm.my

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Website: cgss.usm.my

DISASTER RISK MANAGEMENT FOR SUSTAINABLE DEVELOPMENT (DRM-SD) CAPACITY BUILDING

Title:
Building Capacity for Reducing Loss and Damage Resulting from Slow and Rapid Onset Climatic Extremes through RIsk Reduction and Proactive Adaptation within the BroaderContext of Sustainable Development

Date: 19-21 January 2016
Time: 8.00am-5.30 pm
Venue: Lane Xang Hotel, Vientiane, Lao

SPEAKERS

PROF. DR. KAMARULAZIZI IBRAHIM
Director
Centre for Global Sustainability,
Universiti Sains Malaysia,
Penang, Malaysia

PROF. KANAYATHU CHACKO KOSHY
Professor of Sustainability
Centre for Global Sustainability,
Universiti Sains Malaysia,
Penang, Malaysia

DR. SUZYRMAN SIBLY
Deputy Director
Centre for Global Sustainability,
Universiti Sains Malaysia,
Penang, Malaysia

COLLABORATOR

DR. BOUADAM SENGKAMKHOUTLAVONG
Director
Asia Research Center,
Dongdok Campus,
National University of Laos,
Laos

PROGRAMME

	19 January 2016
	MC, Technical
8.30 am – 9.00 am	Registration
9.00 am – 9.30 am	Opening Remarks– Risk to Resilience
9.30 am- 9.45 am	Training Overview – Prof. Dr. Kanayathu Koshy
9.45 am-10.00 am	Morning Break
10.00 am-10.30 am	Development with a Difference- Prof. Dr. Kamarulazizi Ibrahim
10.30 am-11.15 am	**RISK & DISASTER**: Risk & Disaster Defined- Prof. Dr. Kanayathu Koshy
11.15 am-12.15 pm	**PRE-DISASTER DRM**: Discussion of SE Asian climate, Risk Management – Pre-disaster Stage: Prevention, Preparedness- Dr. Suzyrman Sibly
12.15 pm-1.30 pm	Lunch
1.30 pm-2.30 pm	**THE EVENT**: Dealing with Disaster
2.30 pm-4.00 pm	**POST-DISASTER DRM**: Disaster Management – Post-disaster Stage: Response, Recovery (Backdrop: IPCC AR5 & Associated Assessments, The Hyogo Framework for Action, The Future We Want, & National/Regional Action Plans) - Dr. Suzyrman Sibly
4.00 pm-4.30 pm	Tea Break
	20 January 2016
	MC, Technical
8.30 am-10.30 am	**RISK ASSESSMENT & MANAGEMENT**: Assessment Methodology for Loss & Damage; Risk Reduction through Risk Assessment – Use of R.A.M. (CGSS Risk Assessment Methodology); Project Planning for Climate Risk Reduction: Use of Logical Framework Analysis (LFA)- Prof. Dr. Kanayathu Koshy
10.30 am-10.45 am	Morning Break
10.45 pm-12.45 pm	**RISK REDUCTION-PROJECT PLANNING**: Hands on Activity
12.45 pm-2.00 pm	Lunch
2.00 pm-3.00 pm	Project Planning for Risk Reduction – Hands on Activity
3.00 pm-4.30 pm	Risk Assessment Methodology (R.A.M) for Sustainable Development - Dr. Suzyrman Sibly
4.30 pm-5.00 pm	Tea Break
	21 January 2016
	MC, Technical
9.00 am-10.30 am	**CASE STUDY**: Case study 1 (international) – Guided Group Work
10.30 am-10.45 am	Tea Break
10.45 am-12.15 pm	**CASE STUDY**: Case study 2 (national) – Guided Group Work
12.15 pm-1.30 pm	Lunch
1.30 pm-3.30 pm	Climate Risk Reduction Project Summary Presentation
3.30 pm-4.30 pm	Recommendation & Closing
4.30 am-5.00 pm	Tea Break & End of Laboratory

*subject to changes

APPENDIX 3b
Capacity Building Banner (Laos)

APPENDIX 4a
Capacity Building Brochure (Cambodia)

INTRODUCTION & OBJECTIVE

CGSS together with APN will be conducting a three day 'learning labs' (training workshops) in Freedom Hotel, Siem Reap, Cambodia to bring together multiple stakeholders to explore ways to reduce the risk posed by climatic hazards before they are realised as disasters resulting in loss and damage. The central focus of this unique training is personalised instruction and hands-on learning. This training will consider such an approach by factoring sustainable development (SD) considerations in all the four major phases of the DRM loop – prevention, preparedness, response and recovery.

The three-day workshop will address all technical terms involved in the DRM cycle, clearly explain the connection between DRM and SD, train participants on the use of an easy to use risk assessment methodology (R.A.M developed by CGSS), expose them to loss and damage assessment approaches, help prioritise adaptation options, and train them on risk reduction project planning using logical framework analysis & Atkissons methodology to develop and implement interdisciplinary risk reduction projects. The backdrops of discussions will be the Hyogo Framework and the Future We Want.

HOW TO REGISTER ??

Please fill in and return us the prospective forms provided before or on **15 December 2015** via email to our collaborators:

1. Dr. Chhoeuth Khunleap
   khunleap@mail.ru
2. Mr. Sovanna Seav
   sovannaseav@yahoo.com

ENQUIRIES??

Should you have further enquiries, feel free to contact us:

Secretariat (Malaysia):
1. Dr Noor Adelyna Mohammed Akib:
   adelyna@usm.my
2. Ms Sharifah Nurlaili Farhana Syed Azhar:
   sh.nurlaili@usm.my

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Fax: +604-653 5273
Website: cgss.usm.my

DISASTER RISK MANAGEMENT FOR SUSTAINABLE DEVELOPMENT (DRM-SD) CAPACITY BUILDING

Title:
Building Capacity for Reducing Loss and Damage Resulting from Slow and Rapid Onset Climatic Extremes through RIsk Reduction and Proactive Adaptation within the BroaderContext of Sustainable Development

Date: 2-4 February 2016
Time: 8.00am-5.30 pm
Venue: Freedom Hotel,
Siem Reap,Cambodia

SPEAKERS

PROF. DR. KAMARULAZIZI IBRAHIM
Director
Centre for Global Sustainability,
Universiti Sains Malaysia,
Penang, Malaysia

PROF. KANAYATHU CHACKO KOSHY
Professor of Sustainability
Centre for Global Sustainability,
Universiti Sains Malaysia,
Penang, Malaysia

ROBERT STEELE
Director of Sysatainability Asia
Senior Associate,
AtKisson Group International,
Thailand

COLLABORATOR

DR. CHHOEUTH KHUNLEP
Director
Faculty of Sociology & Community Development,
University of Battambang,
Cambodia

PROGRAMME

2 February 2016	
	MC, Technical
8.30 am – 9.00 am	Registration
9.00 am – 9.30 am	Opening Remarks– Risk to Resilience
9.30 am- 9.45 am	Training Overview – Prof. Dr. Kanayathu Koshy
9.45 am-10.00 am	Morning Break
10.00 am-10.30 am	Development with a Difference- Prof. Dr. Kamarulazizi Ibrahim
10.30 am-11.15 am	**RISK & DISASTER**: Risk & Disaster Defined- Prof. Dr Kanayathu Koshy
11.15 am-12.15 pm	**PRE-DISASTER DRM**: Discussion of SE Asian climate, Risk Management – Pre-disaster Stage: Prevention, Preparedness- Robert Steele
12.15 pm-1.30 pm	Lunch
1.30 pm-2.30 pm	**THE EVENT**: Dealing with Disaster
2.30 pm-4.00 pm	**POST-DISASTER DRM**: Disaster Management – Post-disaster Stage: Response, Recovery (Backdrop: IPCC AR5 & Associated Assessments, The Hyogo Framework for Action, The Future We Want, & National/Regional Action Plans) - Robert Steele
4.00 pm-4.30 pm	Tea Break
3 February 2016	
	MC, Technical
8.30 am-10.30 am	**RISK ASSESSMENT & MANAGEMENT**: Assessment Methodology for Loss & Damage; Risk Reduction through Risk Assessment – Use of R.A.M. (CGSS Risk Assessment Methodology); Project Planning for Climate Risk Reduction: Use of Logical Framework Analysis (LFA)- Prof. Dr. Kanayathu Koshy
10.30 am-10.45 am	Morning Break
10.45 pm-12.45 pm	**RISK REDUCTION-PROJECT PLANNING**: Hands on Activity
12.45 pm-2.00 pm	Lunch
2.00 pm-3.00 pm	Project Planning for Risk Reduction – Hands on Activity
3.00 pm-4.30 pm	AtKisson's Compass Methodology for Interdisciplinary Climate Risk Reduction Project Management- Robert Steele
4.30 pm-5.00 pm	Tea Break
4 February 2016	
	MC, Technical
9.00 am-10.30 am	**CASE STUDY**: Case study 1 (international) – Guided Group Work
10.30 am-10.45 am	Tea Break
10.45 am-12.15 pm	**CASE STUDY**: Case study 2 (national) – Guided Group Work
12.15 pm-1.30 pm	Lunch
1.30 pm-3.30 pm	Climate Risk Reduction Project Summary Presentation
3.30 pm-4.30 pm	Recommendation & Closing
4.30 am-5.00 pm	Tea Break & End of Laboratory

*subject to changes

APPENDIX 4b
Capacity Building Banner (Cambodia)

APPENDIX 5
EOI Form

EXPRESSION OF INTEREST FORM (REGISTRATION FORM)

DRM-SD Invitation Secretariat
Centre for Global Sustainability Studies
Level 5, Hamzah Sendut Library
Universiti Sains Malaysia
11800 Minden
Pulau Pinang, Malaysia
Tel: +604-653 5428/5426/5424
Fax: +604-653 5273
Email: sh.nurlaili@usm.my / cgss@usm.my

We ***accept/do not accept** to participate in DRM-SD Capacity Building.
(*Please cancel where applicable)
Please find the details of the organisation and contact person below:

Name	
Organisation Address	
Telephone No.	
Fax No.	
Email address	
Academic Qualification	
Professional experience	
Reason for participation	

"**Your perception of Disaster Risk Management and the role of Government & Civil society"**
(Kindly write down your perception below in 300 words using font Calibre 12 or Times New Roman 12)

APPENDIX 6
Workshop Evaluation Form

Disaster Risk Management for Sustainable Development (DRM-SD) Capacity Building

Training Location: _____
Participant Name (optional): _____
Date: _____
Job Title: _____
Years in present position?

<5	5-10	11-20	>20

INSTRUCTIONS
Please **circle** your response to the items. Rate aspects of the workshop on a 1 to 5
UNDERSTANDING OF DRM-SD

	Very low	Low	Medium	High	Very high
1. Before the programme	1	2	3	4	5
2. After the programme	1	2	3	4	5

WORKSHOP CONTENT (Circle your response to each item.)

	Strongly disagree	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
WORKSHOP CONTENT (Circle your response to each item)					
1. I was well informed about the objectives of this workshop.	1	2	3	4	5
2. This workshop lived up to my expectations.	1	2	3	4	5
3. The content is relevant to my job.	1	2	3	4	5
WORKSHOP DESIGN (Circle your response to each item)					
4. The workshop objectives were clear to me.	1	2	3	4	5
5. The workshop activities stimulated my learning.	1	2	3	4	5
6. The activities in this workshop gave me sufficient practice and feedback.	1	2	3	4	5
7. The difficulty level of this workshop was appropriate.	1	2	3	4	5
8. The pace of this workshop was appropriate.	1	2	3	4	5
WORKSHOP INSTRUCTORS (FACILITATORS) (Circle your response to each item)					
9. The instructor was well prepared.	1	2	3	4	5
10. The instructor was helpful.	1	2	3	4	5

WORKSHOP RESULTS (Circle your response to each item.)

11. I accomplished the objectives of this workshop.	1	2	3	4	5
12. I will be able to use what I learned in this workshop.	1	2	3	4	5
13. The workshop was a good way for me to learn this content.	1	2	3	4	5

YOUR PERSONAL ASSESSMENT	
14. What other improvements would you recommend in this workshop?	

Thank you for your cooperation ☺

Secretariat of DRM-SD Capacity Building
Centre for Global Sustainability Studies (CGSS)
Universiti Sains Malaysia, 11800, Penang, Malaysia
Date: 5/12/2015

APPENDIX 7
List of Resource Person and Secretariat

Item	MALAYSIA 3,4,5 December 2014	VIETNAM 5,6,7 January 2016	LAOS 19,20,21 January 2016	CAMBODIA 2,3,4 February 2016
IN COUNTRY COLLABORATOR	Prof Kamarulazizi Ibrahim	Dr Pham Thi Hoa	Dr Bouadam Sengkhamkhoutlavong	Dr Chhoeuth Khunleap
GUEST RESOURCE PERSON-THAILAND (1)	ROBERT DODDRIDGE STEELE JR	ROBERT DODDRIDGE STEELE JR	N/A	Robert Doddridge Steele Jr
RESOURCE PERSON-MALAYSIA (4)	Prof Kanayathu Chacko Koshy	Prof Kamarulazizi Ibrahim	Prof Kamarulazizi Ibrahim	Prof Kamarulazizi Ibrahim
	Dr Suzyrman Sibly	Prof Kanayathu Chacko Koshy	Prof Kanayathu Chacko Koshy	Prof Kanayathu Chacko Koshy
	Dr Sayuti Hassan	Dr Ng Theam Foo	Dr Suzyrman Sibly	Dr Noor Adelyna Mohammed Akib
	Dr Ng Theam Foo	Dr Noor Adelyna Mohammed Akib	Dr Radieah Mohd. Nor	Dr Radieah Mohd. Nor
	Dr Radieah Mohd Nor			
	Mdm Normaliza Abdul Manaf			
SECRETARIAT (2)	Mr Ahmad Firdaus Ahmad Shabudin	Mdm Marlinah Muslim	Ms Sharifah Nurlaili Farhana Syed Azhar	Mr Ahmad Firdaus Ahmad Shabudin
	Ms Sharifah Nurlaili Farhana Syed Azhar	Mr Ahmad Firdaus Ahmad Shabudin	Ms Siti Fairuz Mohd Radzi	Ms Sharifah Nurlaili Farhana Syed Azhar

All funded by APN

APPENDIX 8
List of Participants

Venue: Sabah Saigon Hotel, Ho Chi Minh City, Vietnam (5, 6, 7 January 2016)
**All funded by APN*

No.	Name	Organisation Address	Telephone No.	Fax No.	Email
1	Dr. Pham Thi Hoa(Collaborator)	International University ,Vietnam National University-HCMC	(84)-8-37244270 Ext: 3879	(84)-8-37244271	pthoa@hcmiu.edu.vn
2	MSc. Nguyen Hong Lan	International University, Vietnam National University-HCMC	(84)-8-37244270 Ext: 3202	(84)-8-37244271	nhlan@hcmiu.edu.vn
3	MSc. Bui Xuan Anh Dao	International University, Vietnam National University-HCMC	(84)-8-37244270 Ext: 3202	(84)-8-37244271	bxadao@hcmiu.edu.vn
4	MSc. Hoang Thi Phuong Chi	University of Science - Ho Chi Minh City	(84)-908519385	(84)-8-38304379	htpchi@hcmus.edu.vn
5	Ms. Tran Thi Phuong Thao	Management Board of Cham Island MPA - Quang Nam Province	(84)-905550019	(84)-510-3911067	tranthao235@gmail.com
6	Ms. Duong Ai My	Flood and Storm control - Irrigation Department of Thua Thien Hue Province	(84)-54-3822519/ 0914452077	(84)-54-3824480	duongaimy.dc@gmail.com
7	Ms. Ho Thi Ngoc Huyen	Committee for Disaster Prevention and Search - Rescue - Tien Giang	(84)-1267276815	(84)-73-3855338	ngochuyenk08@gmail.com

		Province			
8	MSc. Pham Thi Diem Phuong	University of Natural Resources and Environment- Ho Chi Minh City	(84)-912683246	(84)-8-38449474	phuongpham1910@gmail.com
9	BA. Ha Thi Yen	Dong Nai Biopsprere Reverse - Dong Nai Province	(84)-164 964 1118	(84)-613 961 484	canary2103@gmail.com
10	BA. Le Thi Kim Oanh	Dong Nai Culture and Nature Reverse - Dong Nai Province	(84)-1682851138	(84)-613 960 157	leoanhkbt@gmail.com
11	MSc. Dinh Thi Kim Phuong	University of Technology - Ho Chi Minh City	(84)-1666331940	(84)-8-38653823	phuongdcbk@gmail.com
12	MEng. Dinh Diep Anh Tuan	DRAGON Institute - Mekong - Can Tho University	(84)-908909063	(84)-7103730392	ddatuan@ctu.edu.vn
13	MSc. Huynh Quoc Toan	Department of Agriculture and Rural Development - Ho Chi Minh City	(84)-908324954	(84)-38232742	toanbdkh@gmail.com
14	Mr. Ngo Nguyen Phuoc	Committee for Disaster Prevention and Search - Rescue - Bac Lieu Province	(84)-902991233	(84)-781-3823317	phuoc307@yahoo.com.vn
15	Mr. Nguyen Thanh Tuan	Department of Agriculture and Rural Development - Khanh Hoa Province	(84)-989047428	(84)-58-3523648	pclbkh.trucban@gmail.com

16	MEng.Tong Dinh Quyet	Southern Institure Of Water Resources Research - Ho Chi Minh City	(84)-977784379	(84)-8-9235028	tongquyetsiwrr@gmail.com
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18	Dr. Nguyen Thanh Phong	Hoa Sen University	(84)-939370514	(84)-839257851	phong.nguyenthanh@hoasen.edu.vn
19	Mr. Nguyen Long Hoai	Ca Mau Sub - Department Water Resources, Ca Mau Province	(84) -780-3830800	(84)-7803837103	hoaicctlcm@gmail.com
20	Mr. Le Xuan Da	Con Dao National Park _ Ba Ria Vung Tau Province	(84)-917693039	No	xuanda@condaopark.com.vn

Venue: Lane-Xang Hotel, Vientiane, Lao PDR (19,20, 21 January 2016)

**All funded by APN*

No	Name	Organisation Address	Telephone No	Fax No	Email
1	Assoc. Prof. Lammai Phiphalhavong	National University Of Laos	222 22147	856-21-770381	
2	Assoc. Prof. Dr. Bouadam Sengkhamkhoutlavong	National University Of Laos	2243 0246	856-21-770381	bouadam_s@yahoo.com
3	Lt. Col Soulisack Simmanotay	Ministry of Public Security	2221 1190		soulisack_s@yahoo.co.uk
4	Daovilay Banchongphanith,	Ministry of Public Health	5590 9150	856-21-214003	daovilay@yahoo.com
5	Khaykeo Keokhamphui	Fuclty of Water Resources NUOL	9663 8443		Keokhamphui07@gmail.com
6	Oulavanh Sinsamphanh	Fuclty of Enviromental Scienes NUOL	5425 8679	856-21-770561	noi_nd@hotmail.com
7	Mr. Yangpao Payaveu	Lao Youth Union attend with			

8	Mr. Phonethip Thammalath	Ministry of Public Work and Transport	5540 3333		ppthip@yahoo.com
9	Phoukham Manoloth	Cabinet Office of MOE	5563 3309		phoukham_m@hotmail.com
10	Mr. Bounyong Phommachack	Division of Disaster Preparedness	9895 0641		yong_phom@yahoo.com
11	Mr. Saychai Lithchana	Ministry of Finance, Lao PDR	2223 9598	856-21-415928	Lsaychai@gmail.com
12	Daovy Sinthavong	University of health Sciences			
13	Phouvanh Noysinnaluk	National University Of Laos			
14	Khem Phet Soneniti	Ministry of Natural Resources and environment			
15	Vimala Khounthalangsy	Ministry of Labor and Social Welfare			
16	Bounneng Southtichack	National University Of Laos			
17	Bounlieng Phettarnoung	Ministry of National Defense			
18	Phoukham Southichack	Office of the Government			
19	Valyna Bounsavath	Ministry of Foreingn Affairs			
20	Mountha Siphavong	Asia Research Center	9977 6727	856-21-770381	m.siphavong@nuol.edu.la

Venue: Freedom Hotel, Siem Reap, Cambodia (2,3, 4 February 2016)

**All funded by APN*

No.	Name	Organisation Address	Telephone No.	Fax No.	Email
1	Dr. Chhoeuth Khunleap(Collaborator)	University of Batambong (Royal of Cambodia)	012-268-684		khunleap@mail.ru
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3	But Bunheng	University of South East Asia	855 636 999 984		
4	Mr Seng Chhayvuth	University of Batambong (Royal of Cambodia)	012-573-573		
5	Mr Robert Coward	Buddhism for Development			viminalispl@gmail.com

6	Un Chan Than	Buddhism for Development			
7	Chhen Channy	University of South East Asia	855 636 999 984		
8	Dr Yom Try	Meanchay University	017-589-494		
9	Mr Saing Sophath	Meanchay University			
10	Dr Mean Sothy	University of South East Asia	855 636 999 984 (Mobile: 855 11 571 184)		sothy_mean1980@hotmail.com
11	Mr Yan Pich	International University			
12	Mr Chan Chaiya	International University			
13	Chheoun Vanarith	University of South East Asia	855 636 999 984		
14	Em Nou	University of South East Asia	855 636 999 984		
15	hoeurm Chauag	University of South East Asia	855 636 999 984		
16	Hovy Malin	University of South East Asia	855 636 999 984		
17	Neang Sopheak	Tbambam Province			
18	Sarm Mlis	PQR-BTB			
19	Som Seng	University of South East Asia	855 636 999 984		
20	Va Seav Mey	University of South East Asia	855 636 999 984		

Venue: Concorde Inn KLIA Hotel, Kuala Lumpur, Malaysia (3,4,5 December 2014)

	Committee Members	**Instituition/Department**	**Remarks**	**Budget Source**
1	Robert Doddridge Steele Jr	AtKisson Group International, Thailand	Guest Resource Person	APN Funding
2	Dr. Bouadam Sengkhamkhoutlavong	National University of Laos (Laos)	Collaborators	APN Funding
3	Dr. Chhoeuth Khunleap	University of Batambong (Cambodia)	Collaborators	APN Funding
4	Dr. Pham Thi Hoa	Vietnam National University (Vietnam)	Collaborators	APN Funding
5	Professor Dr Kamarulazizi Ibrahim (Project Proponent)	Center for Global Sustainability Studies (CGSS), Universiti Sains Malaysia	Resource Person	APN Funding

6	Prof Kanayathu Koshy	Center for Global Sustainability Studies (CGSS), Universiti Sains Malaysia	Resource Person	APN Funding
7	Dr Suzyrman Sibly	Center for Global Sustainability Studies (CGSS), Universiti Sains Malaysia	Resource Person	APN Funding
8	Dr Sayuti Hassan	Center for Global Sustainability Studies (CGSS), Universiti Sains Malaysia	Resource Person	APN Funding
9	Dr Ng Theam Foo	Center for Global Sustainability Studies (CGSS), Universiti Sains Malaysia	Resource Person	APN Funding
10	Dr Radieah Mohd Nor	Center for Global Sustainability Studies (CGSS), Universiti Sains Malaysia	Resource Person	APN Funding
11	Professor Dr. Joy Jacqueline Pereira	Southeast Asia Disaster Prevention Research (SEADPRI-UKM)	Resource Person	APN Funding
12	En Ahmad Firdaus Ahmad Shabudin	Center for Global Sustainability Studies (CGSS), Universiti Sains Malaysia	Secretariat	APN Funding
13	Cik Sharifah Nurlaili Farhana Syed Azhar	Center for Global Sustainability Studies (CGSS), Universiti Sains Malaysia	Secretariat	APN Funding
14	Mahfuzah Othman	Center for Global Sustainability Studies (CGSS), Universiti Sains Malaysia	Secretariat	CGSS own Initiative
15	Mohd Hafiz Ali Mohd Anuar	Center for Global Sustainability Studies (CGSS), Universiti Sains Malaysia	Secretariat	CGSS own Initiative
16	Marlinah Muslim	Center for Global Sustainability Studies (CGSS), Universiti Sains Malaysia	Secretariat	CGSS own Initiative

	Instituition/Department	**Participant's Name**	**Budget Source**
1	Disaster Risk Nexus (DRN)	Assoc. Prof. Dr. Taksiah A. Majid	APN Funding
2	Disaster Risk Nexus (DRN)	Dr Fadzli Mohamed Nazri	APN Funding
3	Disaster Risk Nexus (DRN)	Dr. Mohd Ashraf Mohamad Ismail	APN Funding
4	Kindness Non-Government Agency	Muhammad bin Kamarulazizi	APN Funding
5	Malaysia National Security Council Melaka	Muhammad Fauzie Bin Ismail	APN Funding
6	Malaysia National Security Council (Johor)	Norakmal Bin Abdul Hamid	APN Funding

7	Malaysia National Security Council Kedah	Marwani binti Omar	APN Funding
8	Malaysia National Security Council Kedah	Mejar Mohd Radzi bin Abd Hamid	APN Funding
9	Malaysia National Security Council Melaka	Major Jafri bin Mohamed	APN Funding
10	Malaysia National Security Council Negeri Sembilan	Tajul Ariffin B. Muhamad	APN Funding
11	Malaysia National Security Council Negeri Sembilan	Major Ghazali Bin Abdullah	APN Funding
12	Malaysia National Security Council Pahang	Mohd Zairasyahli bin Zakaria	APN Funding
13	Malaysia National Security Council Perak	Jasimi Bin Zeniol Abdin	APN Funding
14	Malaysia National Security Council Perlis	Hakimi bin Mohd Johar	APN Funding
15	Malaysia National Security Council Perlis	ASP Razak bin Jusof	APN Funding
16	Malaysia National Security Council Selangor	Zamakshari bin Hanifah	APN Funding
17	Malaysia National Security Council Selangor	Major Harun Radzuan	APN Funding
18	Malaysian Fire and Rescue Department	Khir Amir bin Ahmad	APN Funding
19	Malaysian Fire and Rescue Department	M.Fatta Bin M.Amin	APN Funding
20	MERCY Non-Government Agency	Syakirah Nik Yahya	APN Funding
25	National Defence University of Malaysia (UPNM)	Lt. Kol. Ungku Azly bin Ungku Zahar	APN Funding
26	National Defence University of Malaysia (UPNM)	Ahmad Farid bin Mohd Azmi	APN Funding
27	National Defence University of Malaysia (UPNM)	Mohd Fairuz bin Abdul Wahab	APN Funding
28	National Defence University of Malaysia (UPNM)	Ahmad Azan bin Ridzuan	APN Funding
21	School of Civil Engineering, Universiti Sains Malaysia	Dzulkarnaen Ismail	APN Funding
22	School of Industrial Technology, Universiti Sains Malaysia (USM)	Dr. Muhammad Izzudin Syakir	APN Funding
23	Universiti Malaya (UM)	Qhairol Nizam	APN Funding
24	Universiti Malaysia Pahang (UMP)	Mohamad Ezuan Bin Abdul Jalil	APN Funding
29	Universiti Sains Malaysia (USM)	Normaliza Abdul Manaf	APN Funding
30	Universiti Sains Malaysia (USM)	Mohamad Azlan Ashaari	APN Funding
31	Universiti Sains Malaysia (USM)	Professor Dr Fauziah Ahmad	APN Funding
32	Universiti Sains Malaysia (USM)	Assoc. Prof. Dr. Habibah Hj Lateh	APN Funding

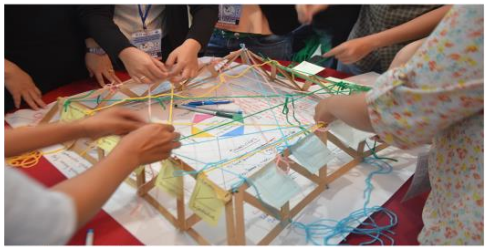
33	Universiti Teknologi MARA (UITM)-Shah Alam	Dr Hayati Mohd Dahan	APN Funding
34	Universiti Teknologi MARA (UITM)-Shah Alam	Suraya Abdul Majid	APN Funding
35	Universiti Tun Hussein Onn Malaysia (UTHM)	Prof. Dr Ahmad Tarmizi bin Abdul Karim	APN Funding
36	University of Batambong (Cambodia)	Seav Sovanna	CGSS own Initiative
37	Vietnam National University (Vietnam)	Nguyen Thi Kim Tuyen	CGSS own Initiative
38	AIMST Universiti	Prof. Dr. Ravichandran Manickam	CGSS own Initiative
39	World Wild Federation (WWF)	Thiagarajan Nadeson	CGSS own Initiative
40	Corporate Responsibilty and Ethics Association for Thai Enterprise (CREATE)	Mavro Jr. Alexander Pericles	CGSS own Initiative
41	Far Eastern Universiti	Dr. Myrna P. Quinto	CGSS own Initiative
42	Universiti Kebangsaan Malaysia (UKM)	Assoc. Prof. Dr. Sharifah Zarina Syed Zakaria	CGSS own Initiative
43	Universiti Malaysia Sabah (UMS)	Dr. Awangku Hassanal Bahar bin Pengiran Bagul	CGSS own Initiative
44	Universiti Sains Islam Malaysia (USIM)	Dr Mohamad Yazis Ali Basah	CGSS own Initiative

APPENDIX 9

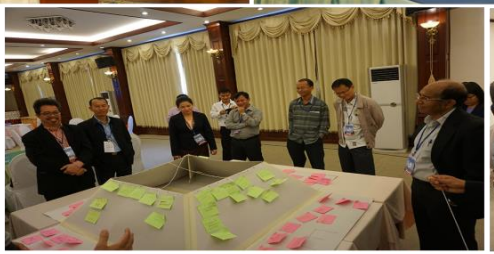
Capacity Building Photo in Malaysia

APPENDIX 10

Capacity Building Photo in Vietnam



APPENDIX 11
Capacity Building Photo in Laos



APPENDIX 12

Capacity Building Photo in Cambodia

APPENDIX 13
List of Young Scientist

Full name: Noor Adelyna Mohammed Akib
Involvement in project activity : Facilitator and resource person
Institution: Centre for Global Sustainability Studies (CGSS),
Universiti Sains Malaysia, Penang, Malaysia
Email add: adelyna@usm.my

"I was involved as a facilitator in the workshop of this project. I have learned, although the magnitude and the risk of disasters in different countries is not the same, the outcome usually brought an adverse impact to the community, be it socially, economically and environmentally. Each of us will deal differently towards a disaster, but with the knowledge gained and exchanged during the training, we can minimize the impact of disaster by building resilience in ourself and the community."

Full name: Theam Foo Ng
Involvement in project activity : Facilitator and resource person
Institution: Centre for Global Sustainability Studies (CGSS),
Universiti Sains Malaysia, Penang, Malaysia
Email add: tfng@usm.my

"These three days programme started with the definition of risk, disaster, development with a difference, pre and post DRM, and the next day with the introduction of AtKisson's Compass Methodology and Logical Framework Analysis (LFA), and the final day with case study and world café group discussion & presentation. In overall, the speakers shared a lot of their experiences about DRM-SD which are the added value to develop the capacity. More knowledge are gained with the hand-on activities using AtKisson's Compass and LFA. Exchanging ideas and opinions with participants are always brighten up the minds during the world café session."

Full name: Radieah Mohd Nor
Involvement in project activity : Facilitator and resource person
Institution: Centre for Global Sustainability Studies (CGSS),
Universiti Sains Malaysia, Penang, Malaysia
Email add: radieah@usm.my

"APN indirectly gives space to young scientists to engage in giving ideas to solve problems, especially in disaster risk management areas. Awareness of the importance of proper disaster risk management can nurture young scientists to disseminate their research and views at international level. This exchange of ideas indirectly provides chances for young scientists to expose themselves to the global stage. Disclosure provided not only involves the circumstances of each country but the exchange of ideas from other countrieswhich indirectly give new exposure to young scientists. "

APPENDIX 14
Glossary of Term

Word	Meaning
Disaster	a serious disruption of the functioning of society, causing widespread human, material or environmental losses which exceed the ability of affected society to cope using only its own resources
Risk	the probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted or environment damaged) resulting from interactions between natural or human induced hazards and vulnerable conditions
Hazard	a potentially damaging physical event, phenomenon, or human activity that may cause the loss of life or injury, property damage, social and economic disruption, or environmental degradation.
Vulnerability	the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.
Capacity	a combination of all strengths and resources available within a community or organization that can reduce the level of risk, or the effects of a disaster

APPENDIX 15
PowerPoint slide presentations (all countries)

DEVELOPMENT WITH A DIFFERENCE

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THE RICH AND THE POOR

Figure 1.1 The Rich and the Poor

The countries in black contain 15% of the world population but produce 50% of world gross domestic product (GDP). The countries in dark gray contain 50% of the world population but produce less than 15% of world GDP.

Source: William Easterly and Ross Levine, "It's Not Factor Accumulation: Stylized Facts and Growth Models," *World Bank Economic Review*, V. 15, No. 2, 2001, pp. 177–219. Reprinted with permission.

Principles and Concepts: Economic Development

- What is the real meaning of development?
- How can one apply economic concepts and theories to gain a better understanding of development process?
- Why do some countries develop and others remain poor?
- What are the sources of development and how do we measure development?

Principles and Concepts: Economic Development

- Does historical record of development help us understand it better?
- What are the most influential theories of development and are they compatible?
- Is development process of developing nations independent or interdependent with that of developed nations?

Definitions of Development

- For almost every writer a different definition of development exists
- Important to first distinguish between:
  - Development as a state or condition- static
  - Development as a process or course of change- dynamic

Definition of Economic Development: 1950s

- In economic terms, development is the capacity of a nation to generate and sustain an annual increase in its GNP of 5% or more.
- Traditional economic measures:
  - **GDP**: is the market value of all final goods and services produced within a country in a given period of time
  - **GNP**: is the market value of all final goods and services produced by permanent residents of a country in a given period of time

GNP= GDP+ net factor income from abroad

Definition of Economic Development:

- Common alternative index is the rate of growth of income per capita or per capita GNP
  - **Per capita GNP**: is the per-head value of final goods and services produced by permanent residents of a country in a given period of time. It is converted to USD using the current exchange rate.
  - **PPP Measure**: the number of units of a country's currency required to purchase the same of basket of goods and services in the local market that a US $1 would buy in the USA. Under PPP, exchange rates should adjust to equalize the price of a common basket of goods and services across countries. Penn World Tables rank countries using the PPP method.

The hamburger standard

	Big Mac prices in local currency	Big Mac prices in dollars	Implied PPP* of the dollar	Actual dollar exchange rate 23/04/02	Under(–)/over(+) valuation against the dollar, %
United States†	$2.49	2.49		–	–
Argentina	Peso 2.50	0.78	1.00	3.13	-68
Australia	A$3.00	1.62	1.20	1.86	-35
Brazil	*Real* 3.60	1.55	1.45	2.34	-38
Britain	£1.99	2.88	1.251	1.451	+16
Canada	C$3.33	2.12	1.34	1.57	-15
Chile	Peso 1,400	2.16	562	655	-14
China	Yuan 10.50	1.27	4.22	8.28	-49
Czech Rep	Koruna 56.28	1.66	22.6	34.0	-33
Denmark	DKr24.75	2.96	9.94	8.38	+19
Euro area	€2.67	2.37	0.933	0.899	-5
Hong Kong	HK$11.20	1.40	4.50	7.80	-42
Hungary	Forint 459	1.69	184	272	-32
Indonesia	Rupiah 16,000	1.71	6,426	9,430	-32
Israel	Shekel 12.00	2.51	4.82	4.79	+1
Japan	¥262	2.01	105	130	-19
Malaysia	M$5.04	1.33	2.02	3.8	-47
Mexico	Peso 21.90	2.37	8.80	9.28	-5
New Zealand	NZ$3.95	1.77	1.59	2.24	-29
Peru	New Sol 8.50	2.48	3.41	3.43	-1
Philippines	Peso 65.00	1.28	26.1	51.0	-49
Poland	Zloty 5.90	1.46	2.37	4.04	-41
Russia	Rouble 39.00	1.25	15.7	31.2	-50
Singapore	S$3.30	1.81	1.33	1.82	-27
South Africa	Rand 9.70	0.87	3.90	10.9	-64
South Korea	Won 3,100	2.36	1,245	1,304	-5
Sweden	SKr26.00	2.52	10.4	10.3	+1
Switzerland	SFr6.30	3.81	2.53	1.66	+53
Taiwan	NT$70.00	2.01	28.1	34.8	-19
Thailand	Baht 55.00	1.27	22.1	43.3	-49
Turkey	Lira 4,000,000	3.09	1,606,426	1,324,500	+21
Venezuela	Bolivar 2,500	2.92	1,004	857	+17

Sources: McDonald's; *The Economist*

*Purchasing power parity: local price divided by price in United States †Average of New York, Chicago, San Francisco and Atlanta ‡Dollars per pound §Dollars per euro

Comparison of GNP

	GNP Per Capita (US $)	
Country	Exchange rate	PPP
UK	24,500	23,550
USA	34,260	34,260
Zimbabwe	480	2,590
Bangladesh	380	1,650
China	840	3,940
India	460	2,390
Sri Lanka	870	3,470

Definition of Economic Development: 1970s

- Dethronement of GNP in the 1970s and increasing emphasis on "redistribution from growth"
- Increasing emphasis on non-economic social indicators
- Economic development consists of the reduction or elimination of **poverty**, **inequality** and **unemployment** within the context of a growing economy.

Human goals of economic development : Sen's "Capabilities" Approach: 1985

- Economic growth is not an end in itself and has to enhance the lives people lead and the freedoms that they enjoy
- **Capability to function** is what matters for status as a poor/non-poor person and it goes beyond availability of commodities
- Capabilities: "freedom that a person has in terms of the choice of his functionings,…"
- **Functionings** is what a person does with commodities of given characteristics that they possess/control

- The concept of functionings reflects the various things a person may value doing
- Therefore, development cannot focus only on income, but we also need to look at other factors impacting a person's capability to function.
- Amartya Sen traced five sources of disparity between real incomes and actual advantages:
  - Personal heterogeneities
  - Environmental diversities
  - Social climate variations
  - Differences in relational perspectives
  - Distribution within family

Definition of Economic Development: 1990s

- World Bank in its 1991 WDR asserted that the "challenge of development is to improve the quality of life."
- The improved QOL involves higher incomes, better education, higher standards of health and nutrition, less poverty, a cleaner environment, more equality of opportunities, greater individual freedom, and a richer cultural life.

- Economic factors
  - capital
  - Labor
  - Natural resources
  - technology
  - established markets (labour, financial, goods)
- Non-economic factors (institutional, social, values)
  - attitudes toward life and work
  - public and private structures
  - cultural traditions
  - systems of land tenure, property rights
  - integrity of government agencies

Meaning of Development-Todaro

- Development is not purely an economic phenomenon but rather a multi-dimensional process involving reorganization and reorientation of entire economic **AND** social system
- Development is process of improving the quality of all human lives with three equally important aspects. These are:

Todaro's Three Objectives of Development

- 1. Raising peoples' living levels, i.e. incomes and consumption, levels of food, medical services, education through relevant growth processes
- 2. Creating conditions conducive to the growth of peoples' self-esteem through the establishment of social, political and economic systems and institutions which promote human dignity and respect
- 3. Increasing peoples' freedom to choose by enlarging the range of their choice variables, e.g. varieties of goods and services

Alternative Interpretations of Development

- **Development as Modernization-** emphasizes process of social change which is required to produce economic advancement; examines changes in social, psychological and political processes;
- How to develop wealth oriented behavior and values in individuals; profit seeking rather than subsistence and self sufficiency
- Shift from commodity to human approach with investment in education and skill training

Alternative Interpretations of Development

- **Development as Distributive Justice-** view development as improving basic needs
- Interest in social justice which has raised three issues:
- 1.Nature of goods and services provided by governments
- 2. Matter of access of these public goods to different social classes
- 3. How burden of development can be shared among these classes
- Target groups include small farmers, landless, urban under-employed and unemployed

Definition of Economic Development:

- Conclusion:
  "Development is a multi dimensional process involving changes in social structures, popular attitudes, and national institutions, as well as the acceleration of economic growth, the reduction of inequality, and the eradication of poverty." (Todaro and Smith)

- Development is both a physical reality and a state of mind for attaining a better life.
- Three basic core values as a practical guideline for understanding development
  - Sustenance
  - Self-esteem
  - Freedom
- Specific components of better life vary from time to time and from society to society.
- Three Objectives of Development:
  - Increase availability and distribution of basic goods
  - Raise levels of living
  - Expand range of social and economic choices available to individuals

Human Development Index

- Initiated in 1990 and undertaken by UNDP in its annual series of HDRs.
- HDI is based on 3 goals:
  - Longevity
  - Knowledge
  - Standard of living
- HDI= 1/3(Income index)+1/3(Life expectancy index)+1/3(education index)

Human Development Index

- Ranks 175 countries into 3 groups
  - Low human development = 0.00-0.099
  - Medium human development = 0.5-0.799
  - High human development = 0.80-1.00

Country	HDI	GDP rank-HDI rank
Low HD: Tanzania	0.436	+21
Medium HD: Turkey	0.735	-21
High HD: Canada	0.936	+3

Sustainable Development vs. Sustainability

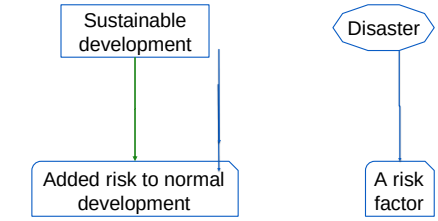
- Sustainability is the capacity to endure. For humans it is the potential for long-term health and wellbeing, which in turn depends on the wellbeing of the natural world and the responsible use of natural resources.
- Sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." There are many definitions of sustainable development, but this is the one that is most frequently used. It contains two key concepts:
  - the concept of needs, in particular the essential needs of the world's poor, to which…priority should be given; and
  - the idea of limitations imposed by the state of technology and social organisation on the environment's ability to meet present and future needs.

SUSTAINABLE DEVELOPMENT

Sustainable development (SD) or sustainability is the imperative of the 21st century

1. Sustainability - Protecting our planet, lifting people out of poverty and advancing economic growth are interconnected aspects of the same principle
2. The current developmental paradigm that puts considerable pressure on natural resources, resulting in environmental degradation, change climate and widening of the gap between the poor and rich further, is simply not sustainable.
3. Developed countries will continue efforts to sustain their living standards and maintain economic growth, developing countries are on a fast track to become 'developed'
4. Pursue a new way of building resilience to avoid undesired outcomes in the future through reducing current risks posed by human actions that are changing significantly Earth and its environment.
5. Define risk more inclusively to cover both 'rapid onset–high impact' events such as floods and heat waves, and 'slow onset–high impact' events such as climate change and poverty, which are sustainability challenges.

COMPARISON



Approach

1. Disaster risk management (DRM) will be used to show the difference between the traditional approaches used in the past/present and the new model we propose to support SD globally.
2. In the new model we integrate the usual four components of DRM– prevention, preparedness, response and recovery – to meet the needs of SD.
3. In most developing countries, conventional disaster management is limited to event-based reactive engagements, while proactive disaster management calls for stronger preparedness and response measures

neo-DRM

The 'neo-DRM' will strengthen the prevention and recovery components of DRM, including the cost-effective and win-win measures.

This could involve a host of country- specific activities such as

1. community-based resilience building towards disasters,
2. efficiency improvements in energy and water use, fisheries and land use through training and capacity enhancement,
3. process-based approaches to mitigation and risk sharing,
4. Technology-assisted early warning systems, better public transport, improved hydro-met services, smart policies and innovative implementation through public–private partnerships for multiple pilots and scaled-up projects.
5. Integrated SD policies for development planning and protection of coastal cities, flood plains, estuaries, forests and national biodiversity.

In the absence of anticipatory action, these risks will get harsher as the population grows, the world warms and global environmental changes accelerate. Any and all proactive measures to ameliorate the adverse impacts of these events will help greatly in managing their potential risks towards a more sustainable future.

neo-DRM-SD

Combining mitigation, adaptation and readiness as pre-disaster risk-reduction measures, and post-disaster measures such as relief, restoration and overall rehabilitation.

Achieving the desired sustainability objectives by factoring sustainable development (SD) considerations in all the four major phases of the DRM loop – prevention, preparedness, response and recovery.

The overall risk (in the absence of any risk-reduction measures) will be progressively reduced to a level where any resulting disaster from the residual risk will be considered manageable

neo-DRM-SD Model

The key to successful implementation of the model is the ability to progressively reduce risk through mitigation (R1), adaptation (R2) and readiness (R3) measures carried out 'before the event' under prevention and preparedness. The residual risk is shown by R4 which when realized as disaster (D1) is presumably small and manageable. The post disaster activities relief (D2), restoration (D3) and sustainable development (D4) will enhance resilience (reduced disaster) under response and recovery phases.

developing country

A developing country on fast-track towards developed status generally will :

- adopt sustainable technologies (Green technology) quickly and across the nation,
- strive to eradicate abject poverty, while simultaneously accelerate activities to alleviate relative poverty, i.e. 'hardship alleviation',
- preserve the environmental resource base and life-supporting mechanisms (the natural capital) through risk assessment and rehabilitation of hotspots,
- ensure food, water, energy and human security through good governance,
- public–private partnership, strategic environmental assessment and setting SDGs and promote education for SD and sustainability science for sustained economic growth, social cohesion and overall well-being of people

Thus moving from an event based to a process based intervention strategy for disaster risk reduction/management (DRR/M), in which case, the vulnerable communities will become active participants rather than remaining as passive victims

APPLICATION OF MODEL

The proposed neo-DRM-SD will prompt us to intervene strategically at the risk level to keep on reducing the multiple risks posed by SD challenges to levels manageable by people and planet alike.

Our approach will require that we start taking here-and-now steps through no regret measures, while simultaneously intensifying efforts on more involved mitigation challenges that require policy, finance and mindset changes.

For developing countries, more than a mind-set change will be required; empowerment and the creation of an enabling environment are critical. Here the specifics of the 'means of implementation' – finance, technology, capacity building, trade and networking – adopted in the Rioþ20 outcomes, become vital.

EXAMPLE

- The development of neo-DRM-SD by the Centre for Global Sustainability Studies (CGSS) at Universiti Sains Malaysia is an attempt to re-orienting its research priorities while pursuing knowledge-based engagement for community development and security of livelihoods.
- CGSS used the neo-DRM-SD methodology to assess community vulnerability and to implement cost-effective adaptation measures in Kuala Nerang, in Northern Malaysia, a community extremely vulnerable to floods.
- We completed vulnerability assessment and risk rating by factoring the magnitude (how big), intensity (how strong), probability (how often) of the impact, and capacity (how resilient) of the exposure units.
- This assessment and risk prioritization were essential to prevention and preparedness-based interventions before the event, and the response and recovery activities after the event.
- Our project eventually received two Regional Centre of Expertise (RCE) 'Recognition and Honor Awards' in 2012 from United Nations University Global RCE Program for innovative community-based sustainability research.

WORKSHOP

The three-day workshop will address

1. all technical terms involved in the DRM cycle, clearly explain the connection between DRM and SD,
2. train participants on the use of an easy to use risk assessment methodology (R.A.M developed by CGSS),
3. expose them to loss and damage assessment approaches, help prioritise adaptation options, and
4. train them on risk reduction project planning using logical framework analysis & Atkissons methodology to develop and implement interdisciplinary risk reduction projects.
5. The backdrops of discussions will be the Hyogo Framework and the Future We Want.

CONCLUSION

The neo-DRM-SD is applicable to challenges in minimizing the risk face and to work in partnership with implementing agencies such as government and NGOs to apply sustainability principles and practices to effectively respond and recover from any disaster.

We believe if these principles and a new approach is adopted and practised over the long-term, a sustainable pathway could be found for all nations, especially for the less developed and developing countries, to be free of poverty, debilitating disasters and diseases, rapid loss of biodiversity and depleting capital, by asserting that the price of this freedom from disaster is eternal vigilance and proactive action

DRM-SD:
Risk and Disaster Defined

DRM-SD Learning Lab
Freedom Hotel, Siem Reap, Cambodia
2-4 February 2016

Prof. K. Koshy
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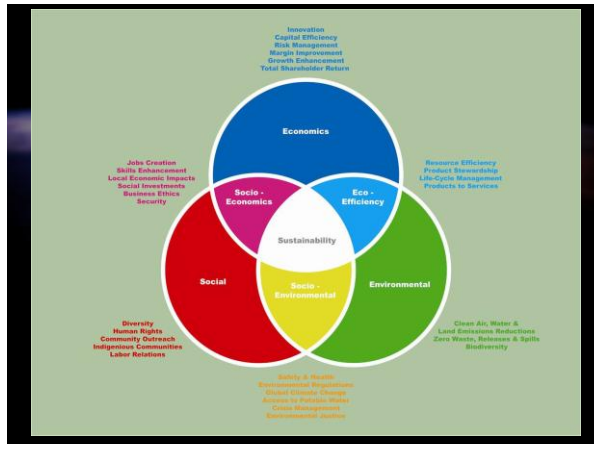
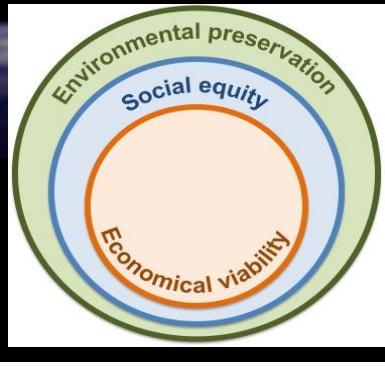


Strong Sustainability Model - SD



Risk-Disaster: Game 1

ferocious, dog, boy, school, afraid, bite, road, father, community leaders, dog owner, chain, weak, house, strong, situation, car, risk, friends, happy, pole…

Risk-Disaster: Game 2

hazard, exposure unit, capacity, vulnerable, risk, impacts, disaster, coping, strategy, mitigation, great, minimise, adaptation, improved, happy…

Hazard

Hazard: a potentially damaging physical event, phenomenon, or human activity that may cause injury, property damage, social and economic disruption, environmental degradation or loss of life.

Impact

Impact: the manifestation (realisation) of the destructive forces of hazards that destroy life and properties.

Exposure Units

Exposure units: the sectors or groups that are impacted upon.

- Stronger the coping capacity, weaker the impact -

Capacity

Capacity: a combination of all the strengths and resources available within a community, society or organization that can reduce the level of risk or the effects of a disaster.

Vulnerability

Vulnerability: the conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility (inability to withstand) of a community to the impact of hazards. (Antonym – Resilient)

Risk

Risk: the probability (likely, 'chance') of harmful consequences, or expected losses/damage (injuries, property, livelihood, economic activity disrupted or environment damaged, deaths) resulting from interaction between natural or human-induced hazards and vulnerable exposure units.

Disaster

Disaster: "a serious disruption of the functioning of society, causing widespread human, material or environmental losses which exceed the capacity of exposure units to cope using only its own resources."

Disaster

Disaster is "Realised Risk"

…Risk equations =>

Risk Management 2/3

ISDR Risk Equation:

Hazard x Vulnerability = Risk
Capacity

Realised Risk is Disaster

Risk Management 1/3

Hazard - Mitigation = Vulnerability

Realised Risk is Disaster

Risk Management 3/3

Impact - Adaptation = Vulnerability

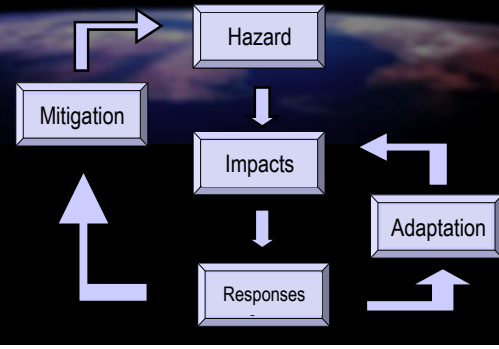
Realised Risk is Disaster

Response Measures

Mitigation: source ↓ & sink ↑

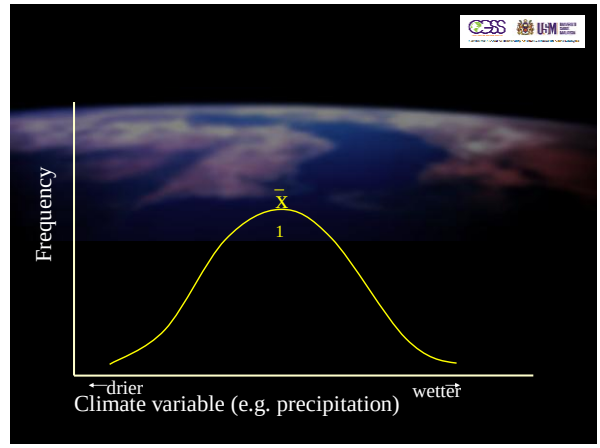
Adaptation: coping with consequences

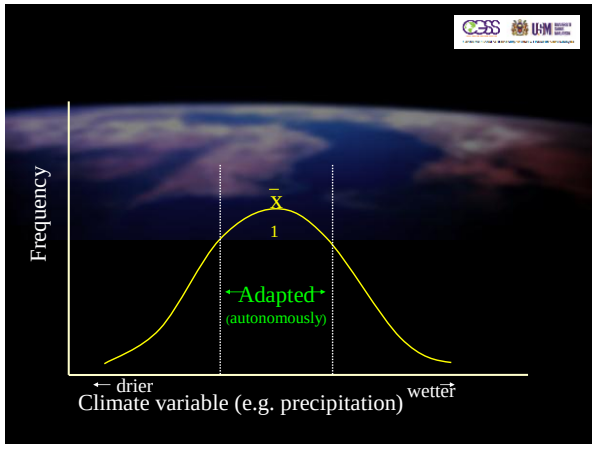
An Integrated Approach

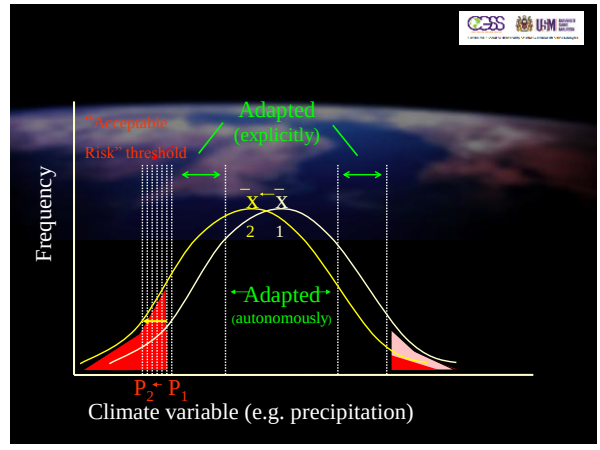


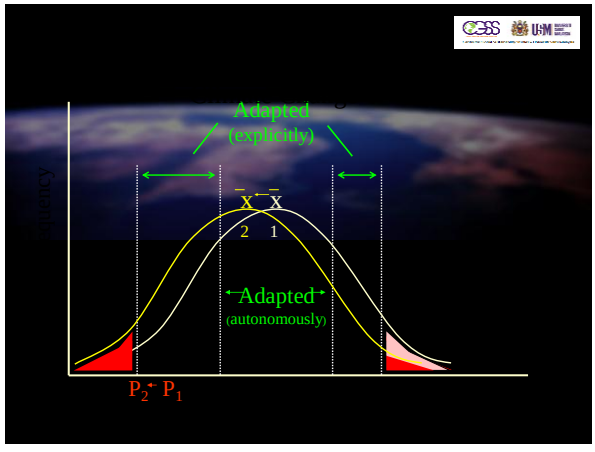
Residual Risk

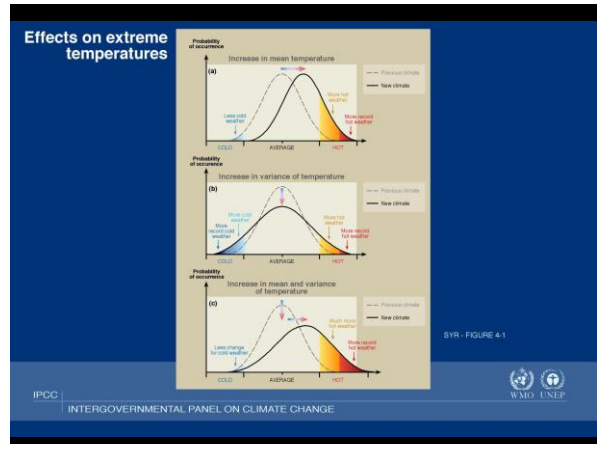
…the Risk that still remains after all response measures…

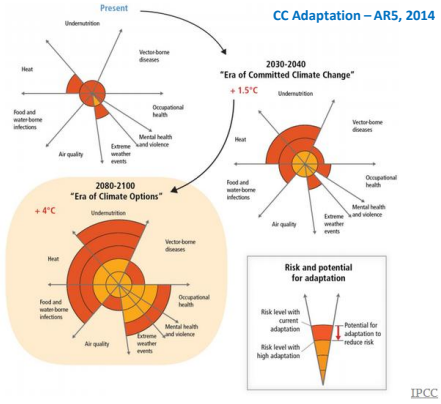


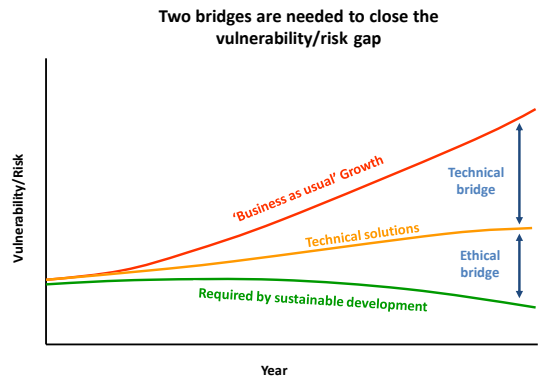


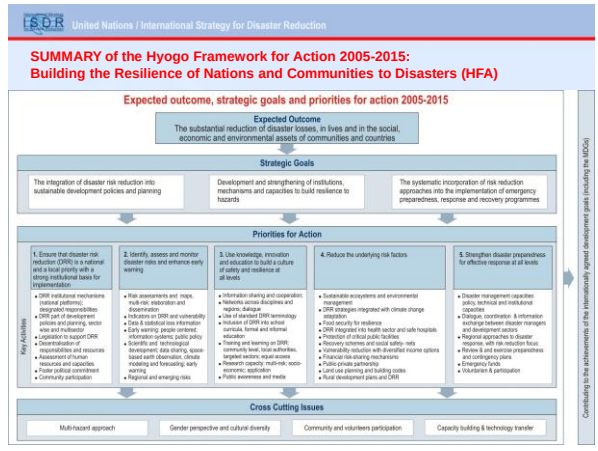


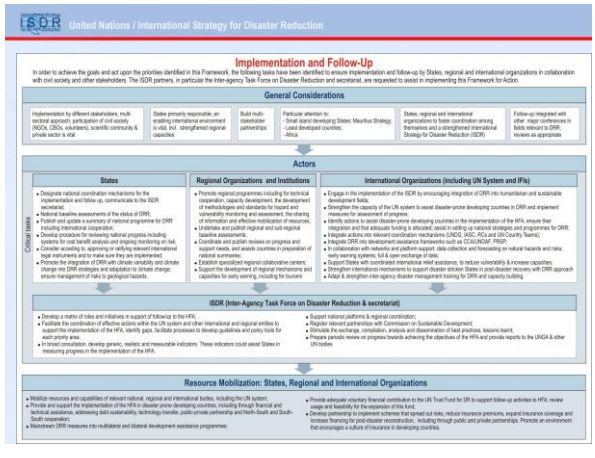


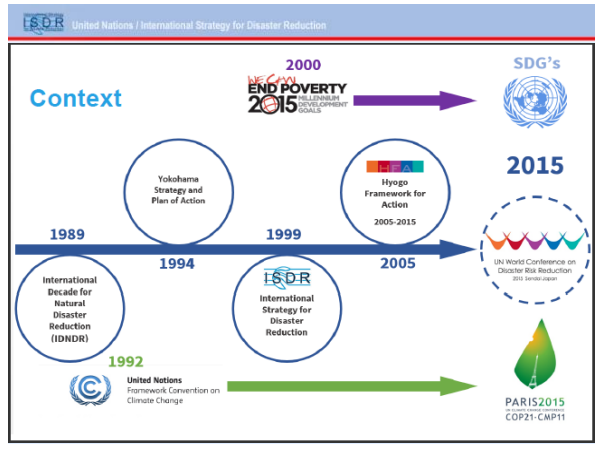



CC Adaptation – AR5, 2014
Present
Undernutrition
Heat
Vector-borne diseases
Food and water-borne infections
Occupational health
Air quality
Extreme weather events
Mental health and violence
2030-2040
"Era of Committed Climate Change"
+ 1.5°C
2080-2100
"Era of Climate Options"
+ 4°C
Risk and potential for adaptation
Risk level with current adaptation
Risk level with high adaptation
Potential for adaptation to reduce risk
IPCC


Two bridges are needed to close the vulnerability/risk gap
Vulnerability/Risk
'Business as usual' Growth
Technical bridge
Technical solutions
Ethical bridge
Required by sustainable development
Year


United Nations / International Strategy for Disaster Reduction
SUMMARY of the Hyogo Framework for Action 2005-2015:
Building the Resilience of Nations and Communities to Disasters (HFA)
Expected outcome, strategic goals and priorities for action 2005-2015
Expected Outcome
Strategic Goals
Priorities for Action
Cross Cutting Issues
Multi-hazard approach
Gender perspective and cultural diversity
Community and volunteers participation
Capacity building & technology transfer


United Nations / International Strategy for Disaster Reduction
Implementation and Follow-Up
General Considerations
Actors
States
Regional Organizations and Institutions
International Organizations (including UN System and IFIs)
ISDR (Inter-Agency Task Force on Disaster Reduction & secretariat)
Resource Mobilization: States, Regional and International Organizations


United Nations / International Strategy for Disaster Reduction
Context
2000
END POVERTY 2015
MILLENNIUM DEVELOPMENT GOALS
SDG's
2015
Yokohama Strategy and Plan of Action
Hyogo Framework for Action
2005-2015
1989
1994
1999
2005
International Decade for Natural Disaster Reduction (IDNDR)
International Strategy for Disaster Reduction
UN World Conference on Disaster Risk Reduction
1992
United Nations Framework Convention on Climate Change
PARIS2015
COP21-CMP11

United Nations / International Strategy for Disaster Reduction

UNISDR

Sendai Framework for DRR 2015-2030: An instrument for achieving risk-resilient development

Fang Min Kan, PhD
Head of UNISDR Asia-Pacific Office

United Nations / International Strategy for Disaster Reduction

UNISDR

Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030

Scope and purpose

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or man-made hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors.

Expected outcome

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.

Goal

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.

Targets

Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015.

Substantially reduce the number of affected people globally by 2030, aiming to lower the average per 100,000 between 2020-2030 compared to 2005-2015.

Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030.

Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.

Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.

Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030.

Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.

Priorities for Action

Priority 1: Understanding disaster risk.

Priority 2: Strengthening disaster risk governance to manage disaster risk.

Priority 3: Investing in disaster risk reduction for resilience.

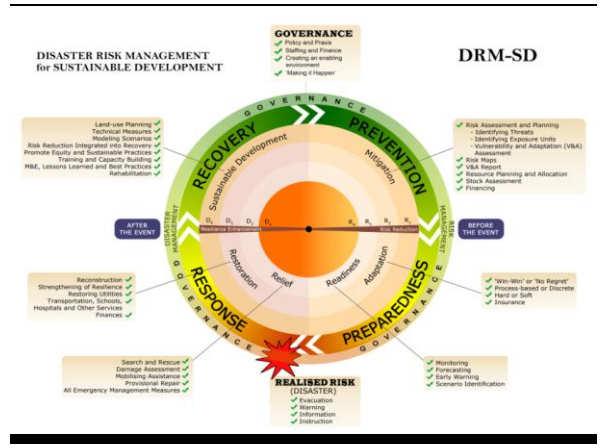
Priority 4: Enhancing disaster preparedness for effective response and to «Build Back Better» in recovery, rehabilitation and reconstruction.

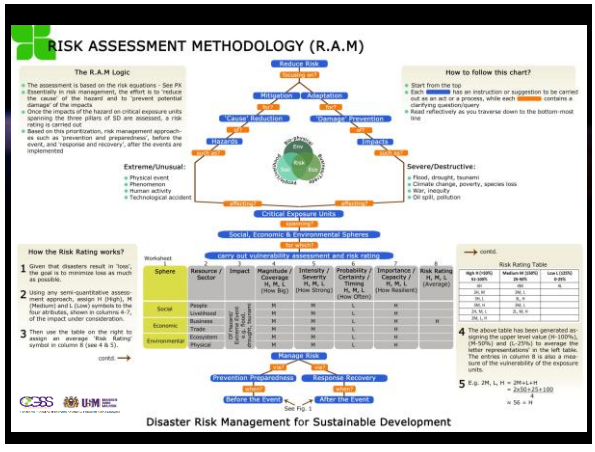
United Nations / International Strategy for Disaster Reduction

Shifts Of SF from HFA

1. Shift from **disaster loss** to **disaster risk**
2. Shift from a **disaster management** focus to more **disaster risk management**
3. Shift from "**what to do?**" to "**how to do?**"
   - Promote a people-centered preventive approach to DRR
   - Articulate governance to manage disaster risk and **strengthen accountability**, including the role of national platforms;
   - Focus on understanding and tackling disaster risk drivers; with **shared responsibility** for DRR with stakeholders
   - **Mobilize risk-sensitive investment by adopting risk-informed** policies and practices in both the public and private sectors;
   - Enhance the **Global Platform** and **Regional Platforms** for coherence, monitoring and periodic reviews.

UNISDR

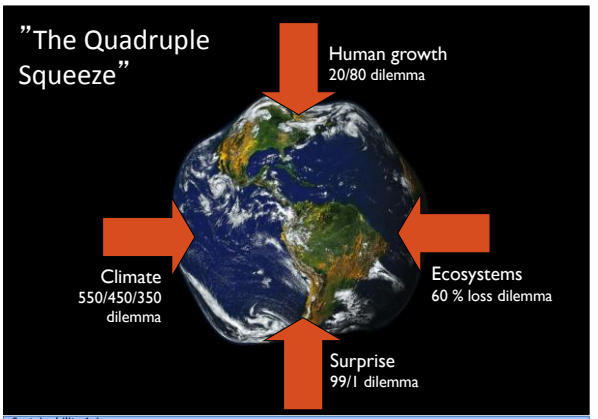




Disaster Risk Management for Sustainable Development (DRM-SD) Capacity Building

Pre-Disaster : Discussion on SE Asian Climate, Risk Management – Pre disaster stage: prevention and preparedness

Robert Steele – Sustainability Asia
Senior Associate - AtKisson Group



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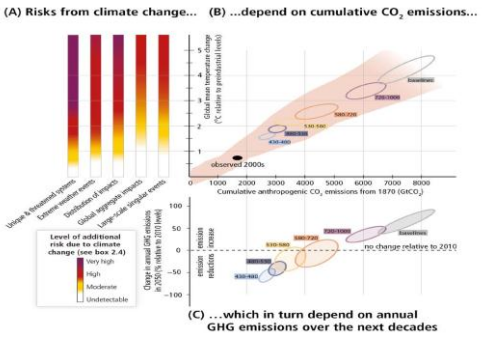
Climate Change Risk Increasing



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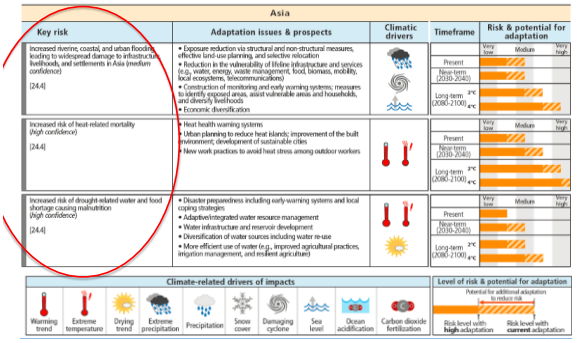
Source: International Panel on Climate Change, 2014.

Key Risks of Climate Disruption in Asia



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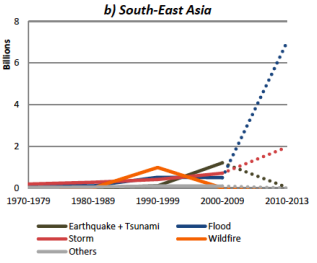
Source: IPCC – Working Group III

Average Yearly Economic Losses from Natural Disasters



Source: ESCAP Technical Paper Information and Communications Technology and Disaster Risk Reduction Division

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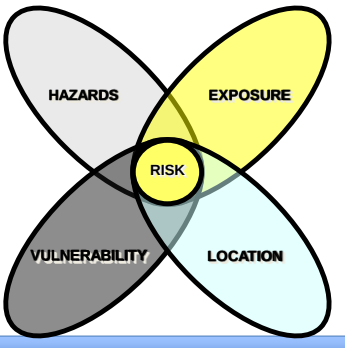
ELEMENTS OF RISK



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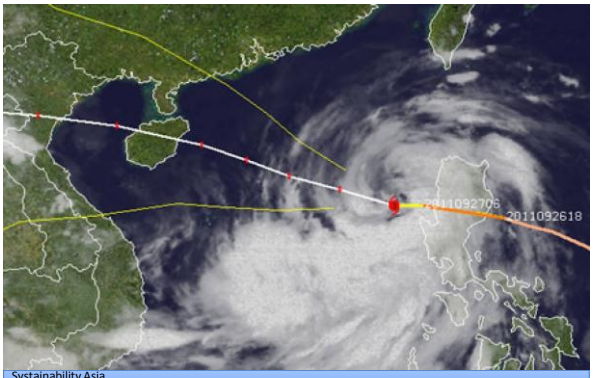


Metrological Disaster Profile for Vietnam

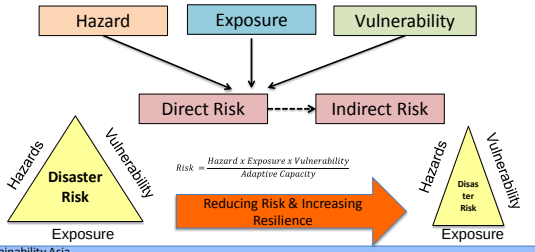
- *Typhoons* - According to historical data from 1989-2010, storms and typhoons accounted for 49 percent of all natural disasters.
- *Floods* - Floods are also one of the major and most dangerous types of natural disaster in Vietnam, constituting 37 percent of all disasters.
- *Drought* - Drought causes the third greatest losses in Vietnam despite only representing two percent of disaster events.
- *Landslides* - Due to the geophysical landscape consisting of large mountainous areas and lowland areas by the deltas, Vietnam is vulnerable to landslides, especially in the northern and central highlands. However, total landslides account for a mere three percent of all natural disasters.

Map of hazard zones in Vietnam

Characteristic of Disaster

- Predictability
- Controllability
- Speed of onset
- Length of forewarning
- Duration of impact
- Scope and intensity of impact

Hazard, exposure and vulnerability drive direct risk in Disaster Risk Management Analysis



Source: Adapted and expanded from IIASA CATSIM model (Mechler et al., 2006)

Resilience

Resilience . . What are we talking about?

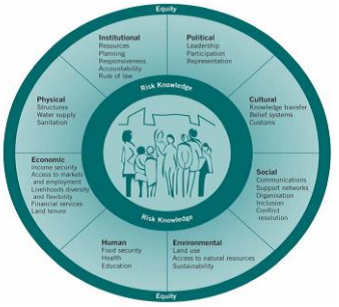
Etymology: 17th century, from Latin *resiliens*, *resilire* "to rebound, recoil" - *re-* "back" + *salire* "to jump, leap" (C.S. " Buzz " Holling – 1973 – landscape ecology)

"*Resilience is the capacity of a system to absorb disturbance and reorganize while undergoing change, so as to still remain essentially the same function, structure, identity, and feedbacks.*" (B. Walker et al, '*Resilience, Adaptability and Transformability in Social-ecological Systems*', Ecology and Society 9 (2) p. 5

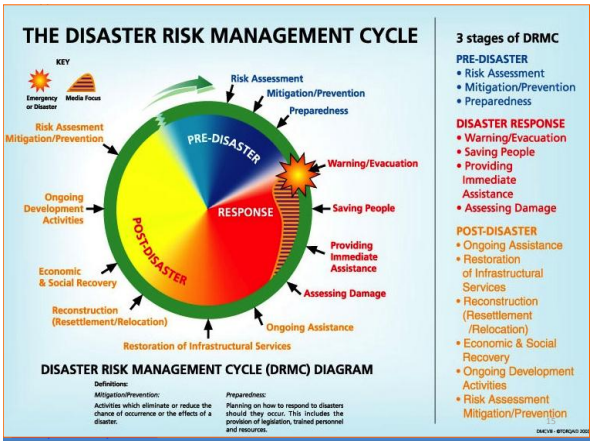
"*Resilience is the ability to absorb disturbances, to be changed and then to re-organise and still have the same identity (retain the same basic structure and ways of functioning). It includes the ability to learn from the disturbance. A resilient system is forgiving of external shocks.*"

The Resilience Alliance, http://www.resalliance.org/

Key factors influencing resilience and decreasing disaster risk



Source: Turnbull et al., 2013



Prevention

- ***The outright avoidance of adverse impacts of hazards and related disasters.***
- Comment: Prevention (i.e. disaster prevention) expresses the concept and intention to completely avoid potential adverse impacts through action taken in advance. Examples include dams or embankments that eliminate flood risks, land-use regulations that do not permit any settlement in high risk zones, and seismic engineering designs that ensure the survival and function of a critical building in any likely earthquake. Very often the complete avoidance of losses is not feasible and the task transforms to that of mitigation. Partly for this reason, the terms prevention and mitigation are sometimes used interchangeably in casual use.

Mitigation

- ***The lessening or limitation of the adverse impacts of hazards and related disasters.***
- Comment: The adverse impacts of hazards oftencannot be prevented fully, but their scale or severity can be substantially lessened by various strategies andactions. Mitigation measures encompass engineering techniques and hazard-resistant construction as well as improved environmental policies and public awareness. It should be noted that in climate change policy, "mitigation" is defined differently, being the term used for the reduction of greenhouse gas emissions that are the source of climate change.

Preparedness

- ***The knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions.***
- Comment: Preparedness action is carried out within the context of disaster risk management and aims to build the capacities needed to efficiently manage all types of emergencies and achieve orderly transitions from response through to sustained recovery. Preparedness is based on a sound analysis of disaster risks and good linkages with early warning systems, and includes such activities as contingency planning, stockpiling of equipment and supplies, the development of arrangements for coordination, evacuation and public information, and associated training and field exercises. These must be supportedby formal institutional, legal and budgetary capacities. The related term "readiness" describes the ability to quickly and appropriately respond when required.

Disasters happen. You plan for them, work to prevent them, or turn a blind eye and hope one will never occur. Sooner or later, you must deal with one. *Disasters come in all sizes.* Sometimes disasters affect a small neighborhood, sometimes the entire community, and in the most extreme and tragic times the entire region and country. Since you do not know when or how extensive the disaster will be, you can only be prepared."

"An ounce of prevention is worth a pound of cure"

In 1736, Benjamin Franklin organized Philadelphia's Union Fire Company, the first in the city. This famous saying was actually ***fire-fighting advice***.

"Disaster response planning and prevention, or preparedness, are performed when all is sane and quiet, and decisions are made in a rational, carefully considered manner."

From "Disaster Response and Planning for Libraries" – Miriam B. Khan

Structural and non-structural measures in disaster prevention and preparedness planning

Structural measures	Non-structural measures
• Any physical construction to reduce or avoid possible impacts of hazards, or application of engineering techniques to achieve hazardresistance and resilience in structures or systems;	• Any measure not involving physical construction that uses knowledge, practice or agreement to reduce risks and impacts, in particular through policies and laws, public awareness raising, training and education.

Disaster preparedness

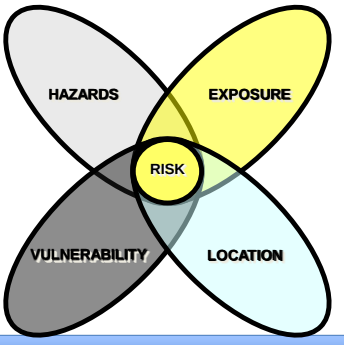
- Preparedness should be in the form of money, manpower and materials
- Evaluation from past experiences about risk
- Location of disaster prone areas
- Organization of communication, information and warning system
- Ensuring co-ordination and response mechanisms
- Development of public education programme
- Co-ordination with media
- National & international relations
- Keeping stock of foods, drug and other essential commodities

Open Discussion

Vietnam Disaster Risks at a Glance

- ***Population:*** 88,780,000
- ***Major Threats:*** Floods, Tpyhoons, Landslides, Earthquakes, Drought'
- ***Populations Affected:*** Urban & Rural Poor, Farmers, Coastal Communities
- ***Locations Affected:*** All
- ***Industries Affected:*** Agriculture, Technology/Communications, Manufacturing;
- ***Compounding Issues:*** Urban Migration, Informal Settlements, Environmental Degradation, Climate Change;
- ***World Risk Index Ranking:*** 18/173
- ***Global Climate Risk Index:*** 6/178

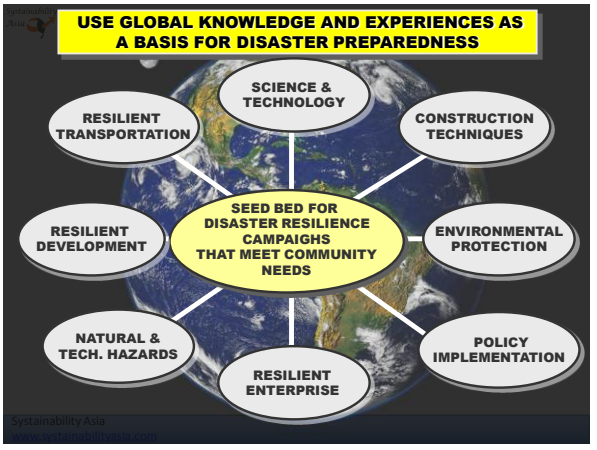
ELEMENTS OF RISK



Some questions to discuss….

- Looking at the four elements of risk in disaster risk management (particularly in relation to Climate related events), what is being done in each area currently in Vietnam?
- What are additional things that you suggest should be done in each area of the cluster?
- What are the major challenges to effective disaster risk management in Vietnam and how to overcome?
- Any priorities that you would set to focus on first?

Summary and Final Thoughts



Recommendations for DRR-SD Preparedness

- Mobilising stakeholder participation of Self Help Groups, Women's Groups, Youth Groups, etc.
- Anticipatory Governance: Simulation exercises, Mock drills and Scenario Analysis
- Indigenous knowledge systems and coping practices
- Living with Risk: Community Based Disaster Risk Management

Recommendations for DRR-SD Preparedness

- Investments in Preparedness and Prevention (Mitigation) will yield sustainable results, rather than spending money on relief after a disaster.
- Most disasters are predictable, especially in their seasonality and the disaster-prone areas which are vulnerable.
- Communities must be involved in disaster preparedness.

Recommendations for DRR-SD Preparedness

- Investments in Preparedness and Prevention (Mitigation) will yield sustainable results, rather than spending money on relief after a disaster.
- Most disasters are predictable, especially in their seasonality and the disaster-prone areas which are vulnerable.
- Communities must be involved in disaster preparedness.

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Recommendations for DRR-SD Preparedness

- Inclusive, participatory, gender sensitive, child friendly, eco-friendly and disabled friendly disaster management
- Technology driven but people owned
- Knowledge Management: Documentation and dissemination of good practices
- Public Private Partnership

Summary of Key Messages

- Humanity has had a huge impact on the planet's resource base and ecological systems causing planetary climate disruption that is producing more extreme weather events and impacts.
- We must focus on adaptive resilience of our socio-economic and natural environmental systems. We know what to do!

Comments, Questions?

Post-Disaster : Disaster Management and Post-disaster Stage: Response & Recovery

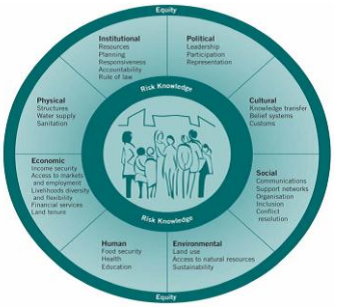
Linking to the Goals of Sustainable Development

Make Sure This Isn't You!

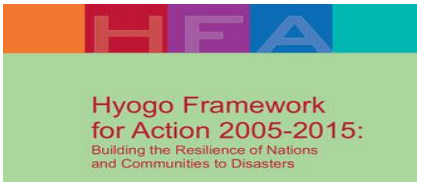
How do we respond, recover and rebuild to disaster in order to decrease risk and increase our resiliency in transforming our society to one that is sustainable in the long-term?

Photo: Tacloban, Philippines after Typhoon Haiyan 2013

Note: Key factors influencing resilience and decreasing disaster risk



Source: Turnbull et al., 2013

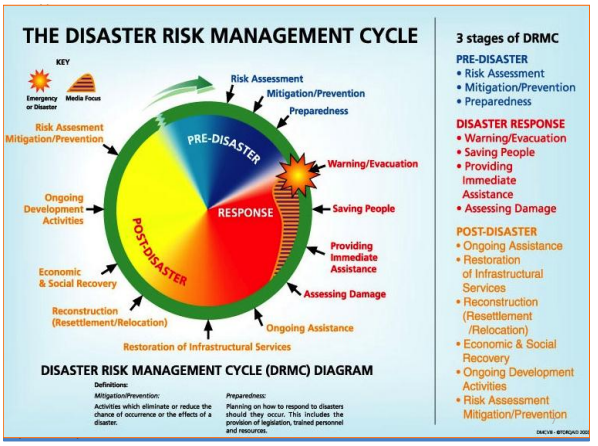


- Hyogo Framework for Action 2005-2015
- Building the resilience of nations and communities to disasters
- Adopted by 168 Governments at the World Conference on Disaster Reduction, held in Kobe, Hyogo Prefecture, Japan, 18-22 January 2005

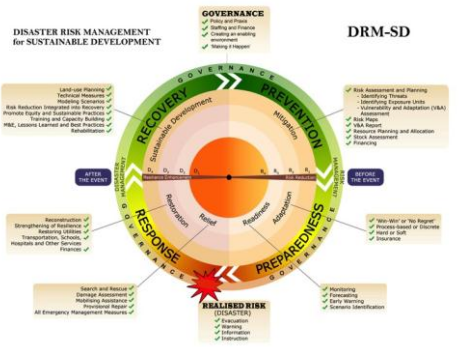
The HFA identified five separate priorities for action

- Ensure that disaster risk reduction (DRR) is a national and local priority with a strong institutional basis for implementation;
- Identify, assess and monitor disaster risks and enhance early warning;
- Use knowledge, innovation and education to build a culture of safety and resilience at all levels;
- Reduce underlying risk factors;
- Strengthen disaster preparedness for effective response at all levels.

Source: The Hyogo Framework for Action (HFA)



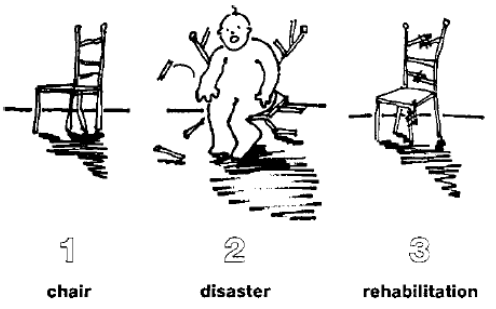
The Disaster Risk Management Model for SD from GCSS



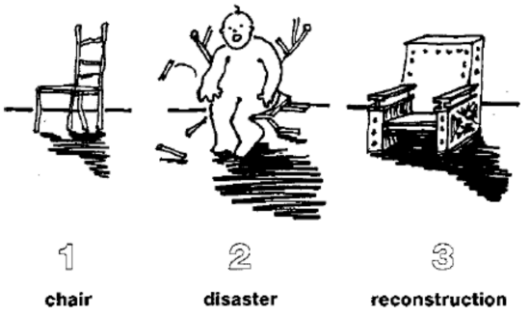
Source: USM Global Center for Sustainability Studies, 2013.

What we DO NOT want

- Actions taken in the aftermath of a disaster to:
  - Reconstruct **same as before**
  - Rebuilding the **pre-existing vulnerabilities**
  - Community in **same state** as before the disaster



United Nations Disaster Management Training Programme (DMTP)



United Nations Disaster Management Training Programme (DMTP)

Principles Disaster Recovery and Rehabilitation

Recovery and rehabilitation is most effective:

- when communities and stakeholders recognize that it is a **long-term** process;
- when activities are **integrated** with risk management and sustainable development;
- when conducted with the **participation** of all affected stakeholders;
- when **services** are provided in a timely, fair and flexible manner.

Disaster Response & Recovery Areas

Governance, Leadership, Decision-making	Infrastructure
Health & sanitation	Waste management
Mental health	Mortality management
Public safely	transportation
Communications	Business vitality
Emergency medical care	Education & training
Food security (procurement, distribution)	Children welfare
Housing	Public services & utiliies
Environmental management	Infrastructure

DRM & Sustainable Development

Sustainability…

Systems science:

"A set of conditions and trends in a given system that can continue indefinitely."

Dictionary:

"The ability to endure"

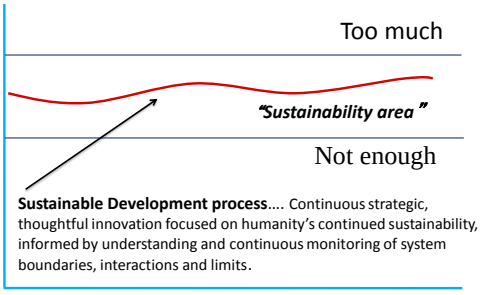
"Sustainable DEVELOPMENT" means …

"A managed process of continuous innovation and systemic change in the direction of sustainability."

i.e. Creating systems that can endure (i.e. resilient, transformative, flourishing)

Source: AtKisson, "The Sustainability Transformation," 2010

Sustainability is . . .



Sustainable Development process…. Continuous strategic, thoughtful innovation focused on humanity's continued sustainability, informed by understanding and continuous monitoring of system boundaries, interactions and limits.

4 Basic System Conditions for Sustainability

- **Nature:** Living within the Earth's physical and biological limits;

- **Economy;** Maintaining a vital, prosperous economy;

- **Society:** Supporting social stability, equity, and development;

- **Human Wellbeing:** Making individual opportunity, fulfillment, and happiness possible.

Some basic principles: An organization, community, or society will be sustainable if it…

1. … understands its own systems, *and the systems in which it is embedded;*
2. …. *understands and accounts for limits and system dynamics;*
3. … looks for *and responds to* long-term systemic trends that affect its ability to achieve its goals;
4. … changes internally to meet *and take advantage of* external conditions and trends;
5. … is *resilient* enough to withstand short-term shocks;
6. … does not undermine the conditions of its *own existence;*

The **Recovery Stage of DRM** is an Opportunity for taking a new development path, one that is sustainable.

Do we have a map?

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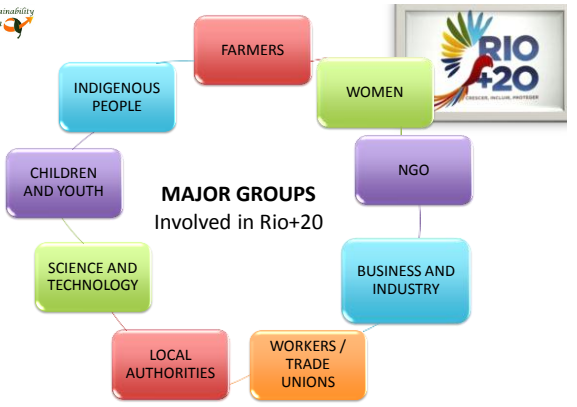

Sustainable Development Dialogues

Outcomes

1) "The future we want" Outcome Document
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- **53 pages, 283 paragraphs;**
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Source http://www.globalgoals.org/

The Global Goals for Sustainable Development

Disaster risk reduction references in goals and targets

Goal 1. End poverty in all its forms everywhere

- **1.5** By 2030 build the resilience of the poor and those in vulnerable situations, and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters

Goal 2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

- **2.4** By 2030 ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and that progressively improve land and soil quality

Goal 3. Ensure healthy lives and promote well-being for all at all ages

- **3.d** Strengthen the capacity of all countries, particularly developing countries, for early warning, risk reduction, and management of national and global health risks

Disaster risk reduction references in goals and targets

Goal 4. Ensure inclusive and equitable quality education and promote life-long learning opportunities for all

- **4.a** Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all

Goal 6. Ensure availability and sustainable management of water and sanitation for all

- **6.6** By 2020 protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

- **9.1** Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all
- **9.a** Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, LDCs, LLDCs and SIDS

Disaster risk reduction references in goals and targets

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

- **11.4** Strengthen efforts to protect and safeguard the world's cultural and natural heritage
- **11.5** By 2030 significantly reduce the number of deaths and the number of affected people and decrease by% the economic losses relative to GDP caused by disasters, including water-related disasters, with the focus on protecting the poor and people in vulnerable situations
- **11.6** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality, municipal and other waste management
- **11.b** By 2020, increase by x% the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, develop and implement in line with the forthcoming Hyogo Framework holistic disaster risk management at all levels
- **11.c** Support least developed countries, including through financial and technical assistance, for sustainable and resilient buildings utilizing local materials

Disaster risk reduction references in goals and targets

Goal 13. Take urgent action to combat climate change and its impacts*

- **13.1** Strengthen resilience and adaptive capacity to climate related hazards and natural disasters in all countries
- **13.2** Integrate climate change measures into national policies, strategies, and planning
- **13.3** Improve education, awareness raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

- **14.2** By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration, to achieve healthy and productive oceans

Disaster risk reduction references in goals and targets

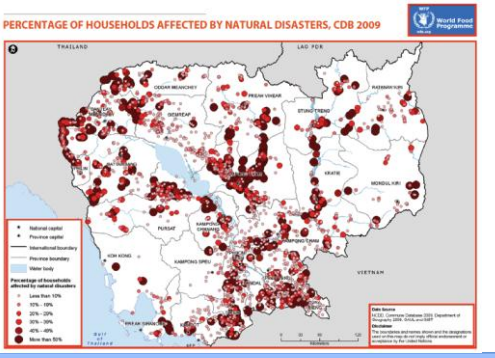
Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

- **15.1** By 2020 ensure conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements
- **15.3** By 2020, combat desertification, and restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land-degradation neutral world

Building in Sustainable Development into Disaster Recovery in Cambodia

Exercise

Map of flood impacted households in Cambodia



Group Exercise – Disaster Recovery and Sustainable Development

Task

- Each group take one region of Vietnam
- Take one of the Disaster Risk Reduction linked SDG targets and discuss and agree on the following:
  1. Why is this target important for this region in building resilience to disaster?
  2. What are the challenges faced in the region to achieve the target?
  3. What are some recommendations that you would make to the central government to help achieve this target?

30 minutes

Comments, Questions, Discussion

Post-Disaster : Disaster Management and Post-disaster Stage: Response & Recovery

Linking to the Goals of Sustainable Development

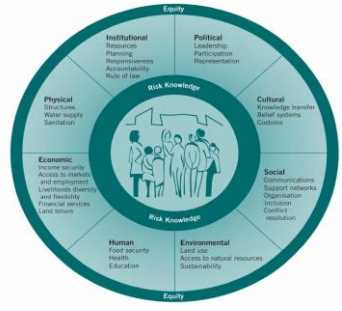
By: Dr Suzyrman Sibly

Make Sure This Isn't You!

How do we respond, recover and rebuild to disaster in order to decrease risk and increase our resiliency in transforming our society to one that is sustainable in the long-term?

Photo: Tacloban, Philippines after Typhoon Haiyan 2013

Note: Key factors influencing resilience and decreasing disaster risk



Source: Turnbull et al., 2013

4

HFA

Hyogo Framework for Action 2005-2015:
Building the Resilience of Nations and Communities to Disasters

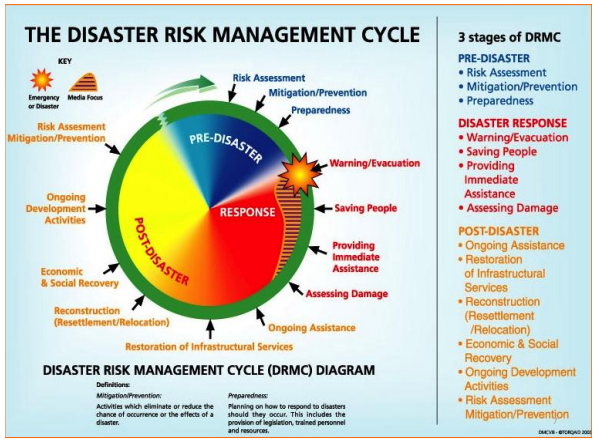
- Hyogo Framework for Action 2005-2015
- Building the resilience of nations and communities to disasters
- Adopted by 168 Governments at the World Conference on Disaster Reduction, held in Kobe, Hyogo Prefecture, Japan, 18-22 January 2005

The HFA identified five separate priorities for action

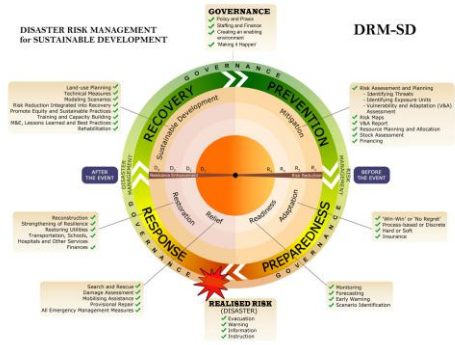
- Ensure that disaster risk reduction (DRR) is a national and local priority with a strong institutional basis for implementation;
- Identify, assess and monitor disaster risks and enhance early warning;
- Use knowledge, innovation and education to build a culture of safety and resilience at all levels;
- Reduce underlying risk factors;
- Strengthen disaster preparedness for effective response at all levels.

Source: The Hyogo Framework for Action (HFA)

6



The Disaster Risk Management Model for SD from GCSS

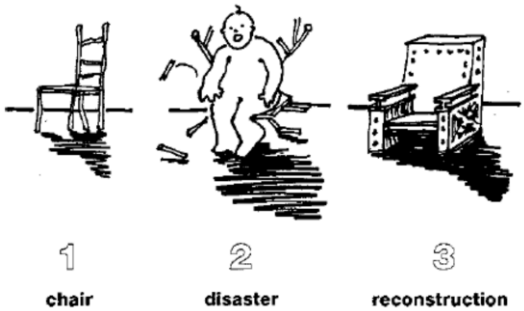


Source: USM Global Center for Sustainability Studies, 2013.

What we DO NOT want

- Actions taken in the aftermath of a disaster to:
  - Reconstruct **same as before**
  - Rebuilding the **pre-existing vulnerabilities**
  - Community in **same state** as before the disaster

United Nations Disaster Management Training Programme (DMTP)



United Nations Disaster Management Training Programme (DMTP)

Principles Disaster Recovery and Rehabilitation

Recovery and rehabilitation is most effective:

- when communities and stakeholders recognize that it is a **long-term** process;
- when activities are **integrated** with risk management and sustainable development;
- when conducted with the **participation** of all affected stakeholders;
- when **services** are provided in a timely, fair and flexible manner.

Disaster Response & Recovery Areas

Governance, Leadership, Decision-making	Infrastructure
Health & sanitation	Waste management
Mental health	Mortality management
Public safely	transportation
Communications	Business vitality
Emergency medical care	Education & training
Food security (procurement, distribution)	Children welfare
Housing	Public services & utiliies
Environmental management	Infrastructure

13

DRM & Sustainable Development

Sustainability…

Systems science:

"A set of conditions and trends in a given system that can continue indefinitely."

Dictionary:

"The ability to endure"

"Sustainable DEVELOPMENT" means …

"A managed process of continuous innovation and systemic change in the direction of sustainability."

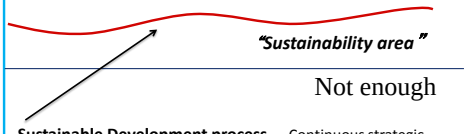
i.e. Creating systems that can endure (i.e. resilient, transformative, flourishing)

Source: AtKisson, "The Sustainability Transformation," 2010

Sustainability is . . .

… a set of conditions and trends in a given system that can continue indefinitely.

Too much



Not enough

Sustainable Development process…. Continuous strategic, thoughtful innovation focused on humanity's continued sustainability, informed by understanding and continuous monitoring of system boundaries, interactions and limits.

4 Basic System Conditions for Sustainability

- **Nature:** Living within the Earth's physical and biological limits;

- **Economy;** Maintaining a vital, prosperous economy;

- **Society:** Supporting social stability, equity, and development;

- **Human Wellbeing:** Making individual opportunity, fulfillment, and happiness possible.

Some basic principles: An organization, community, or society will be sustainable if it…

1. … understands its own systems, *and the systems in which it is embedded;*
2. …. *understands and accounts for limits and system dynamics;*
3. … looks for *and responds to* long-term systemic trends that affect its ability to achieve its goals;
4. … changes internally to meet *and take advantage of* external conditions and trends;
5. … is *resilient* enough to withstand short-term shocks;
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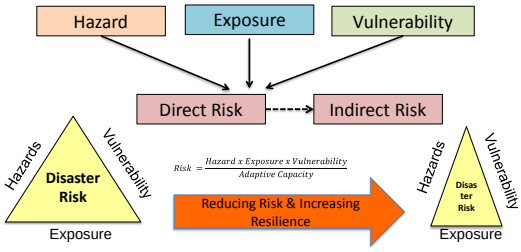
Hazard, exposure and vulnerability drive direct risk in Disaster Risk Management Analysis



Source: Adapted and expanded from IIASA CATSIM model (Mechler et al., 2006)

Disaster Risk Reduction is a Development Issue

Disaster Risk Reduction Is A Development Issue

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38

Sendai Framework

(a) Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rate in the decade 2020–2030 compared to the period 2005– 2015;

(b) Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020–2030 compared to the period 2005–2015;

(c) Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030;

39

Sendai Framework

(d) Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030;

(e) Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020;

(f) Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of the present Framework by 2030;

(g) Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.

40

Building in Sustainable Development into Disaster Recovery

Exercise

After Immediate Rescue and Response, then what are the recovery priorities linking with SD?

Task

- Each group take one region of Vietnam
- Given the disaster risk profile for the region, agree on the top 10 priorities for SD from the entire SDG Goal / target list that should be focused on in Disaster Recovery Plans for that region.
- Provide a Rationale for each priority…(i.e. why this particular SDG and target is a priority.)

30 minutes

42

Map of hazard zones in Vietnam

43

For the North Vietnam

- North Vietnam locates in the Southeast Asian monsoon area, which is subjected directly to hot and humid climate of Pacific and Indian Oceans. Therefore floods and rains frequently happen in river basins annually, causing serious flooding over the Red River Delta and the north midland region.
- Strategy of Vietnamese Government on flood management and mitigation for the regions of Red river Delta and the North Midland is to execute structural measures associated with nonstructural solutions, and measures of strengthening dyke systems, of diverging flood courses and of improving safety standards of disaster mitigation works.

44

For Central Vietnam

- Severe storm with strong wind is often engaged with heavy rains, causing river water level rising and flood. In case a storm or tropical depression occurs together with a cold front, it can result in long and torrential rains, causing serious flood over river basins of the Central region.
- Strategy of the Vietnamese Government on disaster management for Central Viet Nam is to promote flood and storm prevention measures with the policy: ”pro-active prevention, mitigation and adaptation”. Management and mitigation measures include construction of upstream reservoirs, of dyke systems. These works should be combined with irrigation systems for stabilizing agricultural production.

45

For the Mekong (Cuu Long) River Delta

- A large area in the north of this region is subjected to inundation due to floodwater flows down from upstream Mekong River every year. Inundation time lasts from 2 to 6 months, with flood depth ranges from 0.5 to 4 meters. These conditions create a lot of difficulties in life and production of local people. On the other hand, floods bring about various benefits to local residents such as: soil enrichment of alluvium, soil washing, aquatic products …
- Strategy of disaster mitigation for the Mekong River Delta is “living with flood and flood control” with specific solutions such as planning of residential clusters, construction of irrigation systems for supplying clean water and preventing salt invasion, construction of low embankment system for preventing salt invasion.

46

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30 minutes

47

Comments, Questions, Discussion

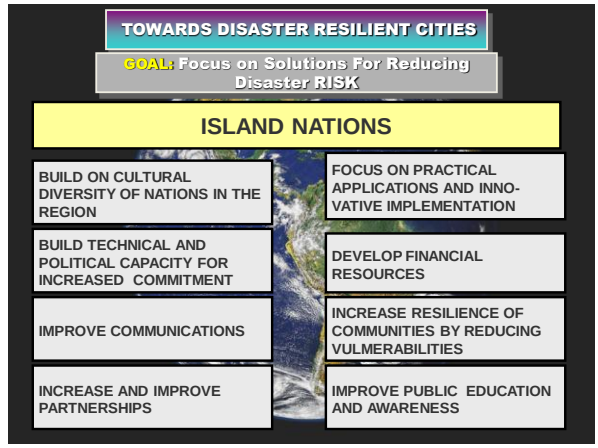
48

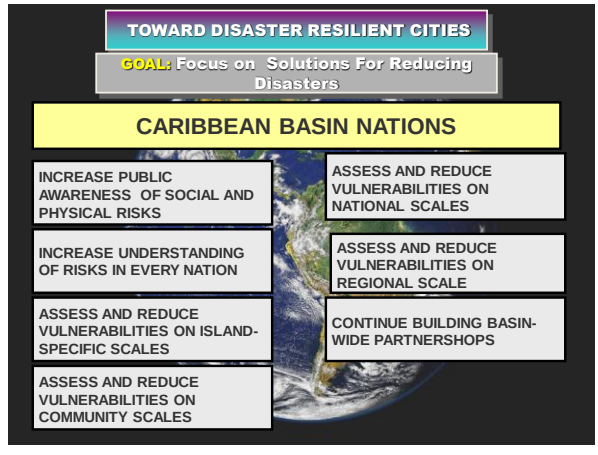
CITY PLANS FOR DISASTER RISK REDUCTION

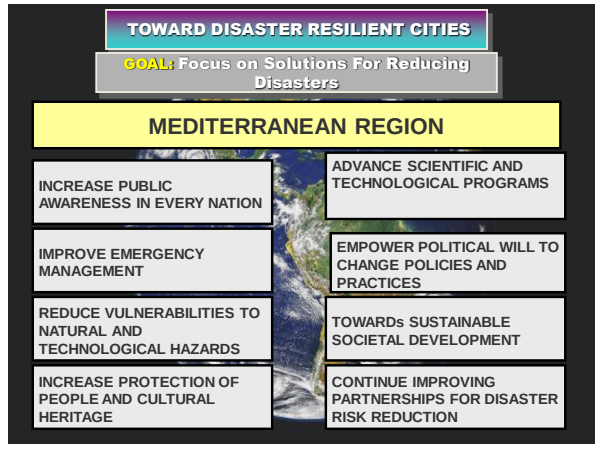
Perspectives

On Science, Policy,

And EDUC.








TOWARD DISASTER RESILIENT CITIES IN EACH REGION
GOAL: Focus on Solutions For Reducing Disasters
ASIA
IMPROVE PUBLIC AWARENESS
IMPROVE EMERGENCY MANAGEMENT
REDUCE ALL URBAN VULNERABILITIES
IMPROVE ALL ASPECTS OF DATA MANAGEMENT
FORMATION OF CENTERS OF EXCELLENCE


TOWARD DISASTER RESILIENT CITIES
GOAL: Focus on Solutions For Reducing Disasters
THE AMERICAS
IMPROVE CAPABILITY TO AVOID DISASTERS AS PART OF LAND-USE PLANNING
IMPROVE CAPABILITY TO MATCH STRUCTURAL DESIGN WITH HAZARD DEMAND
IMPROVE EMERGENCY PREPAREDNESS, RESPONE, AND RECOVERY
IMPROVE DISASTER SCENARIOS
IMPROVE PUBLIC AWARENESS AND EDUCATION
IMPROVE HAZARD CHARACTERIZATION MODELS AND MAPS
DEVELOP COMMUNITY REDUCE ALL URBAN VULNERABILITIES
IMPROVE ENVIRONMENTAL VULNERABILITY AND RISK ASSESSMENTS


TOWARD DISASTER RESILIENT CITIES
GOAL: Focus on Solutions For Reducing Disasters
THE AMERICAS (CONTINUED)
IMPROVE MITIGATION AND PREPAREDNESS MODELS TO MANAGE RISK
IMPROVE THE NEXT GENERATION OF BUILDING CODES AND STANDARDS
IMPROVE UNDERSTANDING OF INTERACTION OF HAZARD AND BUILT ENVIRONMENTS
INCREASED COLLECTION AND SHARING OF KNOWLEDGE
IMPROVE DATA COLLECTION AND MANAGEMENT
IMPROVE PROCESS FOR SHARING KNOWLEDGE AND EMERGING TECHNOLOGIES
ENHANCING MULTIPLE EFFORTS IN CAPACITY BUILDING
CLOSE "IMPLEMENTATION GAP "


TOWARD DISASTER RESILIENT CITIES
GOAL: Focus on Success; FAILURE IS A LOSS FOR EVERYONE!
INNOVATIVE IMPLEMENTATION IS THE KEY
OUTREACH BY KNOWLEDGE PRODUCING ORGANIZATIONS
COUNTER-DISASTER TRAINING OF RESPONSIBLE PERSONS
PUBLIC AWARENESS TO GAIN SUPPORT FOR SUSTAINED IMPLEMENTATION
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COORDINATED GOVERNMENT POLICES, PRACTICES, AND LEGISLATION
IMPROVED TRANS-BORDER LINKAGES BETWEEN COUNTRIES
IMPROVED LEVERAGING OF EXISTING INTERNATIONAL AGREEMENTS
COMMINICATION!

Lao PDR's Status in Disaster Risk Management for Sustainable Development (DRM-SD) Capacity Building

Assoc. Prof. Dr. Bouadam SENGKHAMKHOUTLAVONG
National University of Laos
bouadam_s@yahoo.com

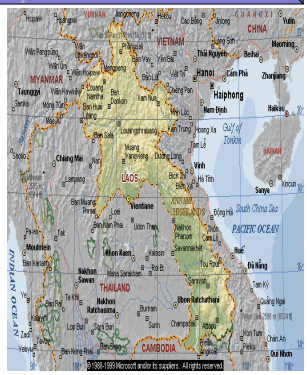
January 19-21, 2016, Lane Xang Hotel, Vientiane, Lao PDR

Outline

- Background Information
- Government Policies, Programmes and Strategies
- A self-monitoring and reporting mechanism
- Significant Progress
- Challenges and Opportunities
- Conclusions and Recommendations

Country Profile

- Lao People's Democratic Republic (Lao PDR) locates in Southeast Asia peninsula, sharing border with China, Vietnam, Cambodia, Thailand and Myanmar
- It is a land locked, elongated country of approximately 236,800 square kilometers of which 80% is mountainous in that 47% is rain forest.
- Population is 6.8 million, 47 minorities groups, the population density is 24 / km^2
- Life expectancy at birth is 64 (61 for male and 68 for female)
- Literacy rate 77% (> 15 year old)



Hazards and disaster in Lao PDR

Natural disaster:

- Flood (river flood and flash flood)
- Drought
- Storm
- Landslide
- Epidemic (human, animal disease), including birth flu
- Pest
- Earthquake

Man-made disaster:

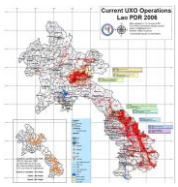
- UXO
- Fire (forest, houses)
- Accident (land, air, water)

Major Disasters in Lao PDR
Great Impacts on Sustainable Development

Fire (Forest and Urban)

Flood

UXO



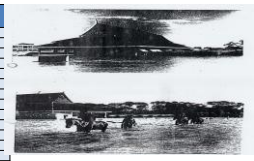
Drought

Storm

Earthquake

Flood Data 1966 to 2008

S. No	Year	Type of Damage	Damage cost (USD ,000)	Place of Damage
1	1966	Large Flood	13,800	Central
2	1968	Flood	2,830	Central and Southern
3	1969	Flood	1,020	Southern
4	1970	Flood	30	Central
5	1971	Large Flood	3,573	Central
6	1972	Flood and Drought	40	Central
7	1973	Flood	3.7	Central
8	1974	Flood	180	
9	1976	Flash Flood	9,000	Central
10	1978	Large Flood	5,700	Central and Southern
11	1979	Flood and Drought	3,600	Northern and Southern
12	1980	Flood	3,000	Central
13	1981	Flood	682	Central
14	1984	Flood	3,430	Central and Southern
15	1985	Large Flood	1,000	Northern
16	1986	Flood and Drought	2,000	Central and Southern
17	1990	Flood	100	Central
18	1991	Flood and Drought	3,650	Central
19	1992	Flood, Drought and Fire	302,151.26	Central (F) and Northern (D)
20	1993	Flood and Drought	21,827.93	Central and Southern
21	1994	Flood	21,150	Central and Southern
22	1995	Flood	15,000	Central
23	1996	Large Flood and Drought	10,506	Central
24	1997	Flood and Drought	1,860.30	Southern
25	1999	Flood	7,450	Central
26	2000	Flood	6,684.23	Central and Southern
27	2001	Flash Flood	808.5	Central and Southern
28	2002	Large Flood, Flash Flood and Landslide	14,170	Northern, Central and Southern
29	2004	Flood	750.399	Southern
30	2005	Flash Flood and Landslide	1,316.58	Central and Southern
31	2006	Flood	3,636	Central and Southern
32	2007	Flash Flood	8,056	Northern, Central and Southern
33	2008	Large flood and Flash Flood	4,384.40	Northern and Central



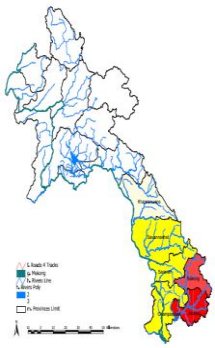
Drought data from 1967 to 2003

S. No	Year	Type of Damage	Damage cost (USD ,000)	Place of Damage
1	1967	Drought	5,120	Central and Southern
2	1975	Drought	N/A	Central
3	1982	Drought	N/A	N/A
4	1983	Drought	N/A	N/A
5	1987	Drought	5,000	Central and Southern
6	1988	Drought	40,000	Southern
7	1989	Drought	20,000	Southern
8	1998	Drought	5,763	Northern and Southern
9	2003	Drought	16,500	Central And Southern

Overall affected by T. Ketsana 2009

Province	: 5
District	: 43
Village	: 822
Population	: 272.943 people
Dead	: 28

Total damaged cost around 58 million USD

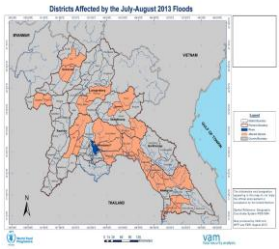


Flood Affected by
TS HAIMA & TS NOCK –TEN 2011

- Almost 12 provinces affected
- 429.954 people (Women 218.154 persons) , 82. 493 households ,1.790 villages, 96 districts and 42 persons were killed.
- The flood also severely damaged housing of people , basic infrastructures of Agriculture , public work and transport , health centers, schools electricity, water supply , natural water pipe , latrines , tourism sites, industry and trading , etc ….
- The most severely affected provinces are : Xiengkhuang , Khammuane, Champasack Sayabuly , Vientiane and Bolikhamxay.
- The total damages cost estimate around 1,764,547,062,641 Kips

Flood 2013

- Affected 62 districts, 1,159 villages, 12 provinces.
- 353,966 people affected, 25 dead, 1 missing, 77 injured
- Estimated cost damages around **493,787,700,530 kip**



Assessment and Analysis

Lao PDR faces significant threats from climate change given its dependence on agriculture and natural resources. Lao PDR subject to floods and droughts with significant impact on Agriculture, forestry, water resources, health and economic growth.

Impact assessments had concluded recent regional changes in temperature have had discernible impact on the country's physical and biological ecosystems, and that the frequency and severity of floods and drought are on the rise.

Government Policies, Programmes and Strategies

Lao PDR has set up institutional mechanisms and policy frameworks to address climate change.

- Lao PDR acceded to the UNFCCC in 1995,
- Ratified the Kyoto Protocol in 2003.
- In 2008, Lao PDR established a National Steering Committee on Climate Change and National Climate change Office to follow up on its international commitments

Government Policies, Programmes and Strategies

Three main elements form the policy framework for climate change interventions:

The National Adaptation Programme of Action (NAPA), submitted to UNFCCC in May 2009, forms the first element of the framework. The NAPPA set four criteria for prioritizing climate change adaptation projects. These were the capacity to deal with different degrees of severity in the impact from climate change, the contribution to poverty reduction, the linkages with other multilateral environmental agreements, and the value for economy and society. The first five-year NAPPA project was launched in 2011.

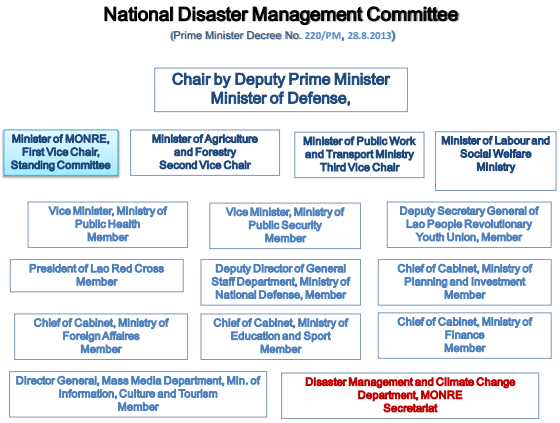
Government Policies, Programmes and Strategies

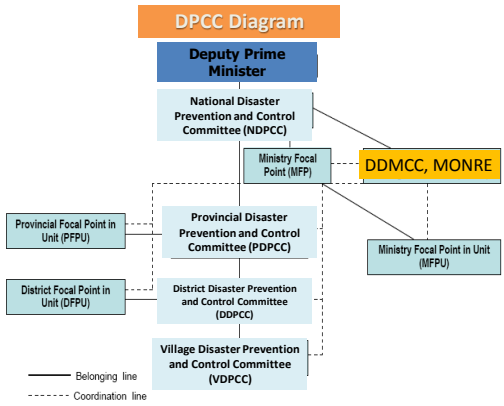
Second element is the National Policy on Climate Change (NSCC), which was approved in early 2010. The NSCC identifies seven priority areas for adaptation and mitigation: agriculture and food security; forestry and land use change; water resources; energy and transport; industry; urban development; and public health. The NSCC also ensured that climate change was streamlined into Lao's Seventh NSEDP (2011-2015).

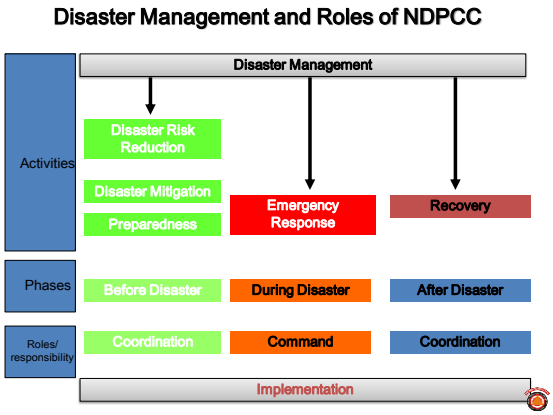
Government Policies, Programmes and Strategies

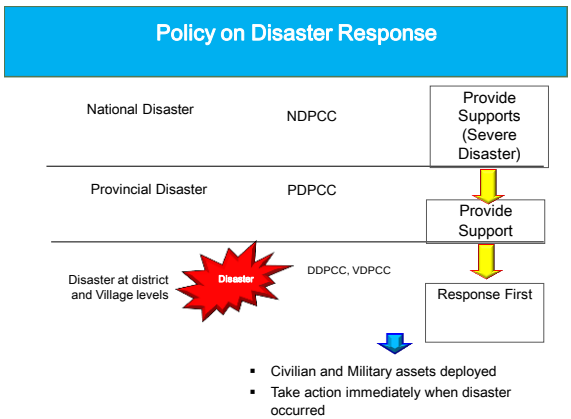
The third element, the National Action Plan on climate change, was lunched in April 2013 by ministry of natural resources and environment. Its aims to translate the NSCC into action.

Adaptation strategies focus mainly on water, agriculture and disaster risk management, with climate information services. The gaps in current adaptation programmes include energy and transport, urban areas, public health and gender.









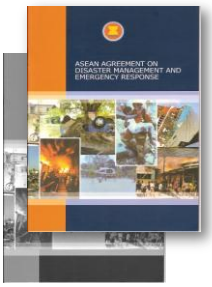
Disaster Emergency Response

- The DPCC Committees at all levels is the lead
- NDMO tasks:
  - Closely coordinate with DM focal point in Line Ministries, NDMO at local level to get update information on disaster situation, make analysis and report to NDMC for guiding response
  - Coordinate and cooperate with internal organization in mobilization of resources for emergency response as well as the join assessment
- Emergency Operating Center had been set during the Emergency like Ad-hoc center
  - Nationally at the Meeting room of Deputy Prime Minister, Ministry of Defense
  - Local level, at the meeting room of Governor's office
- Inter-Agency Contingency Plan – IACP
  - EOC set at UN House (the meeting room)
  - NDMO involve in IASC, Inter-Cluster Coordination Group (ICCG), Emergency Task Force (ETF), Information Management Network (IMN)

Disaster Preparedness and Emergency Response

- Annual disaster preparedness and response plan of NDPCC
  - Roles and responsibility identified
  - Stockpiling and equipment
- Response Capacity
  - Search and Rescue Team
  - Medical Mobile Team
  - Etc…

AADMER PROVIDES A COMMON PLATFORM FOR A MORE **UNITED AND COORDINATED** RESPONSE TOWARD DISASTERS WITHIN THE REGION



Signed in July 2005, ratified by all ten countries in ASEAN, entered into force on 24 December 2009

Objective: Reduce disaster losses in ASEAN region, and jointly respond to disaster emergencies

A legal framework for all ASEAN Member States and serves as a common platform in responding to disasters within ASEAN

ASEAN Coordinating Centre for Humanitarian Assistance (AHA Centre) as the operational coordination body and engine of AADMER

AADMER ALSO REQUIRES THE DEVELOPMENT OF AN EFFECTIVE STANDARD OPERATING PROCEDURE FOR REGIONAL STANDBY ARRANGEMENTS AND COORDINATION OF JOINT DISASTER RELIEF AND EMERGENCY RESPONSE OPERATION (SASOP)

Guides and templates to initiate the establishment of the ASEAN Standby Arrangements for Disaster Relief and Emergency Response

Procedures for joint disaster relief and emergency response operations

Procedures for the facilitation and utilisation of military and civilian assets and capacities,(personnel, transportation and communication equipment, facilities, good and services, and the facilitation of their trans-boundary movement)

Methodology for the periodic conduct of the ASEAN regional disaster emergency response simulation exercises (ARDEX) which shall test the effectiveness of this procedures

AHA Centre's Response to People Affected by Lao Flood and Landslide in August 2013


Transport of Relief Items

200 ASEAN Family Kits


Coordination with NDMO of Lao PDR

The Goals of DM Strategy Plan to 2020

1. Making Lao Society Safer and minimizing the impact of Disaster to people life, country economy, government's and population Property.
2. To timely assist to the victims of disaster helping they mitigate disaster impact and quick return to normalcy.
3. Building completed legal system on disaster management and prevention of disaster impact to individual, community, society and country economy.
4. Making disaster management concept and environmental protection as unique to development and becoming cultural perception of society.

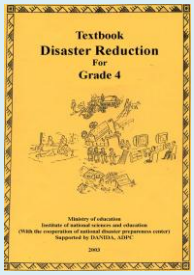
A self-monitoring and reporting mechanism on education policies and plans for DRR for Sustainable Development

Sections	Results
I. Disaster risk assessment	DRR analysis frameworks not developed
II. Policies for risk reduction	**National level** - Seventh National Socio-economic Develop Plan (NSEDP) - National Plan for DRR - Climate Change Action Plan - Law on Environmental Protection (2012) - Strategic Plan on Disaster Risk Management in Lao PDR 2020 **MoES level** - ECDM, Department of Finance, MoES. (2009). School Construction Guidelines. - Comprehensive School Safety (CSS) Framework (Save the Children, UNICEF, UNESCO, INEE, Childfund, Plan International, World Vision, ADRRN, SEAMEO) (2012)

A self-monitoring and reporting mechanism on education policies and plans for DRR for SD

III. a. Education sector plans for risk reduction	- Initially introduction/orientation in risk prone provinces funded by MoES and International Organizations (e.g Sayaboury, Luangprabang, Oudomxay)
III. b. Implementation of priority DRR programmes	- NGO pilot programs in Khammuane (ADPC), Sayaboury (SCI), Bokeo (Plan), Vientiane province (Oxfam) since 2007 in primary schools. - MoES conducted a workshop to increase provincial level understanding of disaster risk reduction (Xiengkhuang, Huaphan, Luangprabang, Vientiane Capital and Champasack)
III. c. Teaching and learning	- Bring in and practice the concept of Education for sustainable development in 33 Associated school Project Network including 2 Teacher Education Institutions, 8 Primary schools and 23 secondary schools in five provinces) - DRR integrated into primary school (grade 3, 4,5) and lower secondary school (grade 6,7,8) for infusion into the 20% local content.

Textbook and teacher's guide



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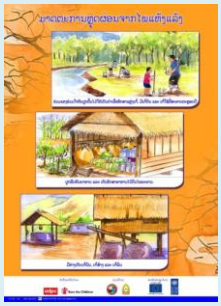
Supplementary readings and posters



A self-monitoring and reporting mechanism on education policies and plans for DRR for SD

IV. Organizational arrangements and coordination	- National Disaster Management Committee established (Prime Minister's decree No 158 dated 23 Aug 1999) chaired by Deputy Prime Minister. - Disaster Risk Management Committee formed (Ministerial decree No. 2882/MOE.11 dated 24 Aug 2011) chaired by Deputy Minister of MoES - Established a MoES focal point unit and Appointed a Disaster Management (DM) contact person in MoES/ Cabinet Office.

A self-monitoring and reporting mechanism on education policies and plans for DRR for SD

V. Costing and financing	DRR activities haven't been costed and included in MoES' s overall budgets and plans.
VI. Monitoring & Evaluation	DRR indicators do not exist and are not used to monitor implementation progress.
VII. Capacity Development	Small scale of policy makers, planners, officials, teacher educators are familiar with DRR and with policy and practice of education in emergencies.

Significant Progress

1. Established of DDMC at All Districts.
2. Establish DM focal points and contact persons in all major government agencies, units, privates, factories and Other.
3. Enhance Capability and Building information dissemination to all 142 districts of Country.
4. Develop early warning information receiving points at risky to disaster villages.
5. Establish storages at provinces and some vulnerable to disaster districts.

Significant Progress

6. Continue sustainable public awareness and education programs through media
7. Expand DM training in all sectors at various level
8. Organizing drills and simulation exercises with participation of emergency rescue teams of sectors and population.
9. Enhance capability on cooperation with ASEAN, region and international on exchanging of expertise, information on DM and join implementing projects, simulation exercises and relief drills.

Significant Progress

- New Prime Minister Decree No 220/PM dated 28/8/2013 on National Disaster Prevention and Management Committee
- Drafting new TOR of Committee and members
- Drafting National Disaster Risk Management Strategies 2016-2020
- Drafting a new decree on Disaster Risk Management Committee in MoES, its TOR and members
- Appointed two contact persons at MoES &

Revising TOR of a focal point unit within MoES.

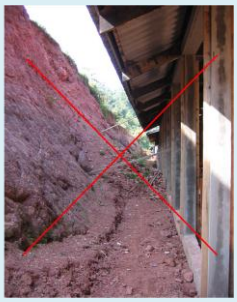
Significant Progress in Education Sector

- Drafting MoES disaster risk management plan
- Planning to integrate DRR into Education and Sport Development Plan (2016-2020)
- Improving our system and process for data collection on damage after a disaster
- Ministry of Finance dedicated nearly USD10,000 to discuss the policy implications of integrating DRR into the national school curriculum, and to fund the training of the focal points on DM.
- Supplied zinc roofing for schools affected by natural disaster (approximately USD250,000)

WORKBOOKS ON DISASTER AND RISK REDUCTION ARE BEING PILOTING IN 5 PROVINCES

Grade 3,4,5,6

443 schools were audited for school safety and quality in 6 provinces



Usefulness of a self-monitoring and reporting questionnaire

- A comprehensive monitoring tool
- A practical guide for sector planning (identifying gaps and needs)
- A good self study reference

Challenges and Opportunities.

The main challenges lie in financial and capacity constraints. There is a need to improve the knowledge base with respect to climate modeling, potential impacts and mitigation and adaptation strategies. The still low levels of public awareness on climate change issues in another challenge, although this has improved over the past decade. Cross-sectoral coordination is another area that needs strengthening.

Limitation and Challenges

- Limited/lack of resources both human and financial
- Limited knowledge on DRR and management at the central/local/community levels.
- Many of the worst hit areas by disasters are very remote and difficult to reach.
- Lack of monitoring and assessment
- Lack of baseline data on current school condition

Conclusion

- Disaster Management is essential. There is a need to strengthen National Disaster Management Strategies by:
  - Develop a comprehensive Disaster Management Strategy for Lao PDR
  - Build the capacity of institutions dealing with DM
- Building community disaster preparedness and response capacity are particularly important.

Recommendations

- University should consider how best to provide coursework in DRR, DRR research project should be provided.
- Develop strategic plan on disaster management in education sector
- Use school block grant to support school disaster risk management
- Annual national meeting on DRR management
- Consultation meeting with concerned government agencies and international organizations
- Monitoring and evaluation

Thank you

Your recommendation are welcome

University of Battambang (UBB)

Cambodia Climate Change Strategic Plan

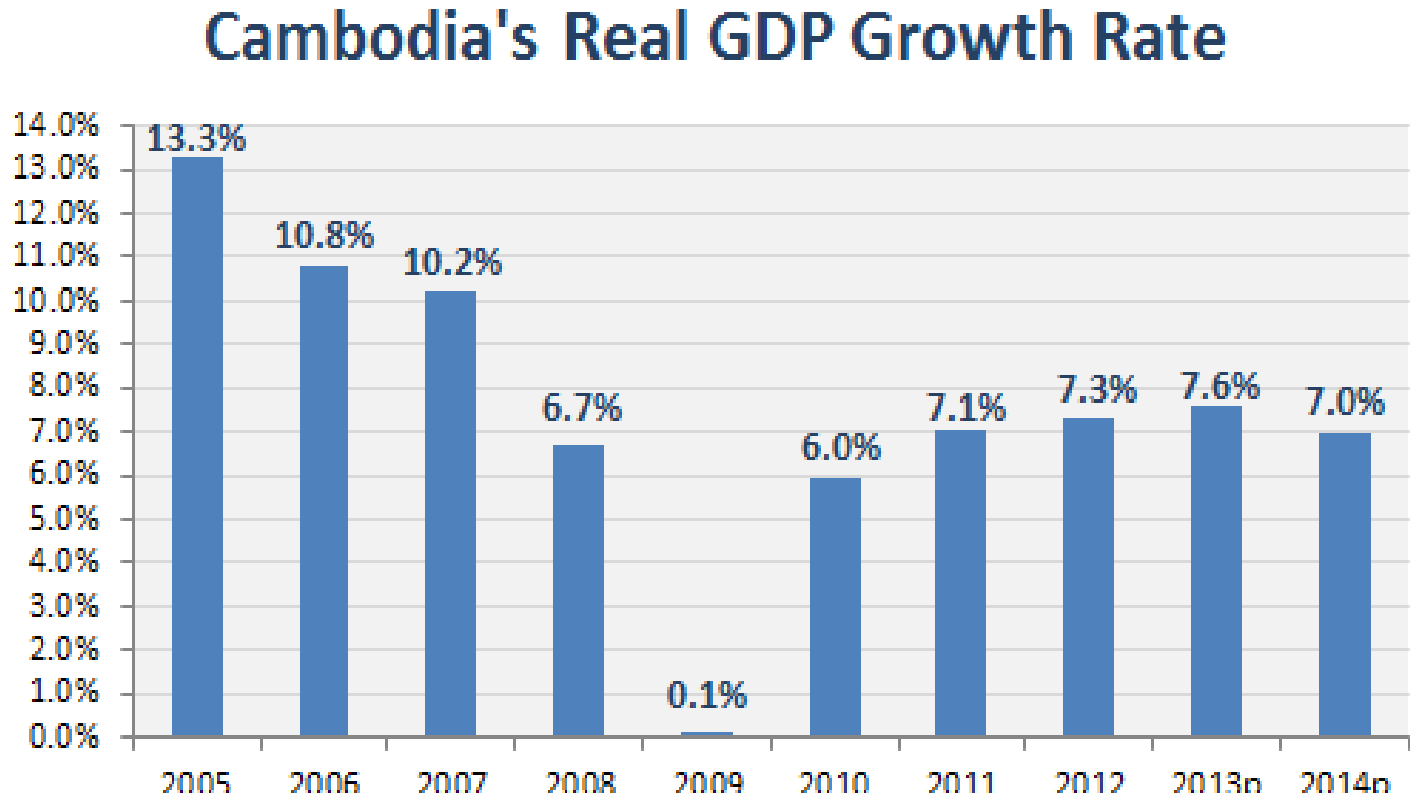
Dr. Chhoeuth Khunleap

Mr. Seav Sovanna

Introduction to Cambodia

- Cambodia has an area of 181,035 square kilometers with more than 15 millions people.
- It borders near by Thailand, Laos and Vietnam.
- This tropical country is dominated by monsoons (Wet and Dry).
- Temperature range from 21 to 35 ^{0}C(Low in Rainy season and High in Dry season)

The Gross Domestic Product(GDP)



Main Natural Disaster in Cambodia

Flood

- Mekong Flood
- Flash Flood

Drought

Storm Surge

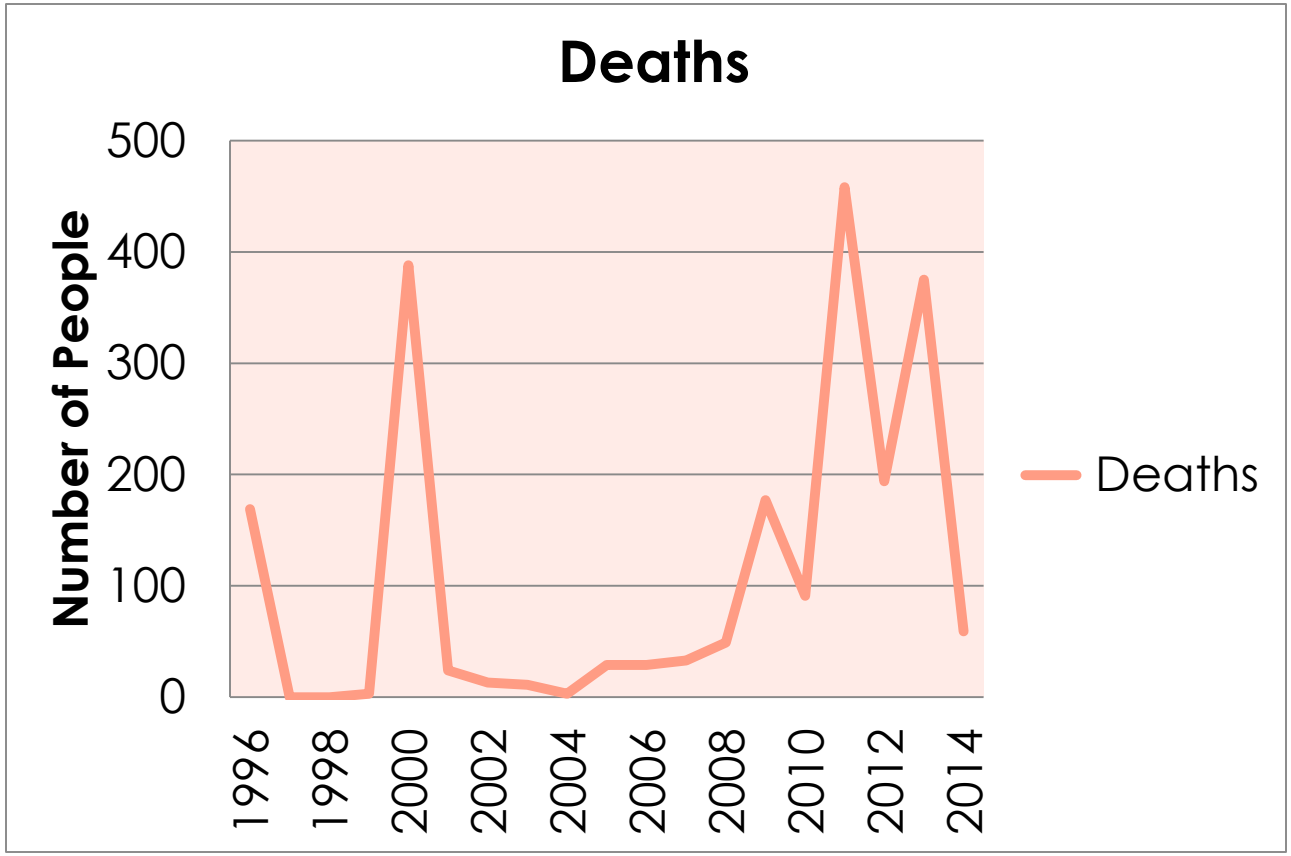
Strongwind

lightning

Flood and flashfloods in Cambodia year 2011


The Phnom Penh Post

Number of deaths (1996-2014)



Natural Disaster in Cambodia

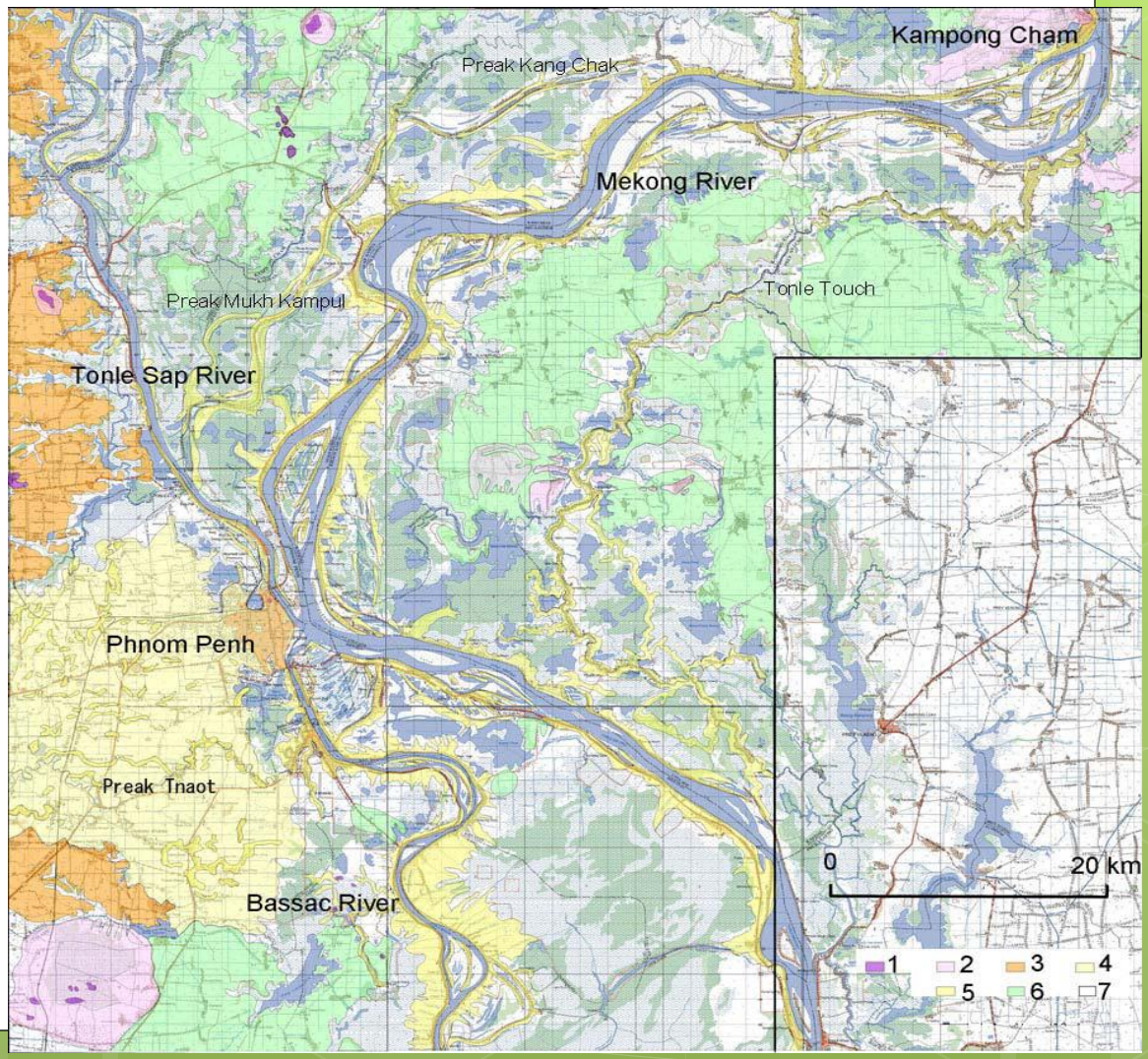
Event	Deaths	Injured	Houses Destroyed	Houses Damaged	Victims
Drought	0	0	0	0	2,515,358
Epidemic	37	0	0	0	19
Fire	104	74	3,852	375	37,968
Flood	1,131	789	2,373	19,019	12,157,154
Lightning	753	299	24	19	2,237
Pest Outbreak	0	0	0	0	2,378
River Bank Collapse	3	2	67	448	1,150
Storm	77	379	9,495	19,948	111,438
TOTAL	2,105	1,543	15,811	39,809	14,827,702

Types of Floods in Cambodia

- Mekong Floods: are caused by the overflow of Mekong tributaries and Tonle Sap river, inundating the provinces of Kampong Cham, Kratie, Kandal, Prey Veng, Stung Treng, Svay Rieng and Takeo.
- Flash Floods are caused by heavy rainfall in its river basins or by typhoons or storms affected from the neighboring countries. During the monsoon season, Cambodia experiences flash floods usually after heavy rainfall.

Water and River System in Cambodia

1) *Mekong River which bisects Cambodia about 500 km2*
2) *Bassac River which is splitted from the Mekong at Phnom Penh, flows parallelly down into the South China Sea*
3) *Tonle Sap and Great Lake with its tributaries, occupy about 80% of Cambodia*



Mekong River

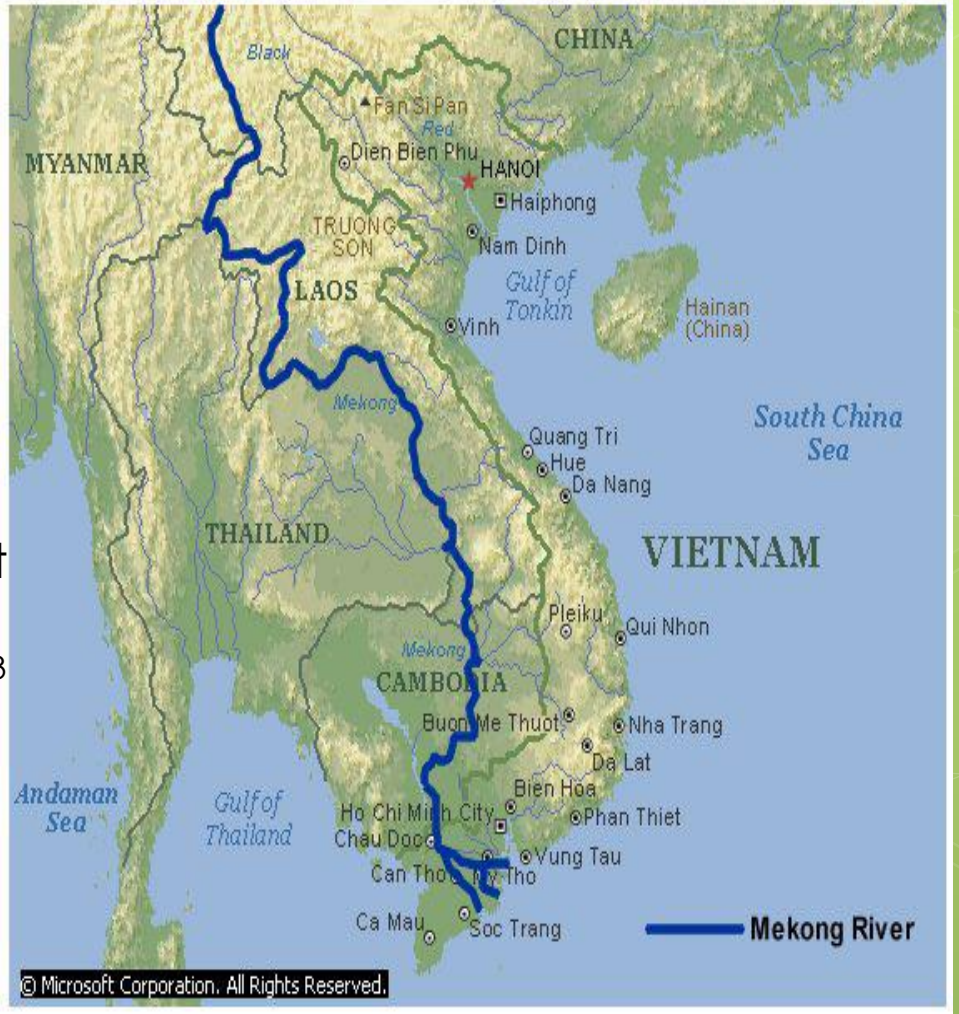
World's 12th longest river system.

Total length of 4,500 km, a drainage area of 795,000 sq. km and an average annual runoff of 475,000 million cubic meters.

500 km of Mekong River bisects Cambodia

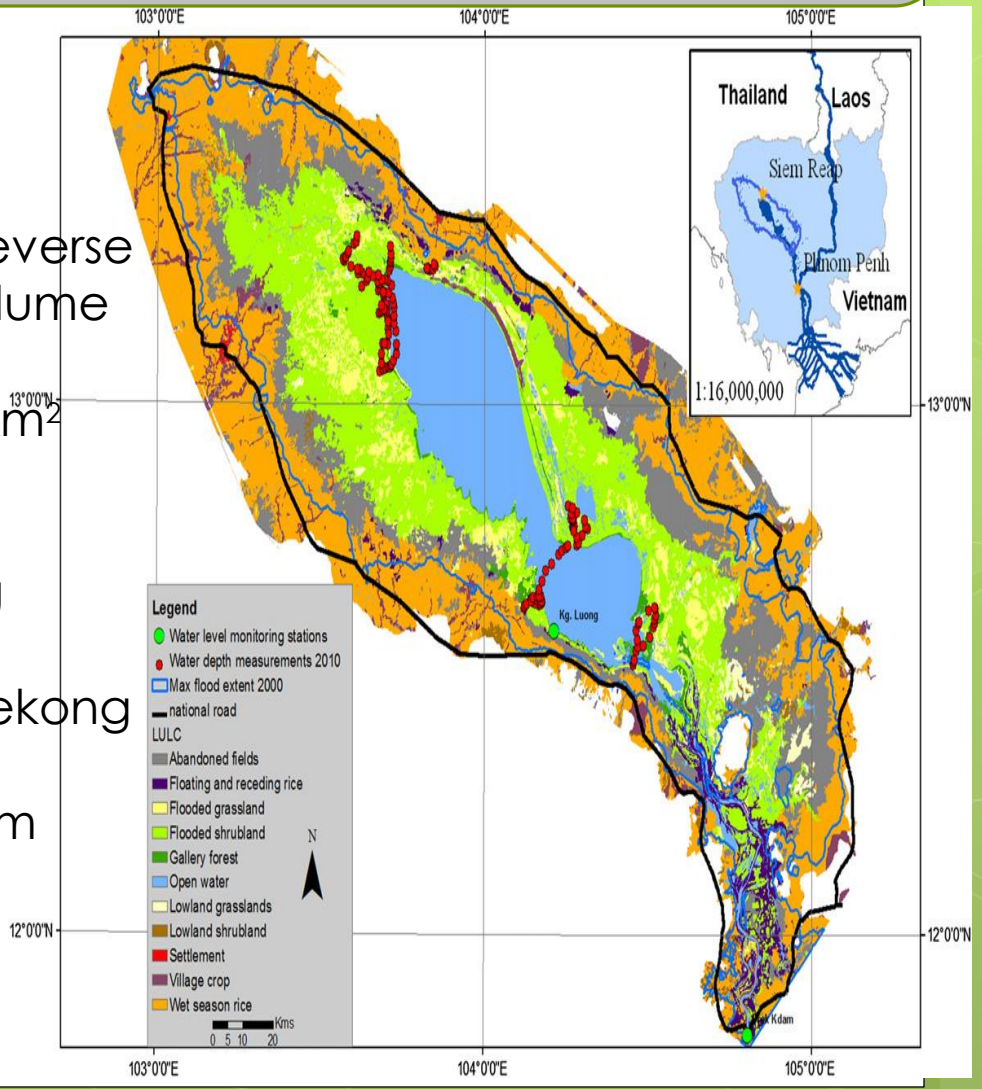
Annually water flow of the Mekong River comes to Cambodia is about 410 billion m^3 and out of it to Vietnam Delta about 500 billion m^3

The Mekong and its tributaries, combined with local rainfall, annually flood 17,100 sq km or 25% of the plain area.

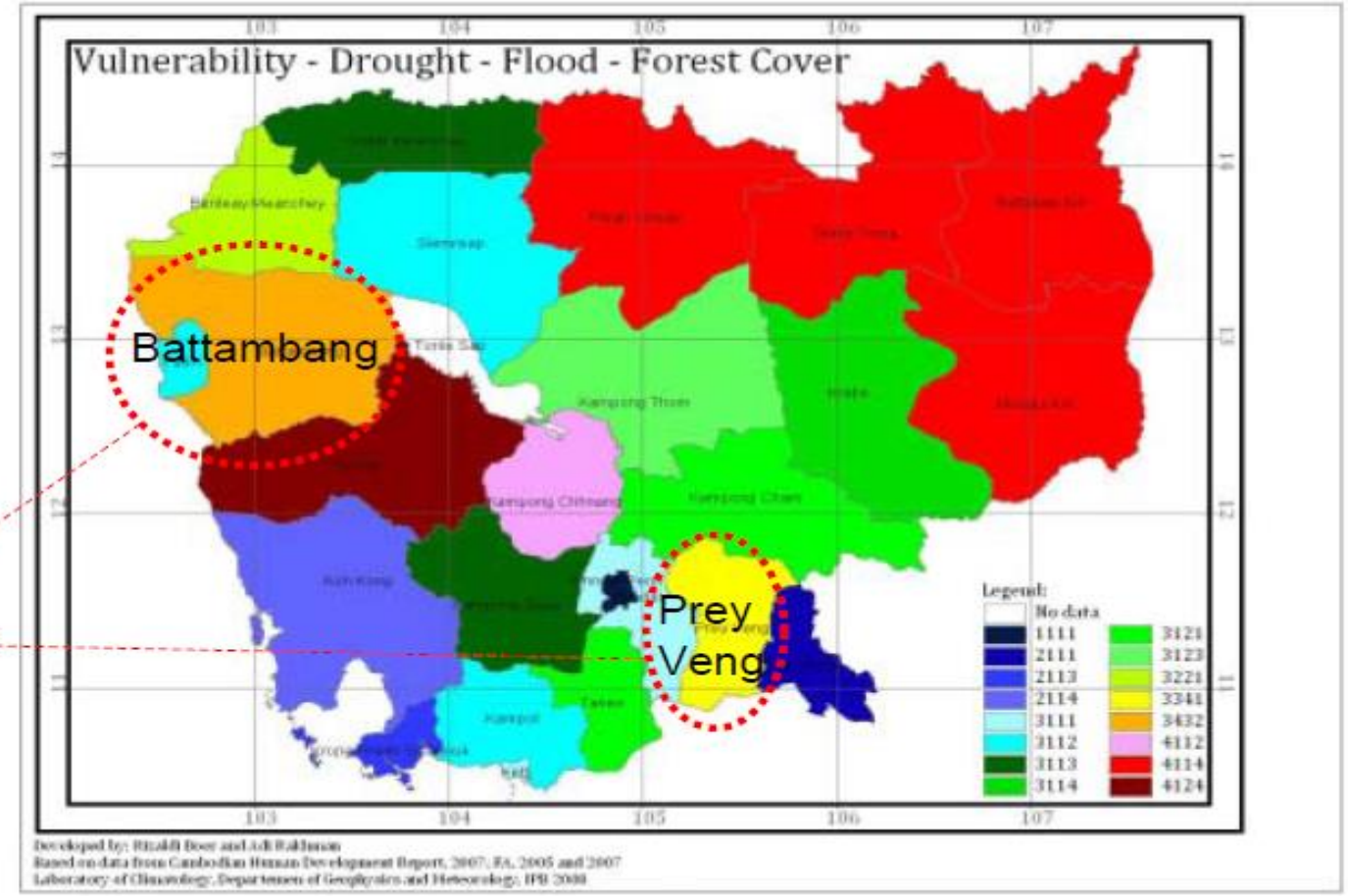


TONLE SAP Great Lake

- The biggest water lake in the Southeast Asia
- Fed annually by the Mekong Reverse Flow (receive over 50% of its volume from the Mekong flood flow).
- Mean dynamic surface= 8200 km^2
- Dry season= 2500 km^2
- Wet season = 15000 km2
- Water flows into the lake during May/June
- Water flows back into Lower Mekong and Bassac in Sep/Oct.
- Water level fluctuates from 7-8 m

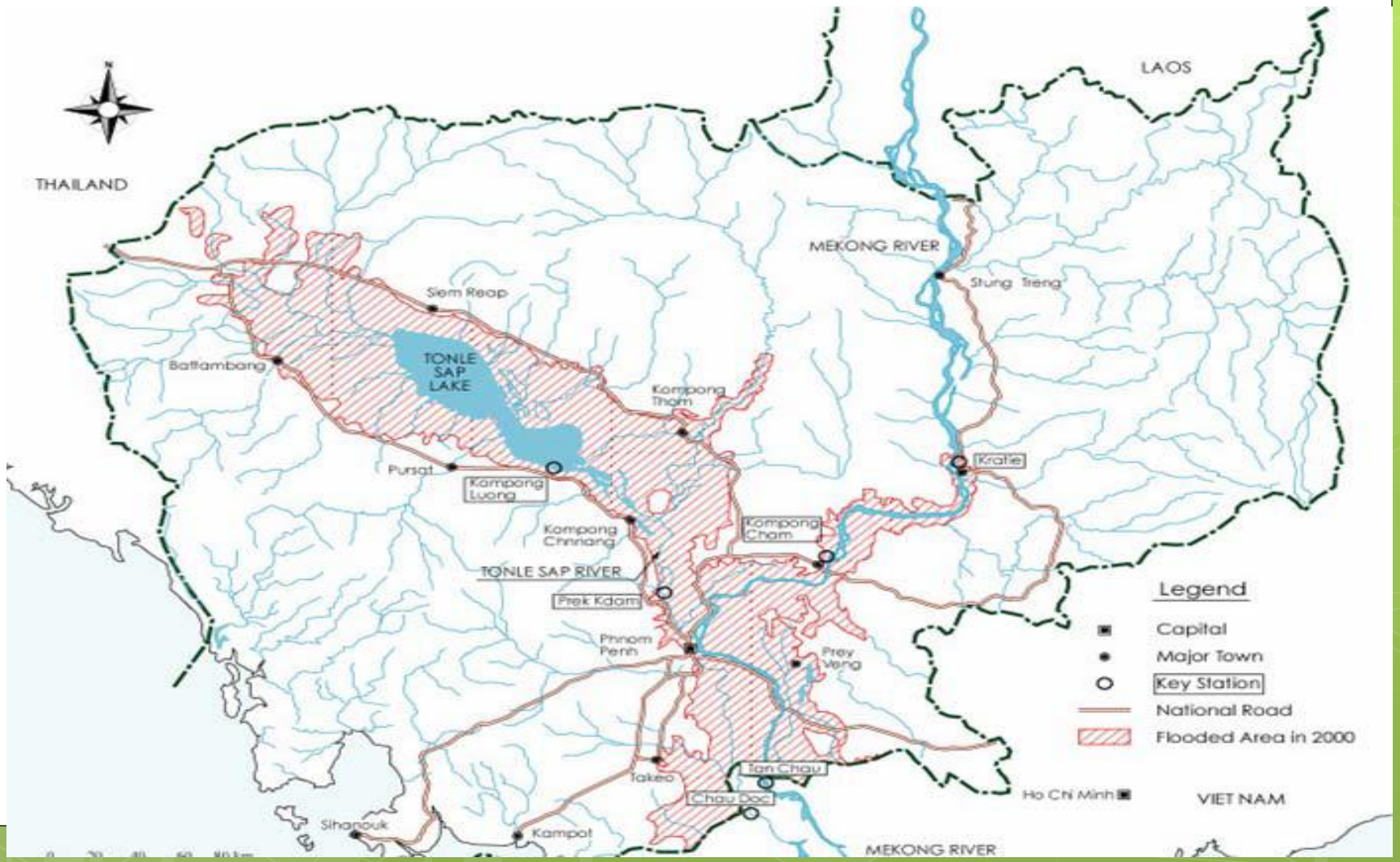


CLIMATE-VUNERABILITY INDEX FOR AGRICULTURE

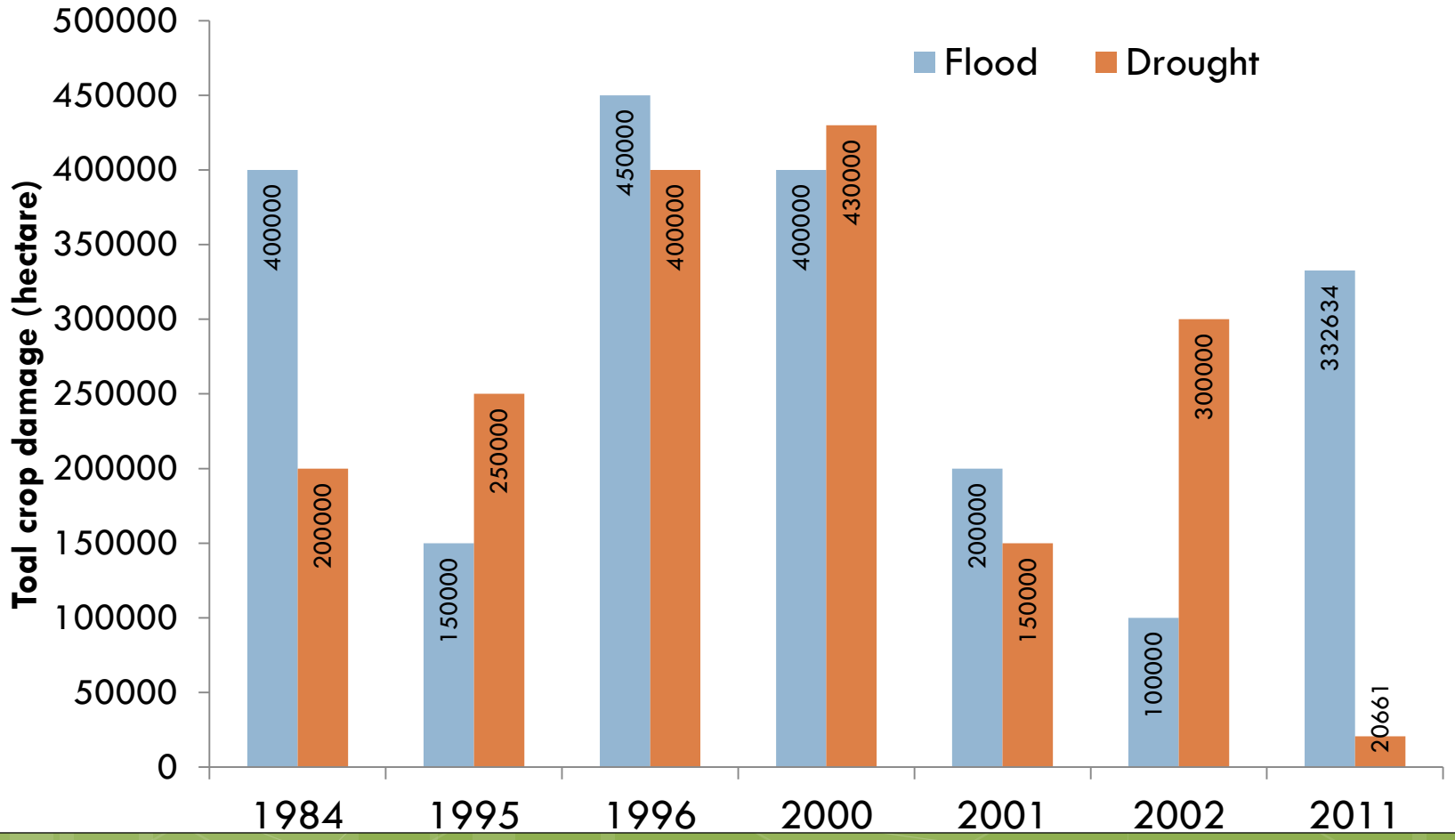


The most vulnerable province

Flood Prone Areas in Cambodia



EFFECTS OF FLOOD AND DROUGHT ON AGRICULTURAL DEVELOPMENT



The result of modeling studies in the Initial National Communication (INC) and the Second National Communication (SNC) indicates that Cambodia's mean surface temperature has increased by 0.8 since 1960. The mean monthly temperature is projected to increase between 0.013 to 0.036 per year by 2099, depending on location. The rate of temperature increase is higher in low altitude areas than in high altitude areas. shows that the global sea level rise is projected to increase between 18cm and 50cm by 2100. As increase in the temperature is likely to affect agricultural productivity. According to the International Rice Research Institute, rice grain yields decline by 10% for each 1^0C increase in minimum (night) temperature during the growing period in the dry season. Cambodia's coastline of 435km would be affected by sea-level rise, while low-lying farming areas would be exposed to saline intrusion causing damage to crop.

Eight strategies for reducing vulnerability to climate change impacts of people

I

Promote climate resilience through improving food, water and energy security.

II

Reduce sectoral, regional, gender vulnerability and health risks to climate change impact.

III

Ensure climate resilience of critical ecosystems (Tonle Sap Lake, Mekong River, Coastal ecosystems, highlands, etc.) biodiversity, protected areas and cultural heritage sites.

IV

Promote low-carbon planning and technologies to support sustainable development.

V

Improve capacities, knowledge and awareness for climate change response.

VI

Promote adaptive social protection and participatory approaches in reducing loss and damage due to climate change.

VII

Strengthen institutions and coordination frameworks for national climate change responses.

VIII

Strengthen collaboration and active participation in regional climate change processes.

Three phases of implementation

Immediate term (2013-2014)

is on putting in place institutional and finacial arrangements for the implementation of the CCCSP, development of national monitoring and evaluation (M&E) frameworks and indicators, and development of climate change action plans (2014-2018) by line ministries

Medium term (2014-2018)

will continue to support the implementation of what was planned in Phase 1, with expansion to cover other activities such as accreditation of the Adaptation Fund and Green Climate Fund, research and knowledge management, capacity development, mainstreaming of climate change across sectors at different levels, operation of M&E and data manrgement systems, and launching some high priority project/programmes.

Long term (2019-2023)

will be on research and learning, but its main objective will be to scale up success cases and to continue mainstreaming climate change into national and sub-national programmes.


Thank You!

Climate Extremes and Disaster Risk Reduction

Joy Jacqueline Pereira[1], Norhisham bin Kamarudin[2] & Mohd Ariff bin Baharom[2]

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Climate Variability refers to variations in the mean state and other statistics (such as standard deviations, the occurrence of extremes, etc.) of the climate at all spatial and temporal scales beyond that of individual weather events [IPCC-SREX, 2012].

Climate Change **refers to** change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer [IPCC-SREX, 2012]. Climate change may be due to **natural variability** or as a result of **human activity**.

Climate Change **refers to** "a change of climate which is **attributed directly or indirectly to human activity** that alters the composition of the global atmosphere and which is **in addition to natural climate variability** observed over comparable time periods." (Article 1, UNFCCC)

Climate Change **refers to any change in climate over time that directly or indirectly affects humans and their activities as well as natural systems and its processes (National Policy on Climate Change, 2008)**

Exposure refers to the presence of people; livelihoods; environmental services and resources; infrastructure; or economic, social, or cultural assets in places that could be adversely affected.

Vulnerability refers to the propensity or predisposition to be adversely affected.

Resilience refers to the ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions.

Susceptibility refers to the physical predisposition of human beings, infrastructure, and environment to be affected by a dangerous phenomenon due to lack of resistance and …….such systems once impacted will collapse or experience major harm and damage due to the influence of a hazard event.

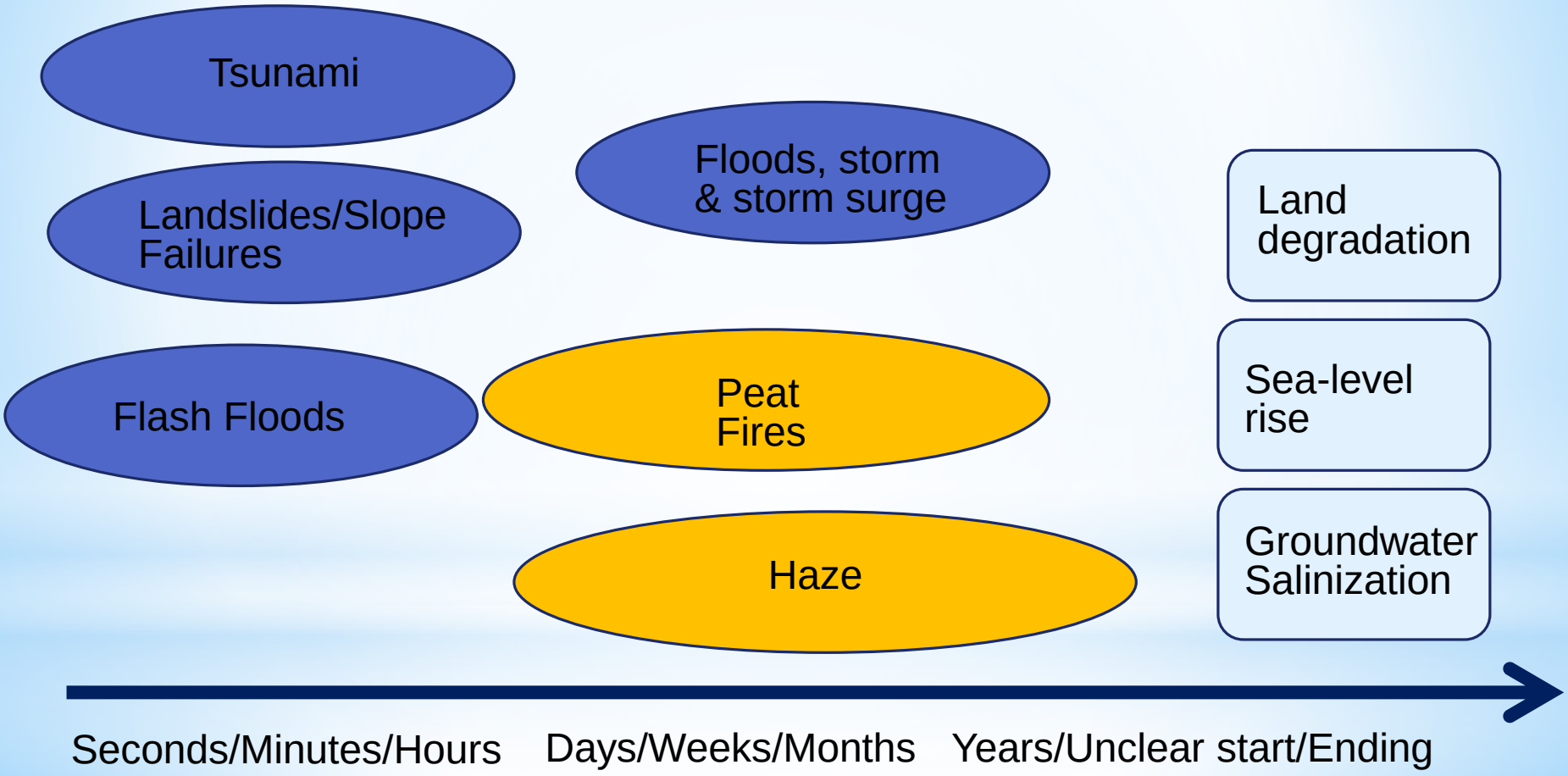
Source: IPCC, 2012

Attribution of Extreme Events

There is evidence that some extremes have changed as a result of anthropogenic influences, including increases in atmospheric concentrations of greenhouse gases. It is *likely* that anthropogenic influences have led to **warming** of extreme daily minimum and maximum temperatures at the global scale. There is *medium confidence* that anthropogenic influences have contributed to intensification of extreme precipitation at the global scale. It is *likely* that there has been an anthropogenic influence on increasing **extreme coastal high water** due to an increase in mean sea level. The uncertainties in the historical tropical cyclone records, the incomplete understanding of the physical mechanisms linking tropical cyclone metrics to climate change, and the degree of tropical cyclone variability provide only *low confidence* for the attribution of any detectable changes in tropical cyclone activity to anthropogenic influences. **Attribution of single extreme events** to anthropogenic climate change is challenging. [3.2.2, 3.3.1, 3.3.2, 3.4.4, 3.5.3, Table 3-1]

Source: IPCC, 2012

Fast & Slow Onset Events



24

Asia

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Chapter 24, Asia: Coverage - 51 countries/regions

Source: IPCC, 2014

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Central Asia (5)
- Kazakhstan
- Kyrgyzstan
- Tajikistan
- Turkmenistan
- Uzbekistan

North Asia (2)
- Mongolia
- Russia (East of Urals)

East Asia (7)
- China, Hong Kong Special Administrative Region (Hong Kong SAR)
- China, Macao Special Administrative Region
- Japan
- North Korea
- People's Republic of China (China)
- South Korea
- Taiwan Province of China (Taiwan POC)

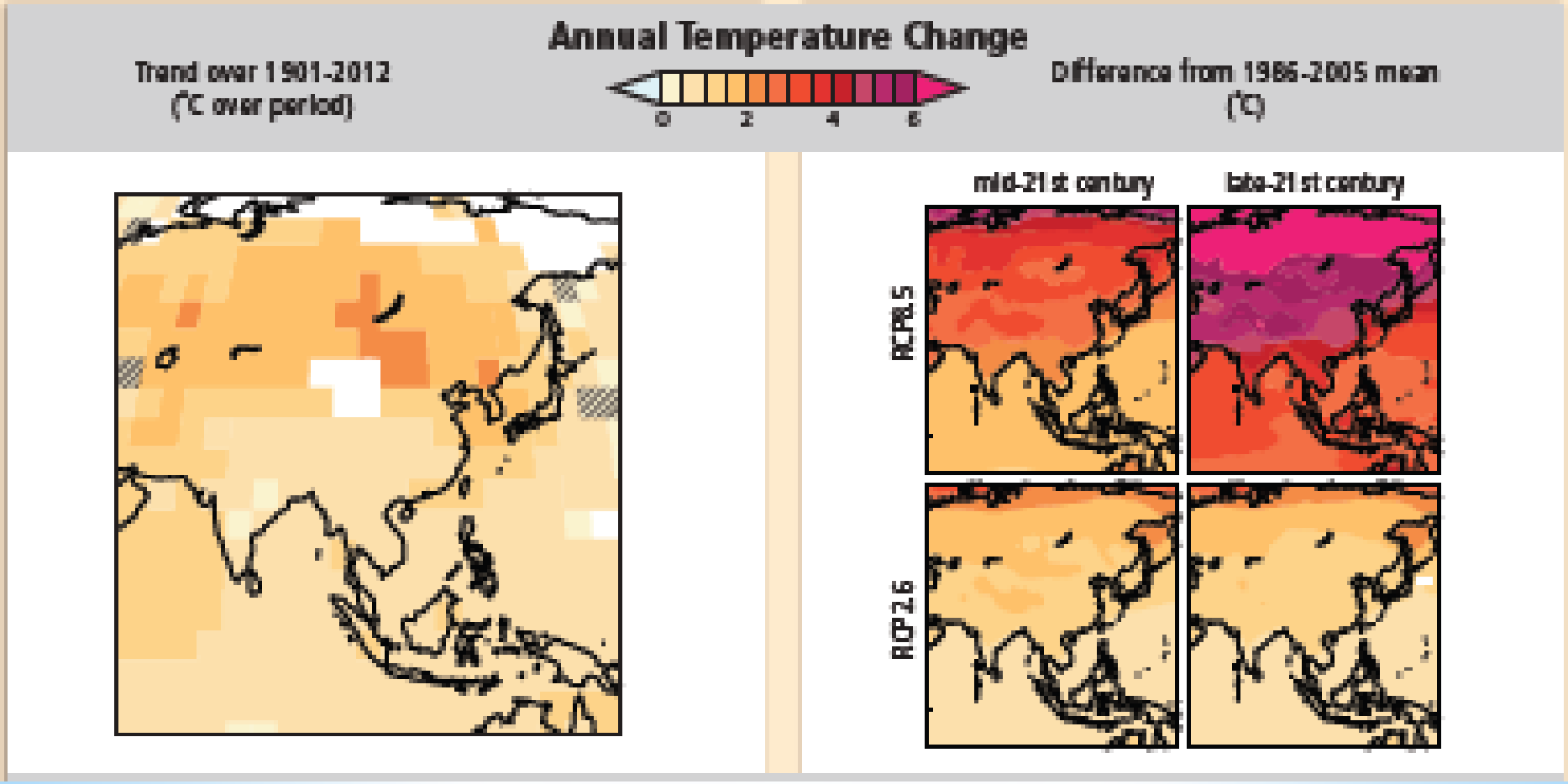
West Asia (17)
- Armenia
- Azerbaijan
- Bahrain
- Georgia
- Iran
- Iraq
- Israel
- Jordan
- Kuwait
- Lebanon
- Palestine
- Oman
- Qatar
- Saudi Arabia
- Syria
- United Arab Emirates
- Yemen

South Asia (8)
- Afghanistan
- Bangladesh
- Bhutan
- India
- Maldives
- Nepal
- Pakistan
- Sri Lanka

Southeast Asia (12)
- Brunei
- Indonesia
- Lao People's Democratic
- Malaysia
- Myanmar
- Papua New Guinea
- The Philippines
- Republic Cambodia
- Singapore
- Thailand
- Timor-Leste
- Vietnam

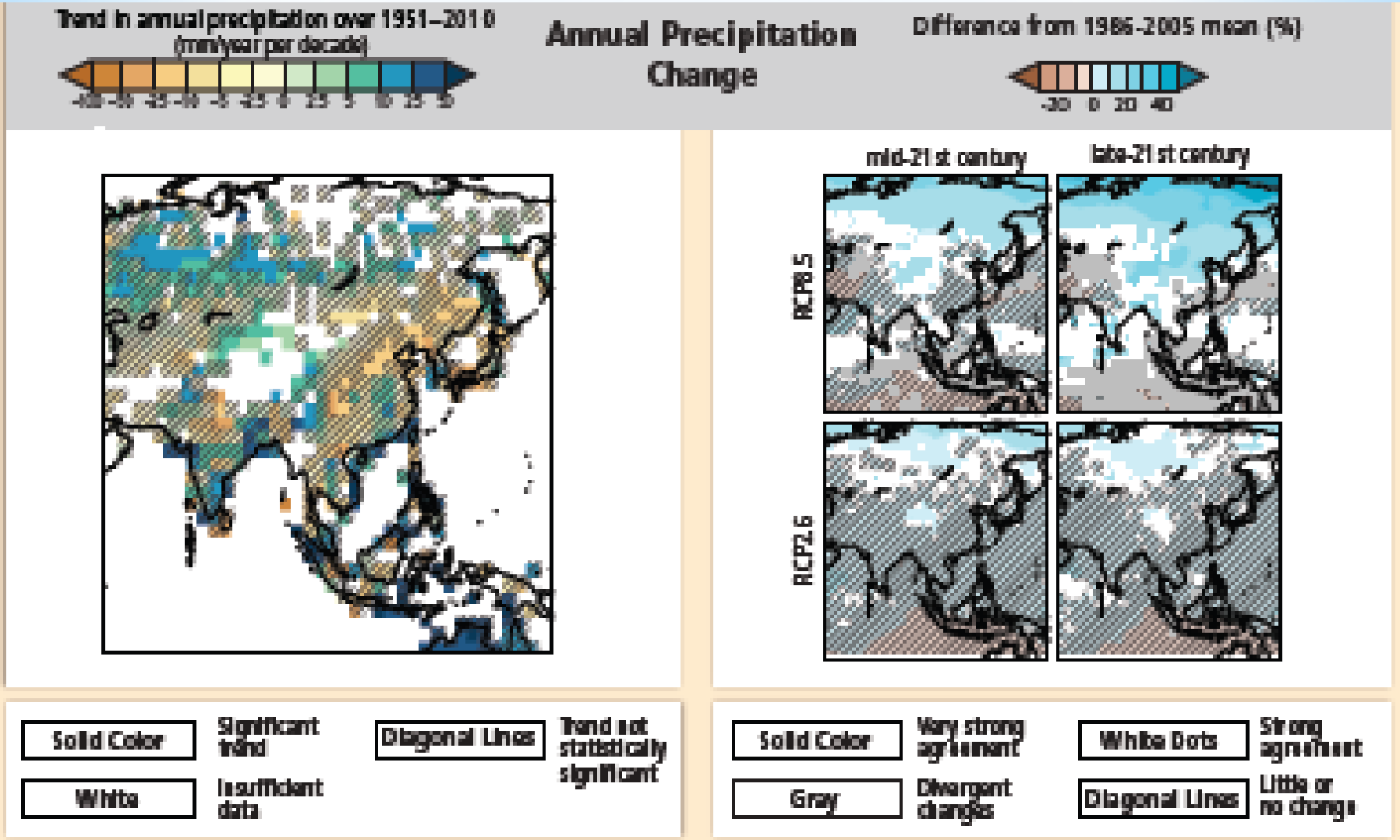
Chapter 24, Asia:
Observed and projected changes in annual average temperature in Asia

Source: IPCC, 2014



Chapter 24, Asia:
Observed and projected changes in annual average precipitation in Asia

Source: IPCC, 2014



Observations of Past Events

Source: IPCC, 2013

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Climate Phenomenon	Asia	Southeast Asia
Heat Waves	It is likely that the frequency of heat waves has increased in large parts of Asia.	No Specific Observations
Drought	There is medium confidence that more megadroughts occurred in monsoon Asia and wetter conditions prevailed in arid Central Asia monsoon region during the Little Ice Age (1450–1850) compared to the Medieval Climate Anomaly (950–1250).	No Specific Observations
Floods	With high confidence, past floods larger than recorded since the 20th century occurred during the past five centuries in eastern Asia. There is medium confidence that in the Near East and India modern large floods are comparable or surpass historical floods in magnitude and/or frequency.	No Specific Observations

Future Projections

Source: IPCC, 2013

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Climate Phenomenon	Asia	Southeast Asia
Precipitation	Future increase in precipitation extremes related to the monsoon is very likely in East Asia, South Asia and Southeast Asia.	Future **increase in precipitation extremes** related to the monsoon is very likely in Southeast Asia.
	Indian monsoon rainfall is projected to increase. For the East Asian summer monsoon, both monsoon circulation and rainfall are projected to increase.	There is low confidence in projections of future changes in the Madden-Julian Oscillation due to the poor skill in model simulations of this intraseasonal phenomenon and the sensitivity to ocean warming patterns. **Future projections of regional climate extremes in Southeast Asia are therefore of low confidence.**
		Reduced precipitation in Indonesia in Jul-Oct due to pattern of Indian Ocean warming (RCP 4.5 or higher end scenarios)
El Niño-Southern Oscillation	Natural modulations of the variance and spatial pattern of El Niño-Southern Oscillation are so large that confidence in any projected change for the 21st century remains low. Confidence is low in changes in climate impacts for most of Asia.	**Low Confidence in any projected change** for the 21st century.

Sea Level Rise (IPCC 2013)

Source: IPCC, 2013

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- Projected climate change (based on RCPs) **in AR5 is similar to AR4** in both patterns and magnitude, after accounting for scenario differences.
- Projections of global mean sea level rise **has increased in confidence** since the AR4 because of the improved physical understanding of the components of sea level, the improved agreement of process-based models with observations, and the inclusion of ice-sheet dynamical changes.
- Global mean sea level **will continue to rise during the 21st century**. Under all RCP scenarios the rate of sea level rise will *very likely* exceed that observed during 1971–2010 due to increased ocean warming and increased loss of mass from glaciers and ice sheets.

Sea Level Rise (IPCC 2013)

Source: IPCC, 2013

INTERGOVERNMENTAL PANEL ON climate change

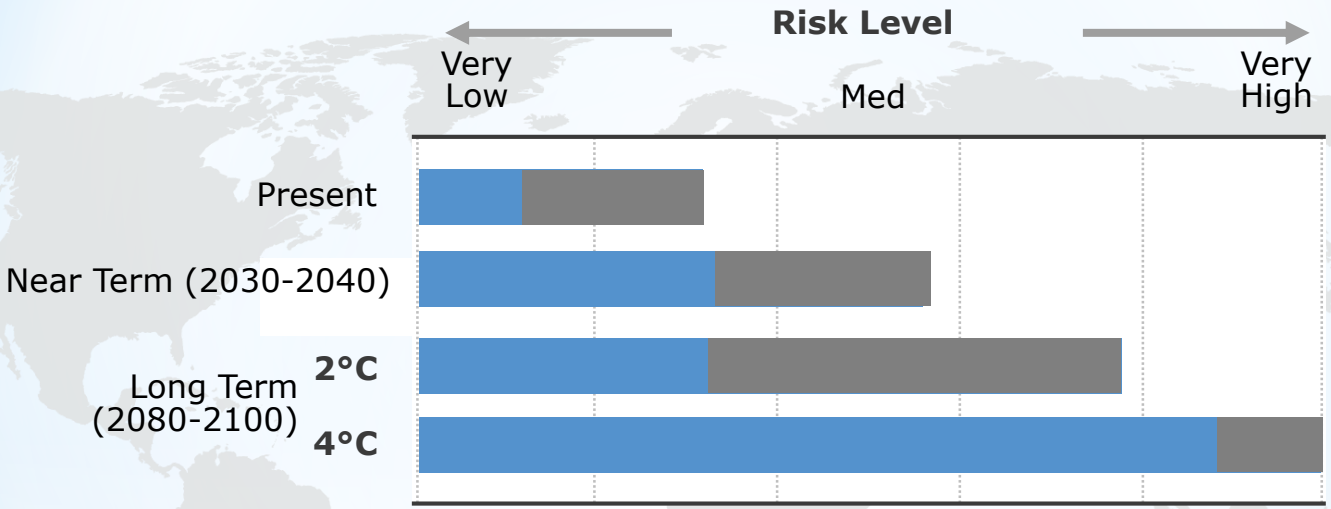
Global mean sea level rise for 2081–2100 relative to 1986–2005 will *likely* be in the following ranges:

- 0.26 to 0.55 m (RCP2.6)
- 0.32 to 0.63 m (RCP4.5)
- 0.33 to 0.63 m (RCP6.0)
- 0.45 to 0.82 m (RCP8.5) – medium confidence

Sea level rise will **not be uniform**. By the end of the 21st century, it is *very likely* that sea level will rise in more than about 95% of the ocean area.

About 70% of the coastlines worldwide are projected to experience sea level change **within 20% of the global mean sea level change**.

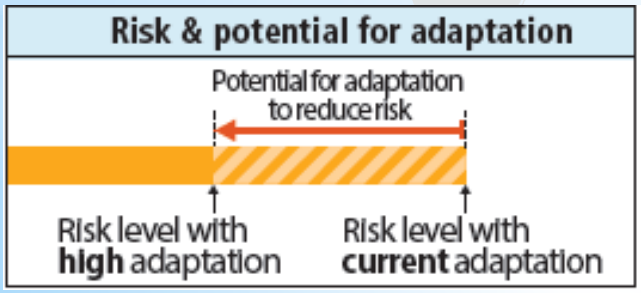
Assessing risk



Risk Level with **High** Adaptation

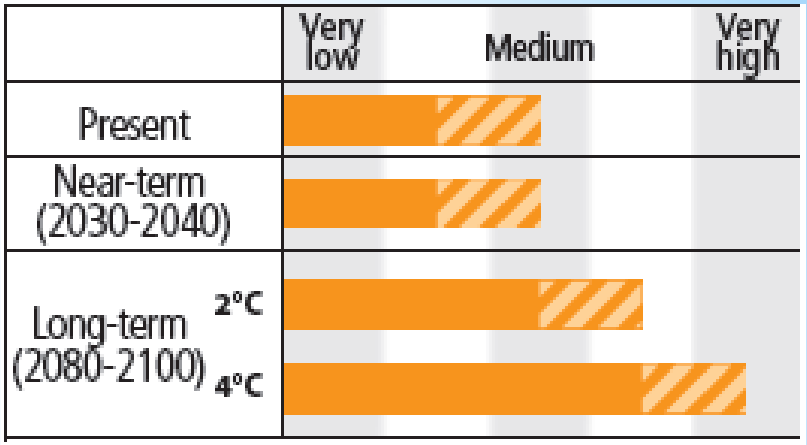
Risk Level with **Current** Adaptation

Potential for Additional Adaptation to Reduce Risk

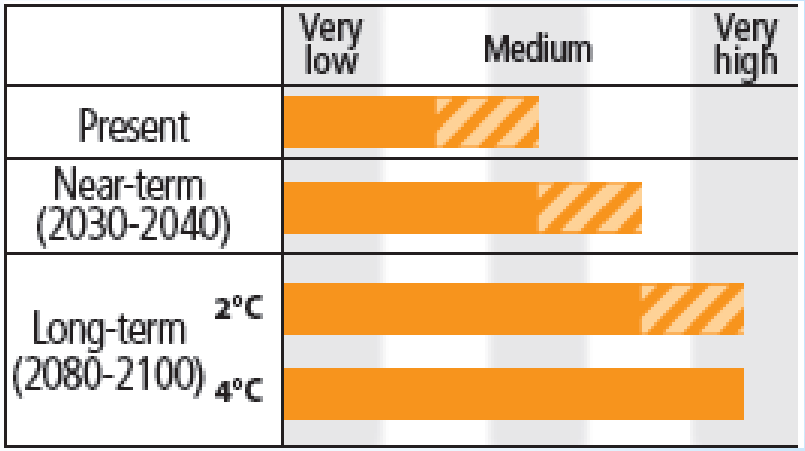


Key Risks in Asia

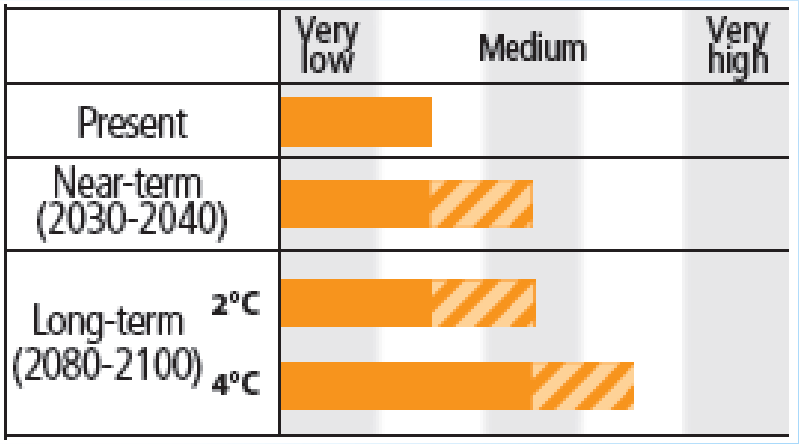
Increased coastal, riverine and urban flooding leading to widespread damage to infrastructure and settlements in Asia (medium confidence)



Increased risk of heat-related mortality (high confidence)



Increased risk of drought-related water and food shortage causing malnutrition (high confidence)



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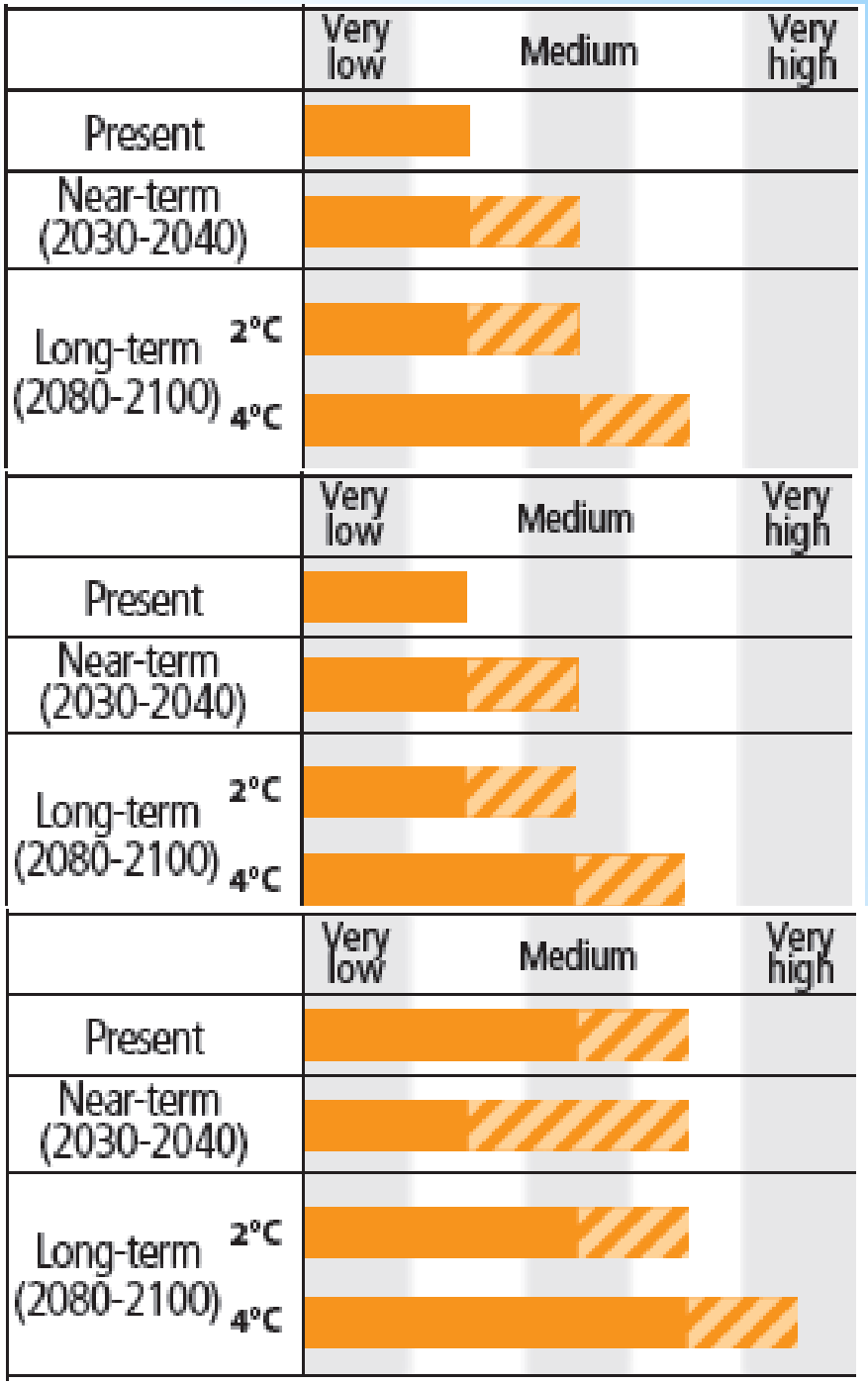
Key Risks in Asia

Increased risk of flood-related deaths, injuries, infectious diseases and mental disorders (medium confidence)

Increased risk of water and vector-borne diseases (medium confidence)

Exacerbated poverty, inequalities and new vulnerabilities (high confidence)



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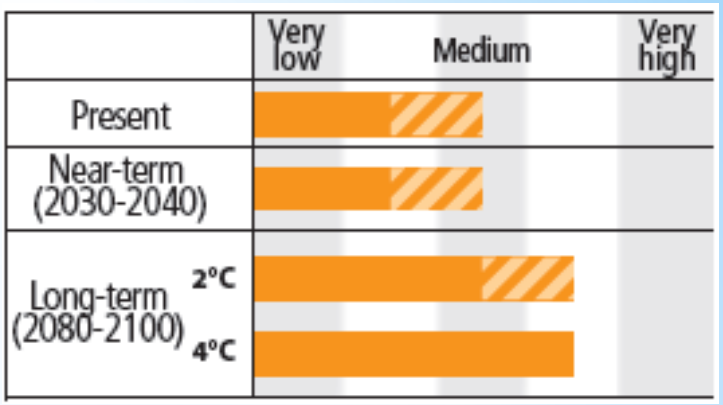
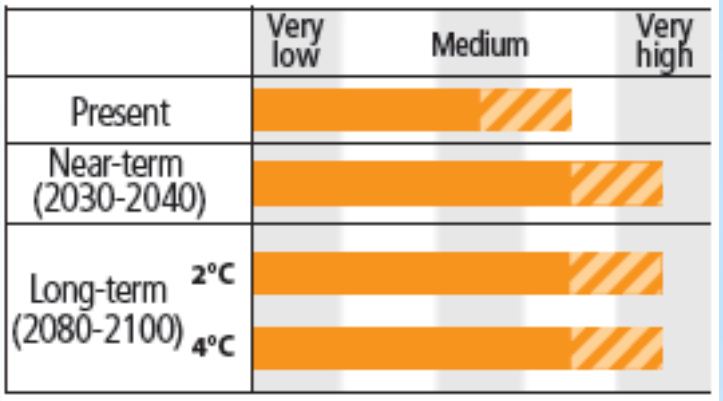
Key Risks in Asia

Increased risk of crop failure and lower crop production could lead to food insecurity in Asia (medium confidence)

Water shortage in arid areas of Asia (medium confidence)





KEY CONCLUSIONS: IPCC-WG2 Chapter 24, Asia

- Water scarcity is expected to be a major challenge for most of the region due to increased water demand and lack of good management (*medium confidence*)
- There is *low confidence* in future precipitation projections at a sub-regional scale and thus in future freshwater availability in most parts of Asia.
- Integrated water management strategies could help adapt to climate change, including developing water saving technologies, increasing water productivity, and water reuse.

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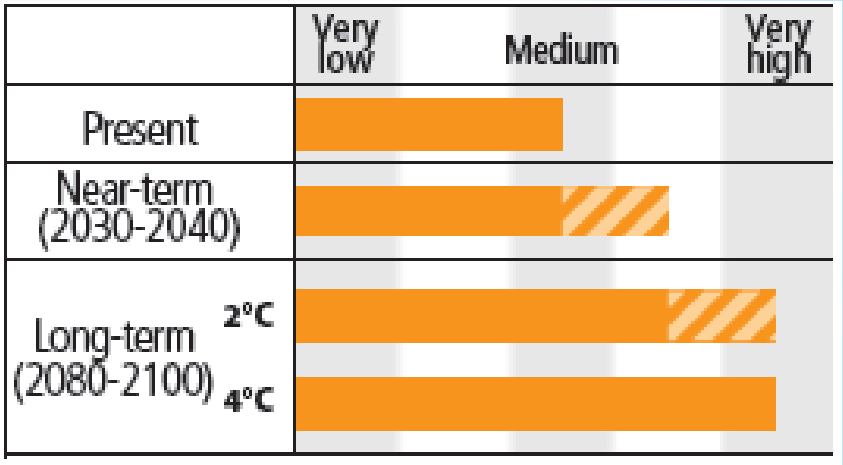
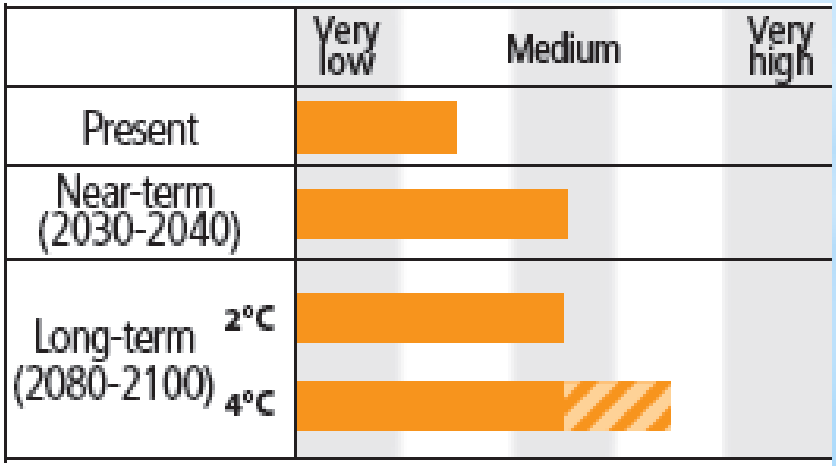
Key Risks in Asia

Coral reef decline in Asia (high confidence)



Mountain-top extinctions in Asia (high confidence)



Chapter 24, Asia: Coverage of Information

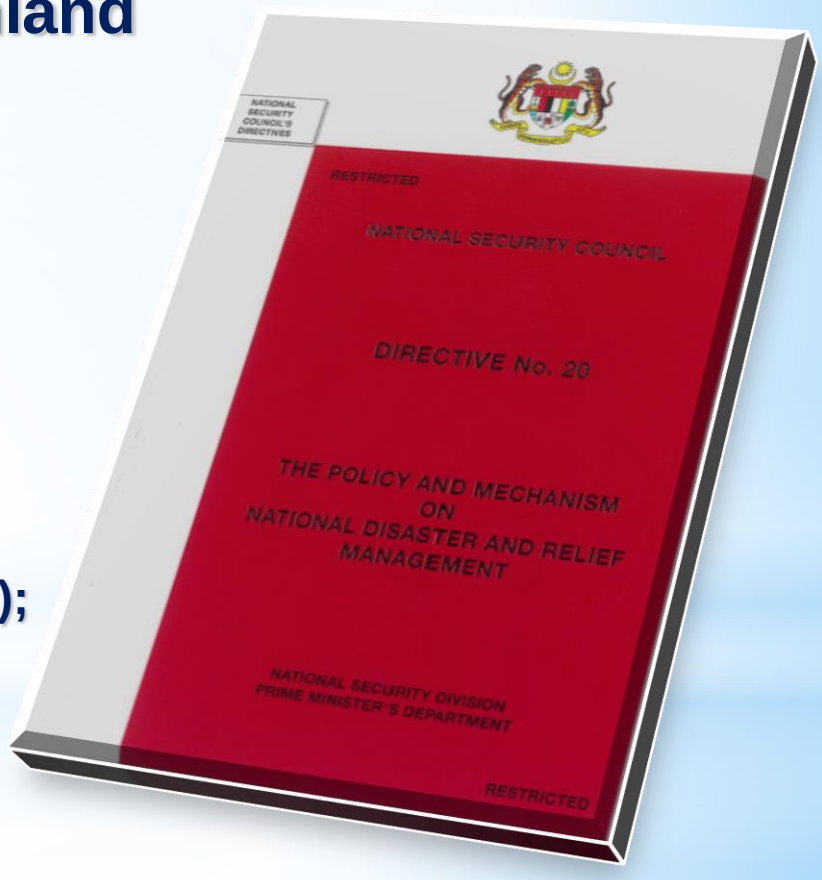
Source: IPCC, 2014

ipcc INTERGOVERNMENTAL PANEL ON climate change

Sector	Topics/issues	North Asia		East Asia		Southeast Asia		South Asia		Central Asia		West Asia	
	O = Observed impacts, P = Projected Impacts	O	P	O	P	O	P	O	P	O	P	O	P
Freshwater resources	Major river runoff	/	x	/	/	/	/	/	x	x	x	x	x
	Water supply	x	x	x	x	x	x	x	x	x	x	x	x
Terrestrial and inland water systems	Phenology and growth rates	/	/	/	/	x	x	x	x	x	x	x	x
	Distributions of species and biomes	/	/	/	/	x	x	x	/	x	x	x	x
	Permafrost	/	/	/	/	/	x	/	/	/	/	/	x
	Inland waters	x	x	/	x	x	x	x	x	x	x	x	x
Coastal systems and low-lying areas	Coral reefs	NR	NR	/	/	/	/	/	/	NR	NR	/	/
	Other coastal ecosystems	x	x	/	/	x	x	x	x	NR	NR	x	x
	Arctic coast erosion	/	/	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Food production systems and food security	Rice yield	x	x	/	/	x	/	x	/	x	x	X	/
	Wheat yield	x	x	x	x	x	x	x	/	x	x	/	/
	Corn yield	x	x	x	/	x	x	x	x	x	x	x	x
	Other crops (e.g., barley, potato)	x	x	/	/	x	x	x	x	x	X	/	/
	Vegetables	x	x	/	x	x	x	x	x	x	x	x	x
	Fruits	x	x	/	x	x	x	x	x	x	x	x	x
	Livestock	x	x	/	x	x	x	x	x	x	x	x	x
	Fisheries and aquaculture production	x	/	x	/	x	/	x	x	x	x	x	x
	Farming area	x	/	x	/	x	x	x	/	x	/	x	x
	Water demand for irrigation	x	/	x	/	x	x	x	/	x	x	x	x
	Pest and disease occurrence	x	x	x	x	x	x	x	/	x	x	x	x
Human settlements, industry, and infrastructure	Floodplains	x	x	/	/	/	/	/	/	x	x	x	x
	Coastal areas	x	x	/	/	/	/	/	/	NR	NR	x	x
	Population and assets	x	x	/	/	/	/	/	/	x	x	x	x
	Industry and infrastructure	x	x	/	/	/	/	/	/	x	x	x	x
Human health, security, livelihoods, and poverty	Health effects of floods	x	x	x	x	x	x	/	x	x	x	x	x
	Health effects of heat	x	x	/	x	x	x	x	x	x	x	x	x
	Health effects of drought	x	x	x	x	x	x	x	x	x	x	x	x
	Water-borne diseases	x	x	x	x	/	x	/	x	x	x	x	x
	Vector-borne diseases	x	x	x	x	/	x	/	x	x	x	x	x
	Livelihoods and poverty	x	x	/	x	x	x	/	x	x	x	x	x
	Economic valuation	x	x	x	x	/	/	/	/	x	x	x	x

* Disaster Management Framework

* **Experience the collapse of Highland Towers in 1993;**
* **NSC Directive No. 20 came into force in 11 May 1997;**
* **Reviewed on 30 Mac 2012;**
* **Needs to manage:**
  * **Total Disaster Risk Management (TDRM);**
  * **increase in complexity;**
  * **engage private, NGO and community;**
  * **take into account AADMER & other international arrangements.**



* Aims of Directive No. 20

Outlines:

Policy and Mechanism on Disaster and Relief Management on Land

Based on:

Levels of Government Administration

By:

Establishing a holistic management mechanism at the stage of pre, during & post disaster; and

determining roles & responsibilities of various Government Agencies, statutory bodies, the private sector and voluntary bodies in disaster management in disaster management.

* Disaster Management Framework

MAKING DISASTER RISK REDUCTION A PRIORITY

- Legal framework and policy
- Mainstreaming Disaster Risk Reduction into the Development Policy, Planning and Implementation

IDENTIFYING, ASSESSING AND MONITORING RISK AND ENHANCING EARLY WARNING

- Risk Mapping
- Early Warning and Disseminations

BUILDING A CULTURE OF RESILIENCE TO DISASTERS THROUGH AWARENESS, EDUCATION AND TRAINING

- Public Awareness Program

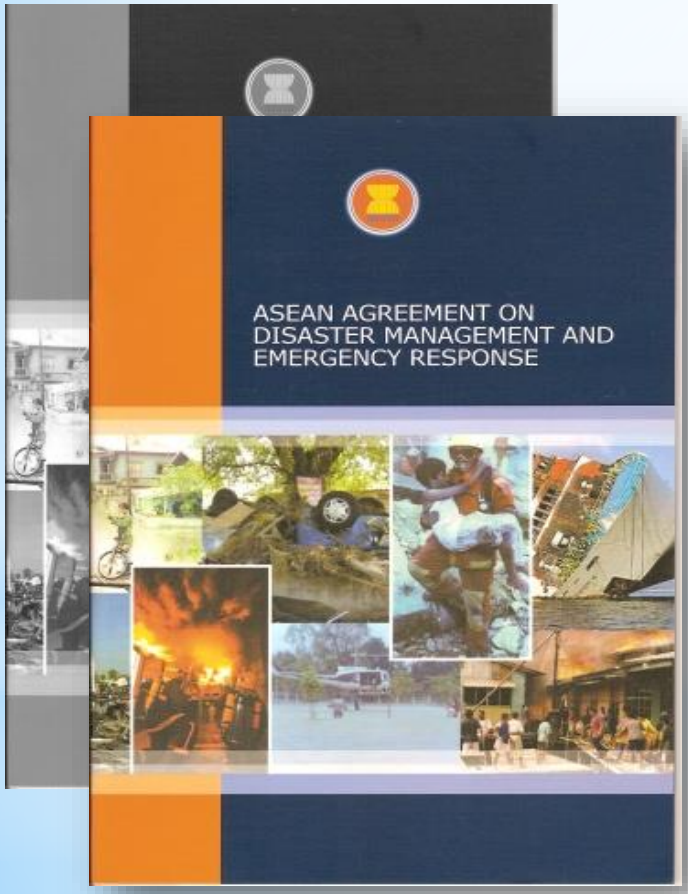
REDUCING RISK IN KEY SECTORS

- Environmental Management and Climate Change Adaptation

STRENGTHENING DISASTER PREPAREDNESS FOR EFFECTIVE RESPONSE

- Capacity Building and Assets Enhancement

* ASEAN AGREEMENT ON DISASTER MANAGEMENT AND DISASTER RESPONSE (AADMER)



ASEAN Agreement on Disaster Management and Emergency Response

Signed in July 2005, ratified by all ten (10) ASEAN Member Countries, entered into force on 24 December 2009

Objective: Reduce disaster losses in ASEAN region, and jointly respond to disaster emergencies

A legal framework for all ASEAN Member States and serves as a **common platform** in responding to disasters within ASEAN

ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre) as the operational coordination body and engine of AADMER

Financial Aspects

* Central and State Governments through their respective agencies are responsible to allocate funds for the purpose of Disaster management and Disaster Risk Reduction;
* Donation drives for a specific disaster may channel financial contribution to the National Disaster Relief Trust Fund (NDRTF).
* RMK-11 – special allocation for DRR adminsitered by the National Security Council

NATIONAL PLATFORM AND ACTION PLAN FOR DISASTER RISK REDUCTION (MyDRR)

- **The National Security Council (MKN) of the Prime Minister's Department is entrusted with the responsibility of ensuring the effectiveness of the disaster management mechanisms in the country as mandated by MKN Directive 20.**

- **MKN is formalising existing arrangements for DRR and expanding the array of stakeholders through establishment of the National Platform on DRR, which was announced in 2013.**

- **The National Action Plan for DRR (MyDRR) is now undergoing stakeholder consultation. Formal workshops have been held with government agencies, non-government organisations and the private sector.**

NATIONAL ACTION PLAN FOR DISASTER RISK REDUCTION (MyDRR)

GOAL

Towards Sustainable Development and Resilient Communities though Disaster Risk Reduction

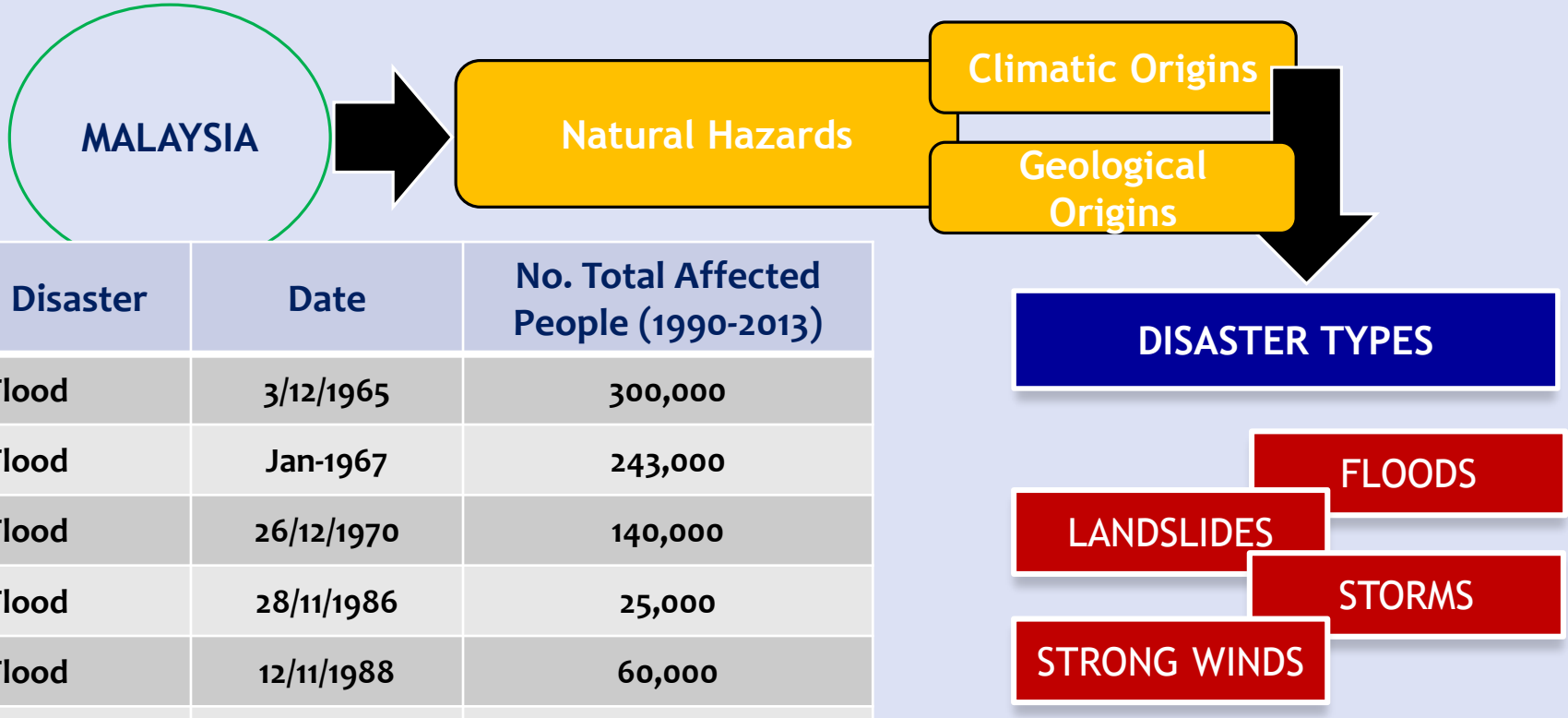
OBJECTIVES

- ❑ **Mainstreaming DRR in national development;**
- ❑ **Enhancing capacity for holistic and effective disaster management at all levels;**
- ❑ **Strengthening monitoring systems, early warning and information dissemination on disasters; and**
- ❑ **Developing a culture of resilience to current and emerging hazards and disasters at the community level.**

MyDRR – KEY ACTION AREAS

- Formulation and implementation of laws related to disaster management;
- Integration of risk reduction measures in the development agenda at all levels;
- Assessment of hazards and risks
- Infrastructure for disaster mitigation and early warning systems;
- Disaster preparedness at all levels;
- Disaster response mechanisms;
- Disaster Recovery and Reconstruction

NATURAL HAZARDS IN MALAYSIA

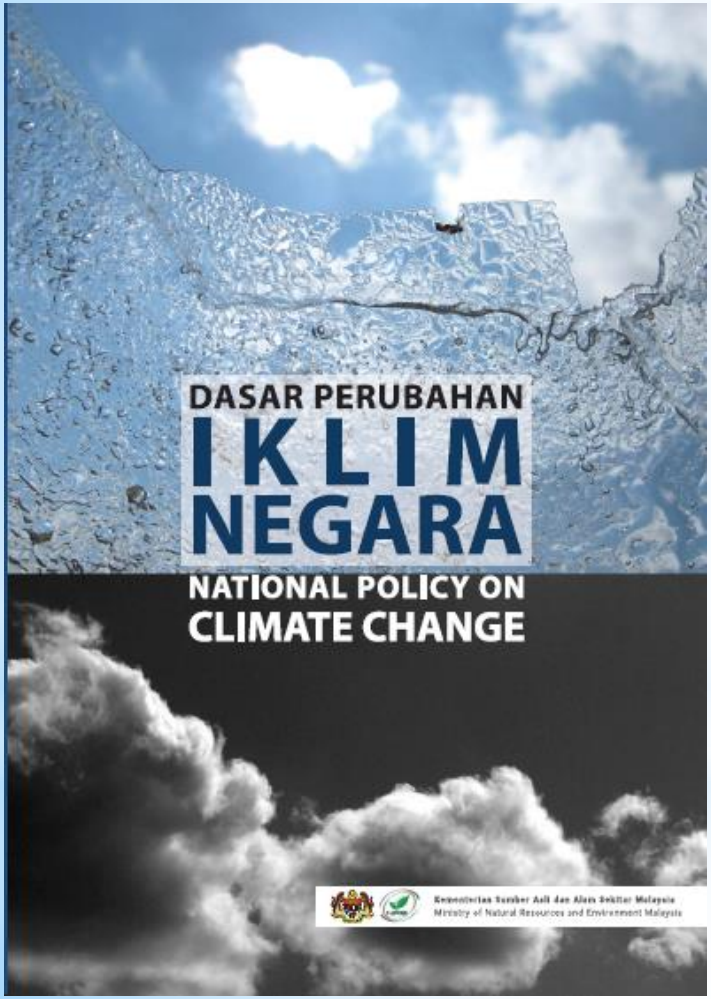


Disaster	Date	No. Total Affected People (1990-2013)
Flood	3/12/1965	300,000
Flood	Jan-1967	243,000
Flood	26/12/1970	140,000
Flood	28/11/1986	25,000
Flood	12/11/1988	60,000
Flood	6/11/1988	40,000
Flood	23/11/2005	30,000
Flood	19/12/2006	100,000
Flood	11/1/2007	137,533
Flood	7/12/2007	29,000

Natural hazards in Malaysia are influenced by climatic factors

Source: http://www.emdat.be/result-country-profile

National Policy on Climate Change (2009)



Climate-resilient development – development that takes into account measures to address climate change and extreme weather in line with national priorities.

Broadened definition enables the National Policy on Climate Change to serve as an instrument to harmonise and integrate to the extent possible and in line with national priorities, measures on climate change adaptation, mitigation and disaster risk reduction

5 Principles, 10 Strategic Thrusts & 43 Key Actions

KEY ACTIONS RELATED TO DRR IN THE NATIONAL POLICY ON CLIMATE CHANGE (2009)

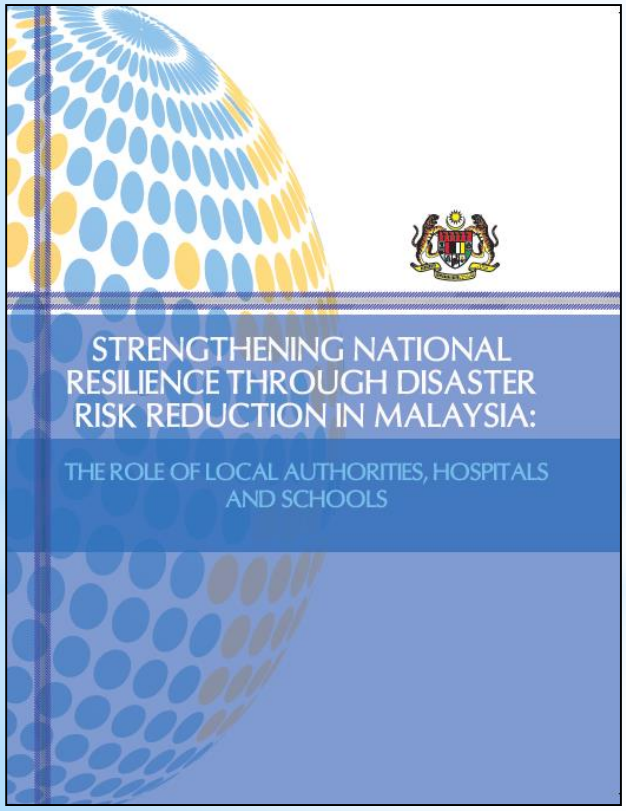
RATIONALE: Climate change and extreme weather have intensified the occurrence of natural disasters, amongst others sea-level rise, floods, landslides, coastal and land erosion, drought, forest fires and haze, which have impacted human safety and health, threatened the fabric of the nation's economy and caused changes to natural and built landscapes.

- Conduct systematic reviews and harmonise existing legislation, policies and plans, taking into account and proposing relevant balanced adaptation and mitigation measures to address DRR [KA1 - ST1]
- Incorporate measures, including mobilising financing and technical assistance for DRR [KA13 - ST4]
- Integrate measures into policies, plans, programmes and projects in DRR [KA25 - ST6]
- Establish and implement a national R&D agenda on climate change taking into account vulnerability due to extreme weather events and natural disasters [KA28 - ST7]
- Strengthen national data repository through periodic national inventory by establishing a database/inventory on natural disasters and extreme weather events [KA29 - ST7]

DRR & CCA Linkage

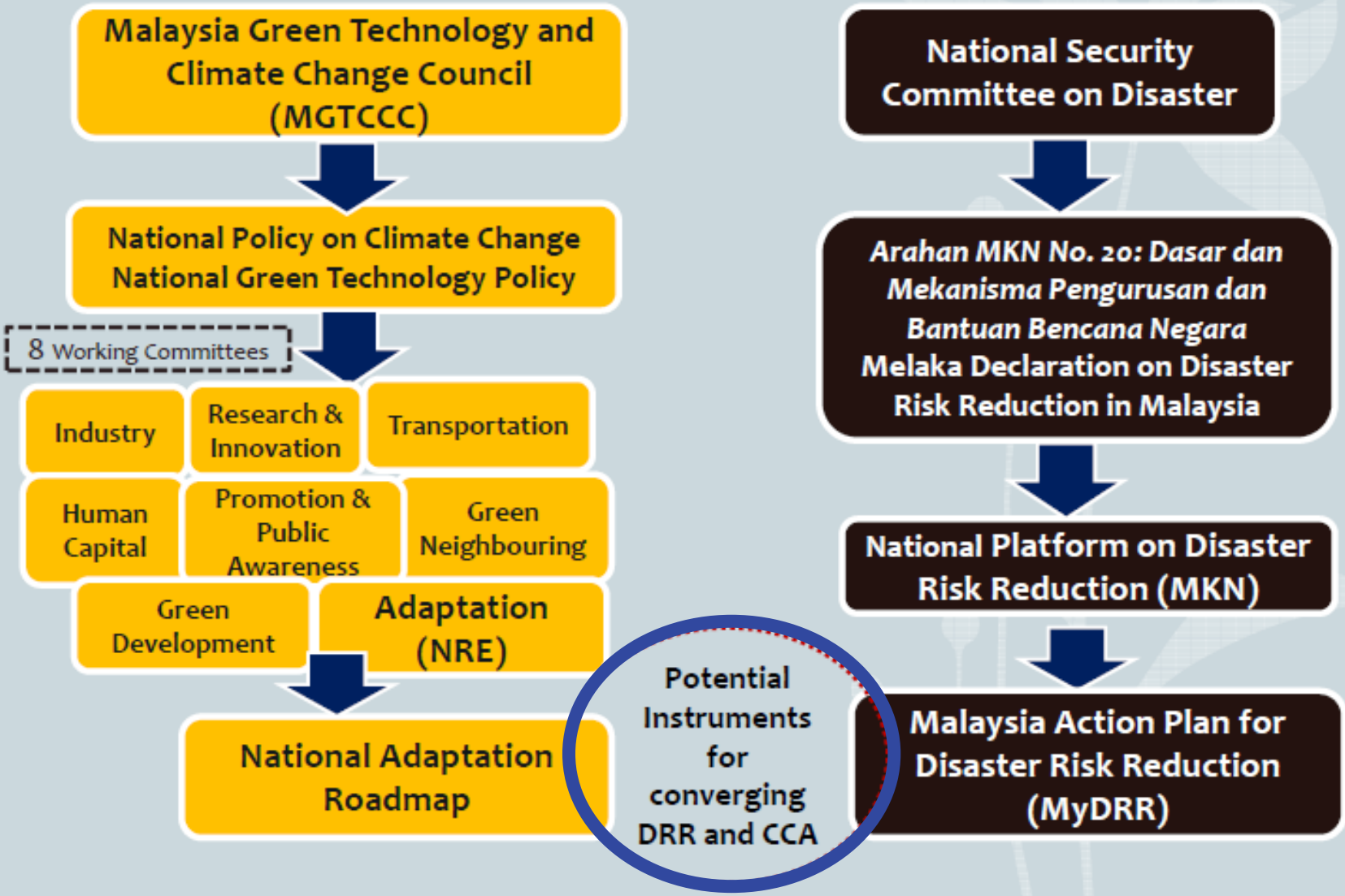
Melaka Declaration on Disaster Risk Reduction in Malaysia 2011

Melaka, 18–19 February 2011

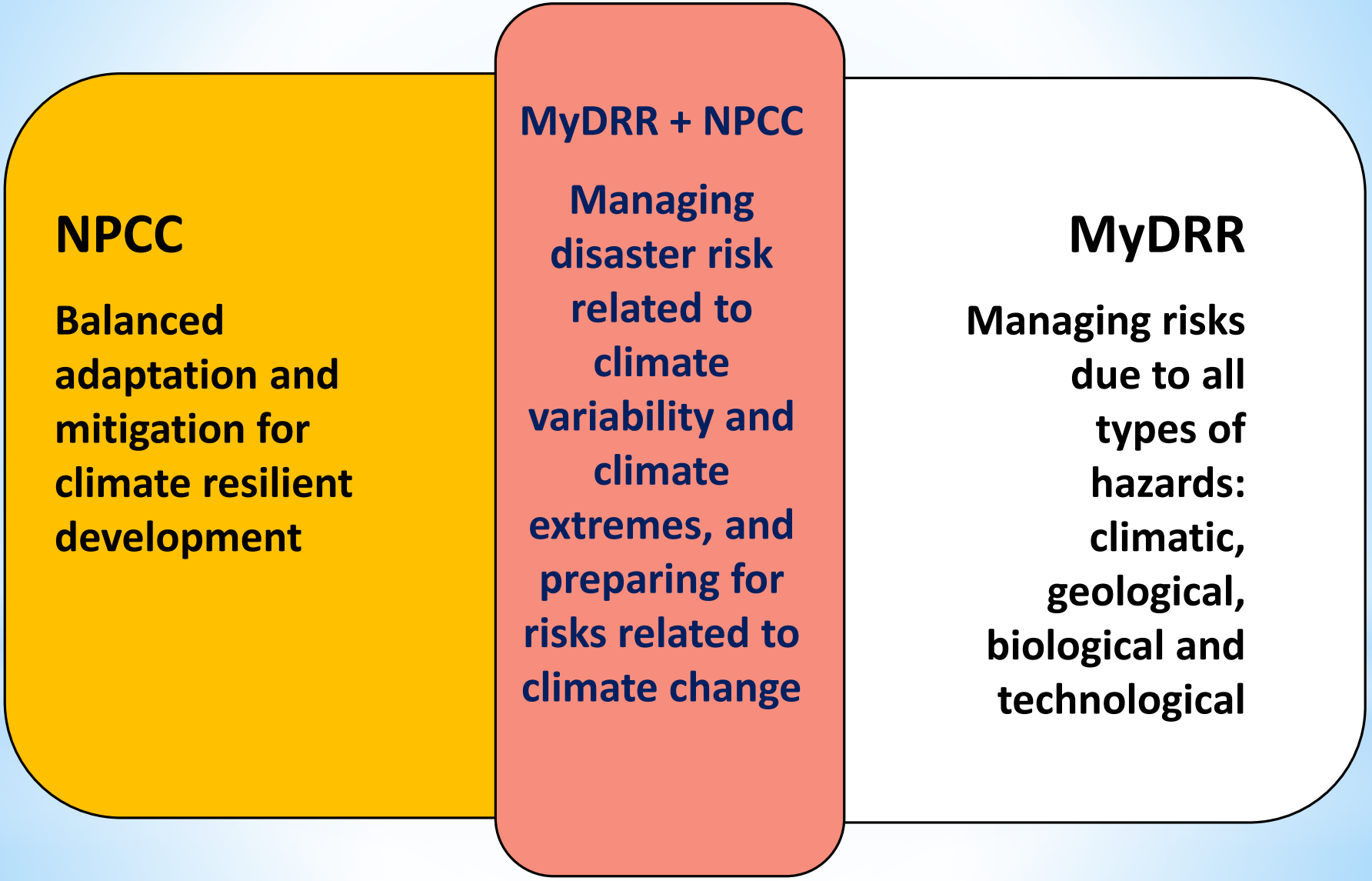


- Recognising the changing nature of disaster risk in the country due to climate variability and change
- To promote the use of technology in support of early warning, multi-hazards risk assessment, and climate modelling and downscaling.
- To strengthen local capacity to integrate climate and disaster risk into local development planning

INSTITUTIONAL ARRANGEMENT



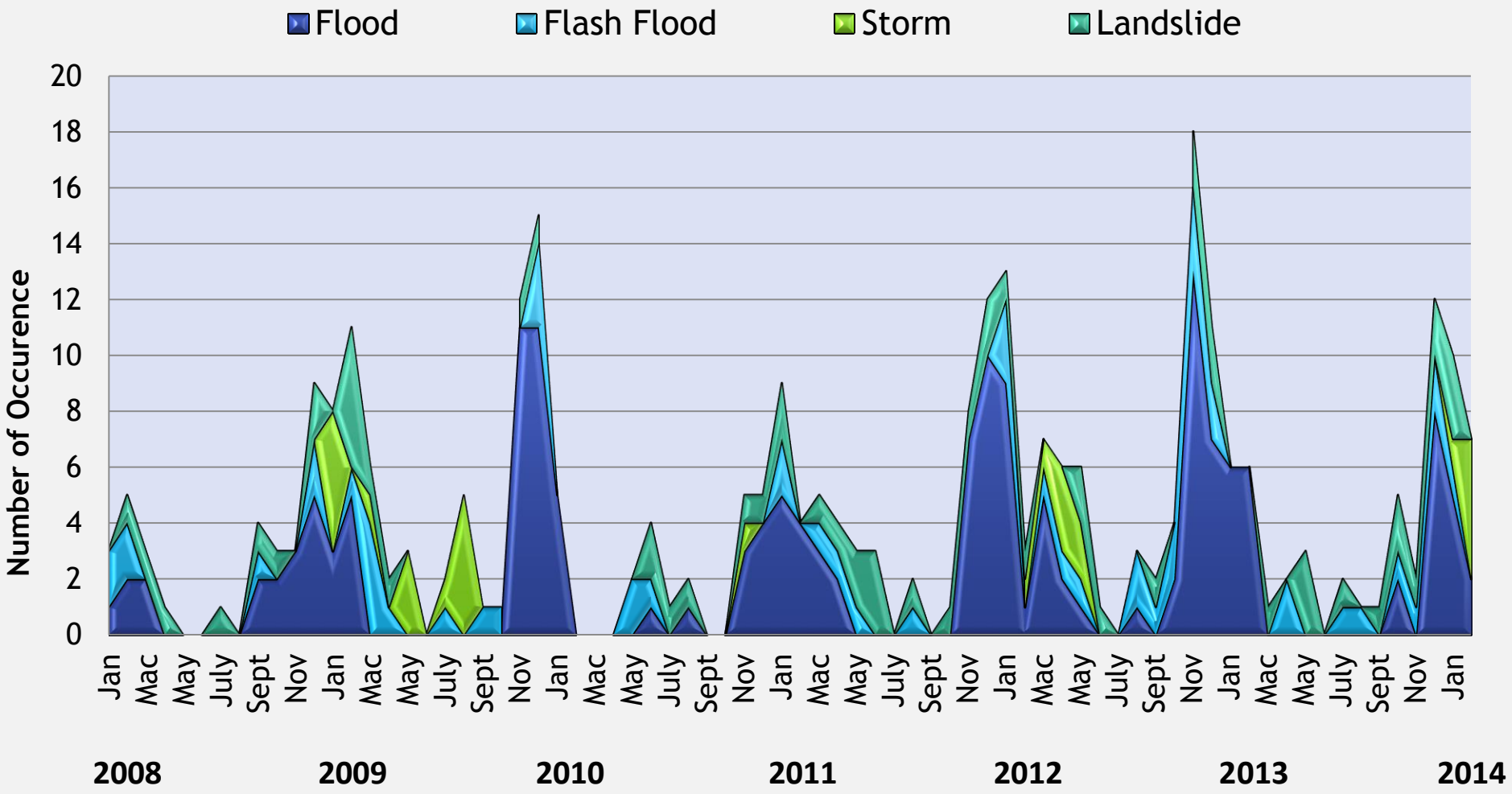
MyDRR & NPCC: Converging Aspirations



Integrating DRR, CCA and L+D

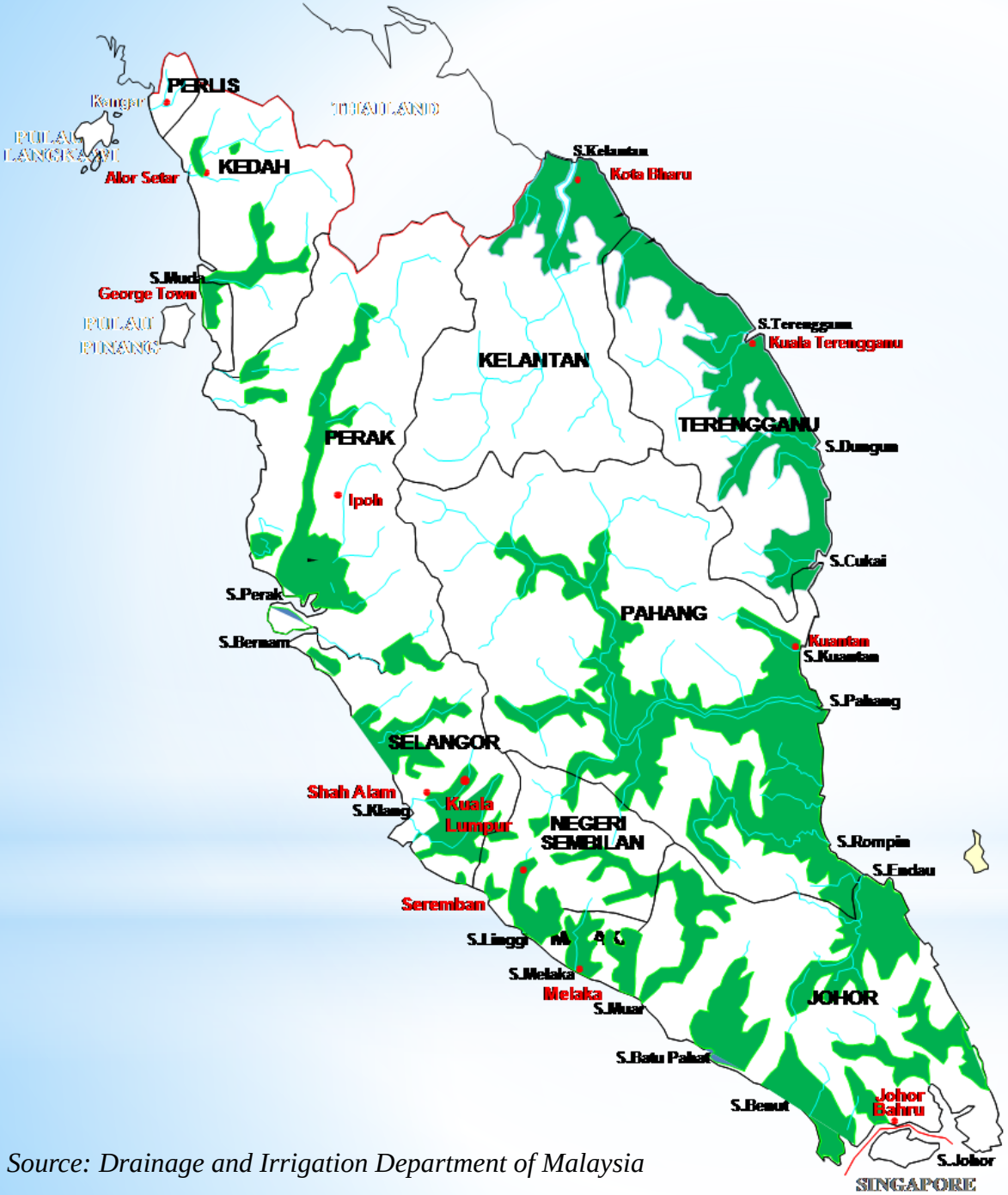
SEADPRI-UKM, IGES, IMHEN, RUPP & MCCW

Frequency of Disasters in Malaysia



Disaster data compiled by SEADPRI-UKM from multiple sources

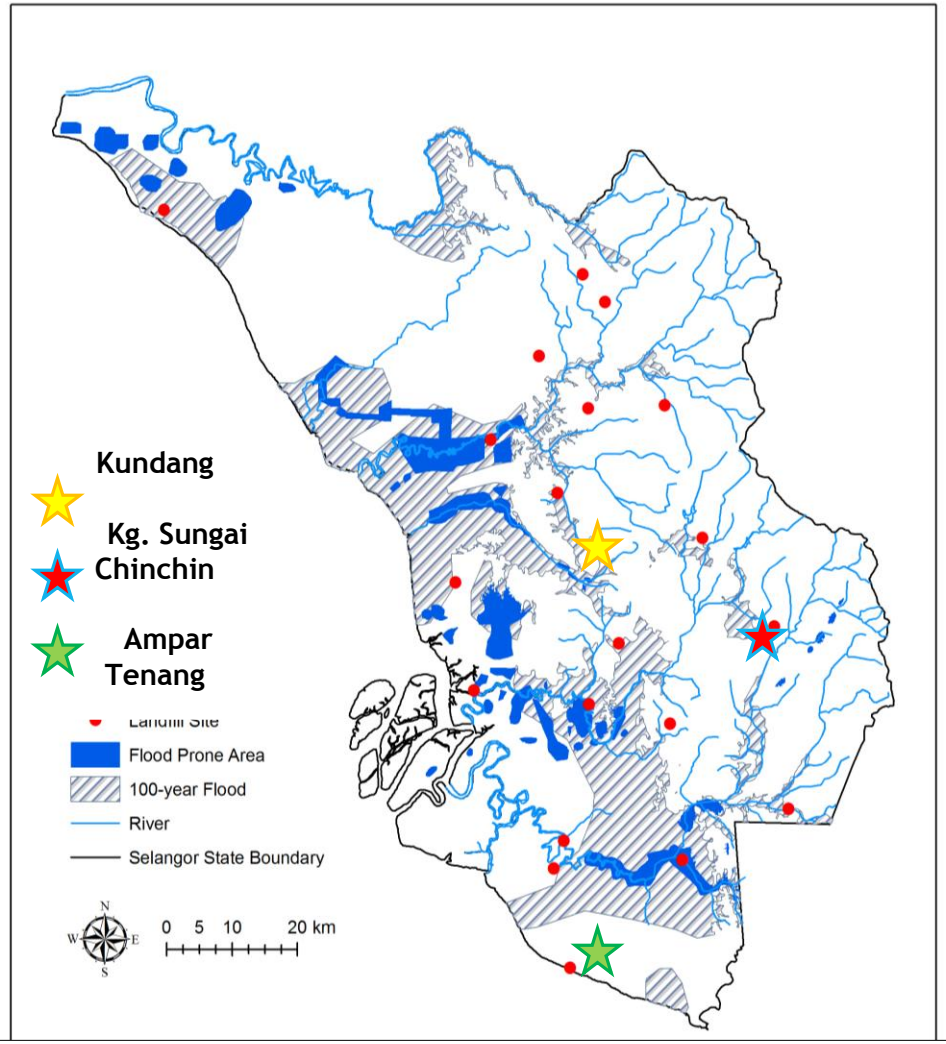
* Flood Prone Areas in Malaysia



Source: Drainage and Irrigation Department of Malaysia

Cascading Risks

Emerging Hazards



Flood prone area and 100-year flood map with identified active and closed landfill sites in Selangor. (Sources: Flood map adapted from RFN-2 Report 2009, landfill sites from NAHRIM and NRE 2010) Source: Nurul, Lim and Pereira 2013

Landfill Sites Exposed to Flooding:

- Number of sites located within flood prone area: **4**
- Number of sites located within 100-year flood: **9**
- Number of sites potentially exposed to impacts from sea level rise: **3**

Kg. Sungai Chinchin

Floodplain – Issues

Flood-prone areas (UN Guideline for Reducing Flood Losses, 1998)

(i) Floodway – no structures

(ii) Floodplain – generally defined as the extent of the 100-year event; requires flood protection and flood proofing, [JPS-Urban Stormwater Management Manual]

(iii) Areas beyond floodplain – generally defined as the extent of the 500-year event; may be subject to flooding, need to ensure flood proofing of "critical facilities" (hazardous material facilities, water & waste facilities, hospitals, schools, airports, emergency services, fire stations, major computer centres)

Weakness

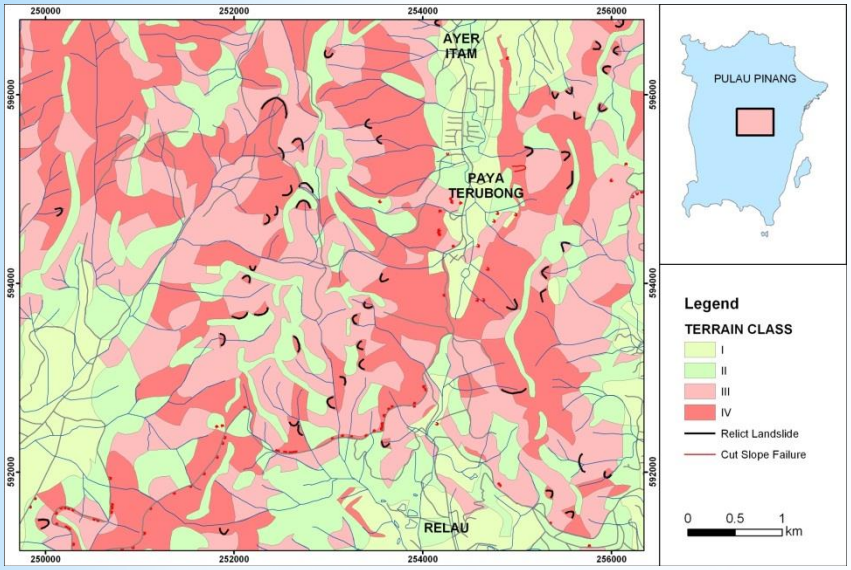
(i) Prediction based on historical records

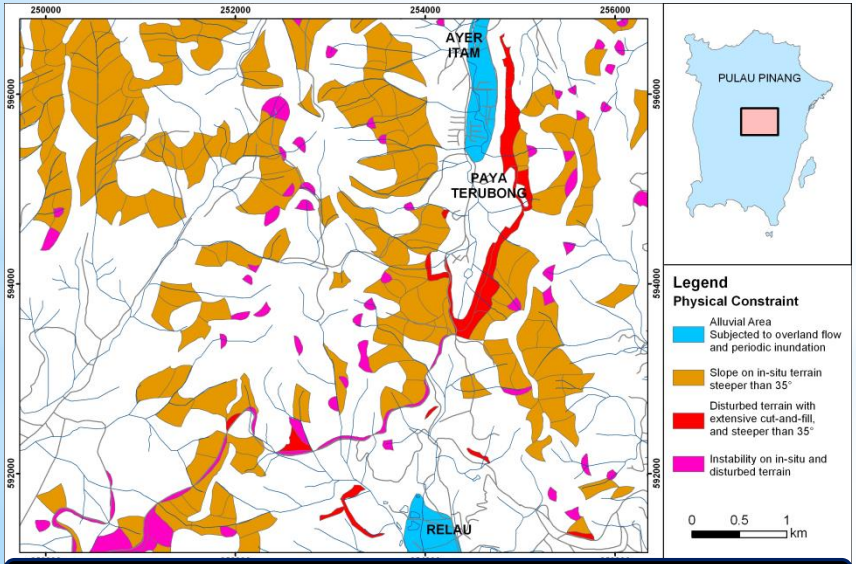
(ii) Changes in land use affects analysis

(iii) Changes in climate and extreme events affects analysis

(iv) Changes in sea-levels affects analysis in coastal areas

Areas Susceptible to Landslides/Floods





Source: Ng, 2011 based on data from JMG

Risk Factors:

- Uninformed planning
- Development in unsuitable terrain
- Cleared areas/blocked drainage

Adaptation Measures:

- Informed planning
- Regular slope & drainage inspection and maintenance
- Early warning systems
- Local community engagement
- Risk Pooling, etc.

	Type of Flood	Cause of flood	Affected area
1.	Flash flood	Heavy rainfall event, dam or levee failure	Destroy structures, down trees and wash out roads
2.	River flood	Overflow the river banks, heavy rainfall, snowmelt and ice jams	Extensive damage to residents living near rivers and streams
3.	Coastal flood	Hurricanes, tropical storms, tsunamis, extremely high tides and strong onshore winds.	Extensive damage to industry, agricultural, residents living near coastal area.
4.	Urban flood	Flash flooding, river flooding and coastal flooding	High economic damages to businesses and homes
5.	Areal floods	Heavy rainfall and dangerous inundation of low lying areas	Agricultural losses and breeding ground for insects and disease.

Table: Last 20 years damage and losses by flood events in Malaysia

Flood Event (Year)	Place	Damage (USD million at 1996 prices)	Deaths	No. of Victims Evacuated
1991	Other Peninsular Malaysia	NA	11	NA
1992	Peninsular Malaysia	NA	12	NA
1993	Peninsular	NA	22	17,000
1993	Sabah State	72.57	5	5,000
1995	Shah Alam/Kelang Valley	1.76	1	8,970
1995	Klang Selangor	NA	3	0
1995	Other Peninsular Malaysia	NA	4	14,900
June, 1996	Sahab	>100 houses destroyed	1	9,000
29.8.1996	Pos Dipang, Perak	97.8	44	Hundreds
December, 1996	Sabah	NA	241	23,000
30.12.1998	Kuala Lumpur	NA	5	0
5-9.1.1999	Penampang, Sabah	NA	6	4,481
11.1.1999	Sandakan Sabah	NA	3	0
23.11.2000	Kg. La	NA	6	0
Dec. 2001	Kelantan, Pahang, Terengganu	Crop loss & property damage in millions USD; USD 0.65 million texts destroyed	6	>10,000
27.12.2001	Gunung Pulai, Johor	Mudslide swept away 4 houses 5	4	families
31.12.2001	Benut Marang, Terengganu	Crop loss & property damage	4	Thousands
Dec 2006 – Jan 2007	Johor State Kelantan State	USD 489 million Property Damage USD 17.28 Damage to Infrastructures	18	110,000
2008	Johor State	65 (Relief Costs)	28	34,000
November 2010	Kedah & Perlis States	Alor Setar Airport closed, railway line flooded, USD 8.48 million padi crop damage	4	50,000

Sources: Drainage and Irrigation Department Malaysia, Malaysian National Security Council and Chan, 2012.

Date	Place	Damage and Losses
December, 2011	Sungai Jelok, Kajang	RM2.4 million in damages with 61 businesses recording losses of between RM1,000 and RM250,000 each.

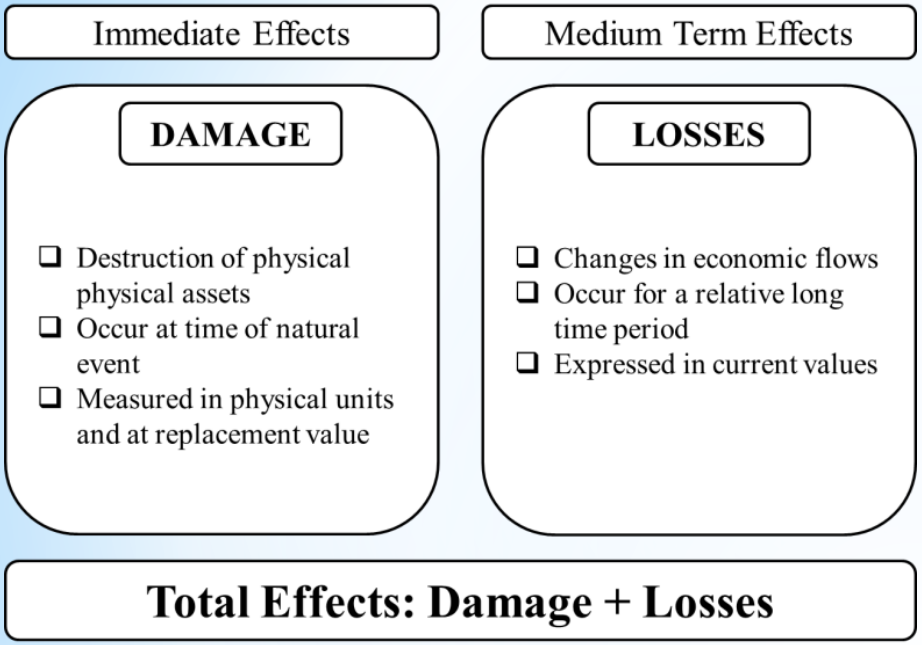
Date	Place	Damage and Losses
September, 2012	Serdang and Kajang	• About 100 vehicles were left stranded and 350 houses were in a metre of floodwaters. • 600 students and teachers from two schools were trapped.

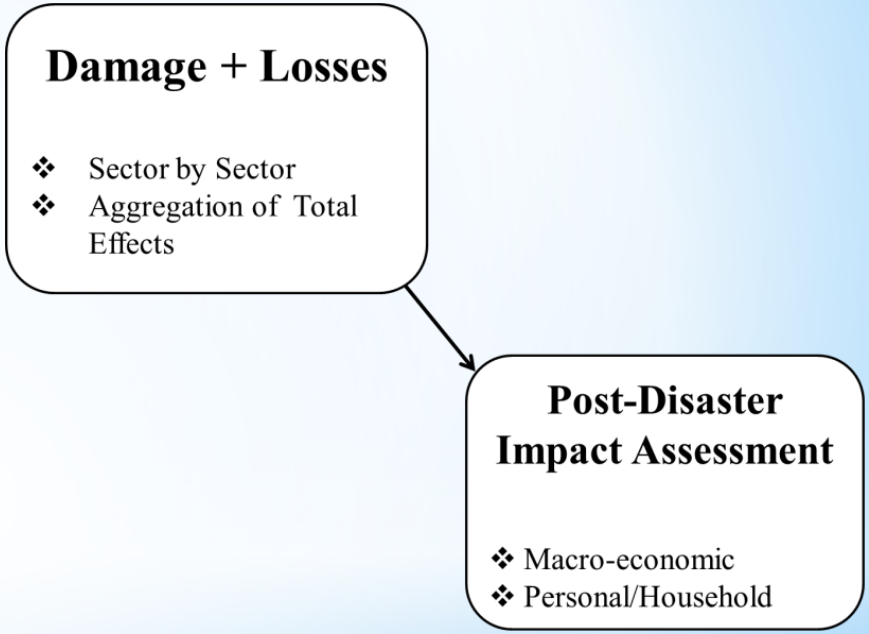
The Impacts of Flooding

* **Communication:** Floodwater can seriously disrupt public and personal **transport** by cutting off **roads and railway lines**, as well as communication links when **telephone lines** are damaged.
* **Health:** Floods disrupt normal **drainage systems** in cities, and sewage spills are common, which represents a serious health hazard, along with standing water and wet materials in the home. Bacteria, mould and viruses, cause **disease, trigger allergic reactions**, and continue to damage materials long after a flood.
* **Agricultural:** Floods can distribute large amounts of **water and suspended sediment** over vast areas, restocking valuable **soil nutrients** to agricultural lands. In contrast, soil can be eroded by large amounts of fast flowing water, **ruining crops**, **destroying agricultural land / buildings and drowning farm animals**.
* **Personal property:** Severe floods not only ruin homes / businesses and destroy personal property, but the water left behind causes further damage to property and contents.
* **Environment:** The environment and wildlife is also at risk when damage when damage to businesses causes the accidental release of toxic materials like paints, pesticides, gasoline etc.

No.	Method	Country	Disaster type	Reference
1.	Victorian rapid appraisal method (RAM) and the natural hazard loss estimation methodology (HAZUS)	Australia	Any type of disaster	Emergency Management Australia, 2002
2.	Costing Model (CM) and Event Impact Rapid Assessment and Disaster Scaling (EIRADS) calculator	Philippines	Any type of disaster	Raza, T. & Peralta, J.F. 2013,
3.	Calculation of direct and indirect losses	United States of America	Drought, Hurricane, floods and earthquake	National Academy Press, Washington, D.C. 1999
4.	The Economic Commission for Latin America and the Caribbean (ECLAC) Methodology	Jamaica	FLOOD RAINS AND LANDSLIDES	Economic Commission for Latin America and The Caribbean. 7 December 2001.
5.	The index of damaged area (IDA), direct damage assessment, indirect damage assessment and intangible damage assessment.	Italy	Landslide	Petrucci, O., 2013.
6.	Damage and Loss Assessment Methodology (DaLA)	Bangladesh	Cyclone	GFDRR, 2008
7.	Damage and Loss Assessment Methodology (DaLA)	Indonesia, Venezuela and Yemen	Tsunami and Flood	GFDRR and World Bank, 2007

Definition of Disaster Effects





Assessment Process

Damage and Loss Assessment (DaLA)

Damage and Loss Assessment (DaLA) Methodology

- Step 1: Define a pre-disaster baseline
- Step 2: Develop a post-disaster situation
- Step 3: Estimate damage and losses on a sector-by-sector fashion
- Step 4: Estimate overall amount of disaster effects
- Step 5: Estimate macro-economic impact
- Step 6: Estimate impact on personal/household employment/income

Sectors	Sub-sectors
Infrastructure	• Water Supply and Sanitation • Transport • Energy • Telecommunication
Production	• Industry • Agriculture, Livestock and Fishery • Trade • Tourism
Social	• Education • Housing • Health • Cultural heritage
Cross-Cutting	• Environment • Gender

Challenges in L+D Assessment

- Recognition of cascading hazards and slow onset hazards - persistent, insidious and long-term;
- Detection and attribution related to extreme events;
- Identification of susceptible areas and spatial distribution of exposed and vulnerable communities therein;
- Data for assessment of loss and damage;
- Early warning and response systems
- New models for risk sharing / social protection schemes
- Legal implications and future security challenges

Concluding Remarks

- DRR is central to adapt to climate extremes
- MKN has the mandate and the experience to address current and emerging risks due to climate extremes
- DRR and CCA are closely linked and need to be addressed together to ensure sustainable development
- Investing in enhanced capacity for disaster risk reduction, disaster preparedness and building resilience at all levels is a “no regret option” for climate change adaptation.

Thank You!


seadpri
southeast asia disaster prevention research institute


BERSEKUTU
BERTAMBAH MUTU

Vietnam
Dealing with natural disasters

Dr. Pham Thi Hoa
Dr.Pham Ngoc

Contents

1. Overview of natural disaster in VN
2. Experiences in dealing with disasters
3. Challenges under new context of CC
4. Strategies for disaster risk management

Vietnam's topography and Climate

- Vietnam deeply suffers from Asia monsoon regime, mainly as northeast and southeast monsoon
- Vietnam suffers directly from 6-10 storms and tropical depressions which causing heavy rain and flood after that.

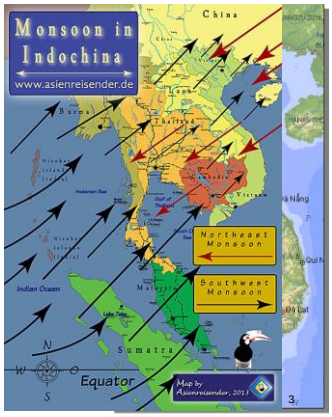
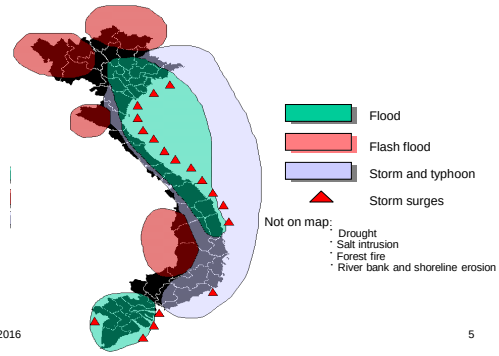


Table 1. Disaster relative frequency in Vietnam can be classified as follows:

High	Medium	Low
Flood, Inundation	Hail rain	Earthquake
Typhoon, tropical depression	Landslide	Accident (technology)
Flash flood	Forest fire	Frost
Tornado	Salt water intrusion	
Drought		

TYPICAL NATURAL DISASTER IN VIETNAM



MAP OF HAZARD ZONES

- ZONE -	- HAZARD -
Red river Delta and Midland of Northern Vietnam.	Flood, storm/ typhoon, whirlwind.
Coastal areas of Northern Vietnam.	Storm surge, storm typhoon, flood, whirlwind.
Mountainous areas of Northern Vietnam	Flash flood, flood, hidslide, whirlwind.
Coastal areas of central Vietnam.	Storm/ typhoon, flood, storm surge, flash flood, saline water intrusion.
Central Highlands.	Drought, flash flood, forest fire, whirlwind.
East of Southern Vietnam.	Storm/ typhoon, flash flood, whirlwind, forest fire.
Coastal areas of Mekong River Delta.	Storm/ typhoon, saline water intrusion, forest fire.
Internal areas of Mekong River Delta.	Flood, drought, whirlwind, storm typhoon.

Table 2. Assessment of Disaster Severity in Different Geographic Area and in the Coastal Economic Zone of Vietnam

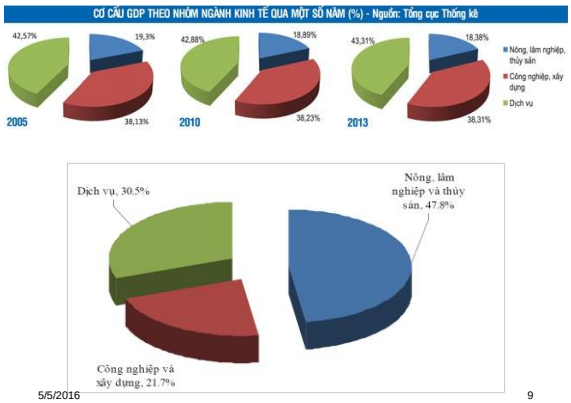
Very severe (++++)
Severe (+++)
Medium (++)
Light (+)
None (-)

Disaster	Geographic Areas and Economic Zones							
	North east and north west	Red River Delta	North central coast	South central coast	Central highlands	North east south	Mekong River Delta	Coastal Economic Zone
Storm	+++	++++	++++	++++	++	+++	+++	++++
Flood	-	++++	++++	+++	+++	+++	+++++	++++
Flashflood	+++	-	+++	+++	+++	+++	+	+++
Whirlwind	++	++	++	++	+	++	++	++
Drought	+++	+	++	+++	++	+++	+	+++
Desertification	-	-	+	++	++	++	+	++
Saline intrusion	-	+	++	++	+	++	+++	++
Inundation	-	+++	++	++	-	++	+++	+++
Landslide	++	++	++	++	+	++	+++	++
Storm surge	-	++	++	++	++	++	+++	++
Fire	++	+	++	+++	-	+++	+++	+++
Industrial and environmental hazard	-	++	++	++	+++	+++	++	+++

Severe NDs (1997-2009)

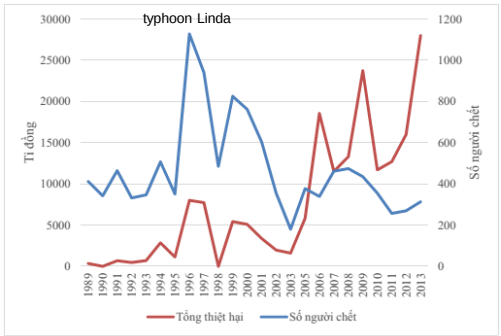
Năm	Sự kiện	Số người chết	Số người bị thương	Số người mất tích	Thiệt hại kinh tế (tỷ VNĐ)	Vùng bị ảnh hưởng
2009	Bão Ketsana	179	1140	8	16078	15 tỉnh miền Trung và Cao nguyên
2008	Bão Kammuri	133	91	34	1,939,733	9 Tỉnh miền Bắc và miền Trung
2007	Bão Lekima	88	180	8	3,215,508	17 Tỉnh miền Bắc và miền Trung
2006	Bão Xangsane	72	532	4	10,401,624	15 Tỉnh miền Nam và miền Trung
2005	Bão số 7	68	28		3,509,150	12 Tỉnh miền Bắc và miền Trung
2004	Bão số 2	23	22		298,199	5 Tỉnh miền Trung
2003	Mưa lớn kết hợp với lũ	65	33		432,471	9 Tỉnh miền Trung
2002	Lũ lịch sử	171			456,831	Đồng bằng sông Cửu Long
2000	Các đợt lũ quét (tháng 7)	28	27	2	43,917	5 Tỉnh miền Bắc
1999	Lũ lịch sử	595	275	29	3,773,799	10 Tỉnh miền Trung
1997	Bão Linda	778	1232	2123	7,179,615	21 tỉnh miền Trung và miền Nam

[12] Cơ sở dữ liệu thiên tai của *Ban chỉ đạo Phòng chống lụt bão Trung ương* (http://www.ccfsc.gov.vn/KW6F2B34/CatId/G986H8324D/Tong-hop-thiet-hai.aspx) và Chương trình QLRRTT cho các quốc gia được ưu tiên, khu vực Đông Á và Thái Bình Dương, Việt Nam, Ngân hàng Thế giới, 2009

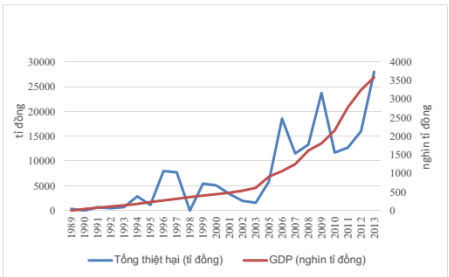


Nguồn: Báo cáo Điều tra Lao động - Việc làm 6 tháng đầu năm 2011, Tổng cục Thống kê

Number of death and damages due to NDs in VN

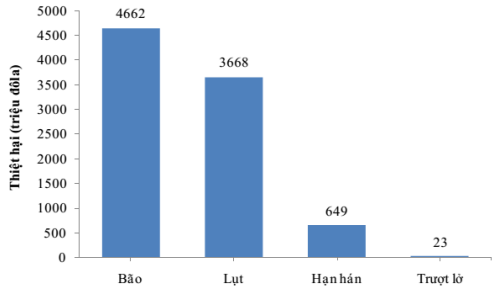


Total economic loss and GPD of VN 1989-2013



(Nguồn: Tổng cục thống kê, 2013)

Economic loss due to NDs in VN (1990-2012)



(Nguồn: EM-DAT: The OFDA/CRED International Disaster Database - www.emdat.be - Université catholique de Louvain - Brussels - Belgium)

Damages caused by natural disaster in VN

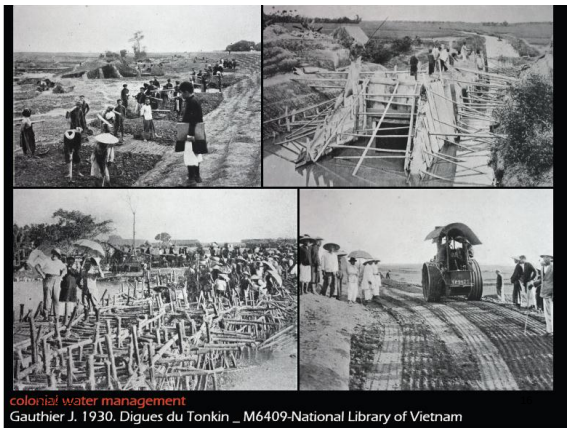
Item	Unit	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Total
People killed	No	508	399	1.243	3.083	434	901	775	629	389	186	**7.537**
Houses collapsed	No	7.302	11.043	96.927	111.037	12.171	52.585	12.253	10.503	9.802	4.487	**395.202**
Rice fields submerged	Ha	658.676	198.439	927.506	641.393	103.422	131.267	655.403	132.755	46.490	209.764	**4.692.313**
Shrimp, fish poll broken	ha	6.364	120	4.761	34.619	215	1.419	2.877	1.002	310	10.581	**65.955**
Ships sunk, damaged	Unit	43	1.117	1.017	3.008	231	845	109	2.033	26	183	**11.764**
Area of forest fire	Ha	8.322	9.648	12.758	1.361	14.812	1.139	850	1.845	15.548	1.402	**115.664**
Total	**Bil.VND**	**2.850**	**1.129**	**7.998**	**7.730**	**1.459**	**5.427**	**5.098**	**3.370**	**1.958**	**1.589**	**40.835**

Dealing with NDs

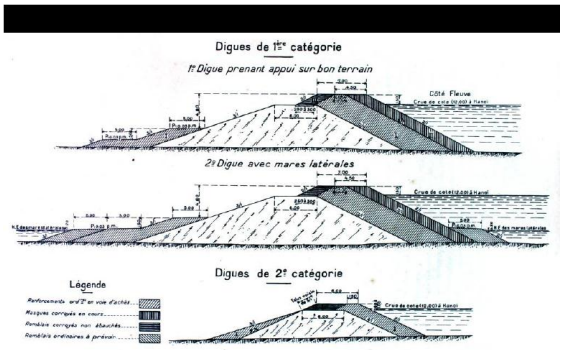
Son Tinh – Thuy Tinh Legend

Dyke in Hong River built from 10 century (Ly Dynasty)

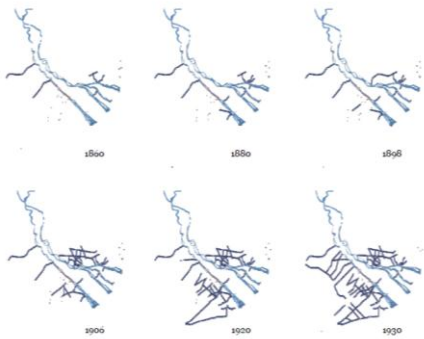
Imperial water management
BB/SOM/D3685, archives nationales d'outre-mer, Aix-en-Provence



colonial water management
Gauthier J. 1930. Digues du Tonkin _ M6409-National Library of Vietnam



colonial water management: complex system of dykes for for sysem of rivers in the delta
Gauthier J. 1930. Digues du Tonkin, M6409-National Library of Vietnam



Tapping the Swamp Chronology of Canal Excavations in the Mekong Delta (based on Biggs 2004)
Chế ngự đầm lầy Niên đại của việc đào kênh tại Đồng bằng sông Cửu Long (dựa vào Biggs 2004)

Taming the Swamp Canal excavations under Vietnamese (light blue) and French (dark blue) (based on colonial-era map, s.d.)

Chế ngự đầm lầy Việc đào kênh do người Việt Nam (xanh nhạt) và người Pháp (xanh đậm) (dựa vào các bản đồ thời thuộc địa)

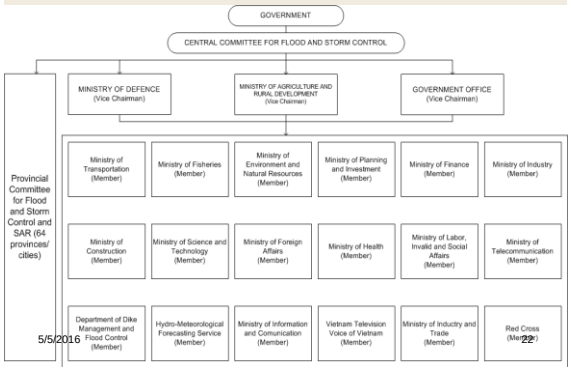
Large-scale operations & junctions as instigators for development (Gsell E., 1882); (National Geographic, 1993)

Tổ chức thực hiện mang tính tập thể trên tỷ lệ lớn và những chỗ hợp lưu của các con sông như là những nhân tố của sự phát triển (Gsell E., 1882); (Địa lý quốc gia, 1993)

The Central Committee for Flood and Storm Control

- CCFSC and the corresponding committees at provincial, district and commune levels, was established in 1946.
- inter-agency committee, comprised of 22 ministries and agencies, responsible for the formulation of flood and storm related policies and mitigation measures in Viet Nam.
- The Minister of MARD is the Chairman of the CCFSC and provides advice to the Prime Minister on major decisions.

ORGANIZATION CHART OF THE CENTRAL COMMITTEE FOR FLOOD AND STORM CONTROL

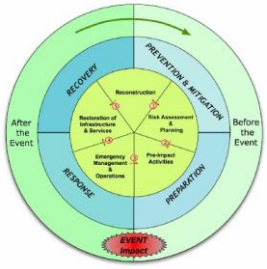


Responsibility of CCFSC

- monitoring the planning and implementation of annual sub-national and sector specific disaster prevention and response plans;
- providing guidance to localities on disaster response and recovery;
- early warning dissemination and damage reporting and issuing instructions for mobilization of human resources and logistics for search and rescue, disaster response and recovery.

The National Committee for Search and Rescue

- Government's leading agency for search and rescue, established in 1996,
- chaired by a Deputy Prime Minister with the Minister of Defence as the permanent vice-chair. Other vice-chairs are the Ministry of Public Security, the Ministry of Transport and MARD.
- responsible for the preparation, organization and coordination of all search and rescue operations during disasters in conjunction with the Ministerial Committees for Search and Rescue under the authority of the ministries and the Provincial Committees for Search and Rescue under the authority of the Provincial People's Committees.



Before the event:
- Check for NDs prevention structure annually
- Finance , human resources for dealing with the NDs
- Long-term and annual planning for prevention and mitigation of NDs

During the event:
- Operating prevention structure
- People warning
- To mobilize rescue forces to protect human and infrastructure ,

After the event:
- Support for affected families
- Repair and recover the damaged structures

Laws and Regulation related to NDs

- Law - Law Disaster Control , Water Resources Law , Law on Dykes
- Ordinance on exploitation and protection of irrigation works
- Decree
- Circulars
- Directive
- Decision

2.6 Một số văn bản quy phạm pháp luật về QLRRTT

TT	Số VB	Ngày	Nội dung
I	Luật		
1	79/2006/QH11	25/12/2006	Luật Đê điều
2	15/2008/QH12	03/6/2088	Luật Trưng mua, trưng dụng tài sản
II	Pháp lệnh		
3	Sửa đổi, bổ sung		
4	32/2001/PL-UBTVQH10	15/4/2001	Pháp lệnh bảo vệ và khai thác công trình thủy lợi
III	Nghị định		
			NĐ của CP ban hành về quy chế phân lũ, chậm lũ thuộc
IV	Chỉ thị		
19	547/CT-TTg		Chỉ thị về công tác phòng, chống thiên tai, lụt, bão và
V	Quyết định - Chỉnh phủ		
22	63/2002/QĐ-TTg	20/5/2002	QĐ về công tác PCLB, GNTT
			Phê duyệt điều chỉnh Quy hoạch khu neo đậu tránh trú
			10 và tầm nhìn đến năm 2020
VII	Thông tư		
48	24/2000/TT-BTC	30/3/2000	Hướng dẫn chi tiết về miễn giảm thuế thu nhập doanh nghiệp đối với các hộ kinh doanh công thương nghiệp và dịch vụ bị thiên tai, hoả hoạn, tai nạn bất ngờ
			Hướng dẫn 1 số điều của NĐ số 67/2007/NĐ-CP ngày

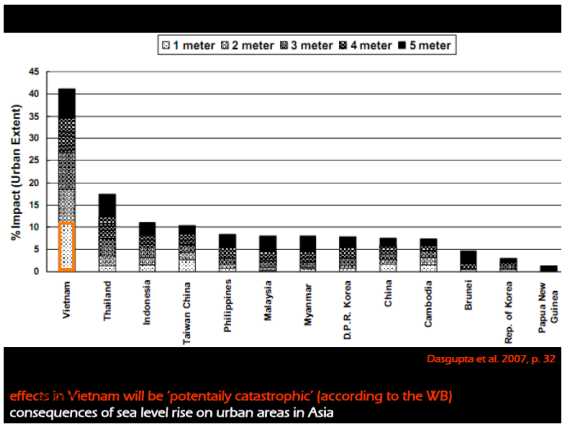
hệ báo tin động đất, cảnh báo

Budget

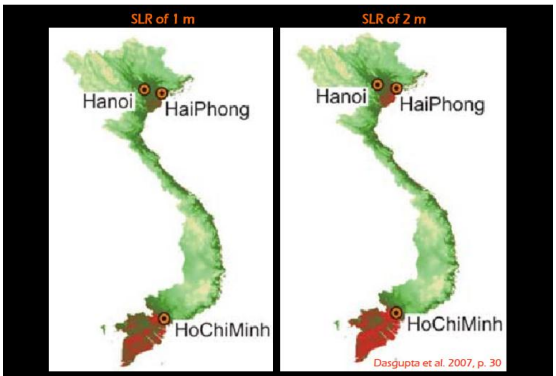
- Annual governmental fund
- The contribution of the all citizens and organizations "Decree No. 94/2014/ND-CP on the establishment and management of disaster prevention fund “, about one workday per person
- ODA projects
- Other projects for construction ...

Challenges under new context of CC

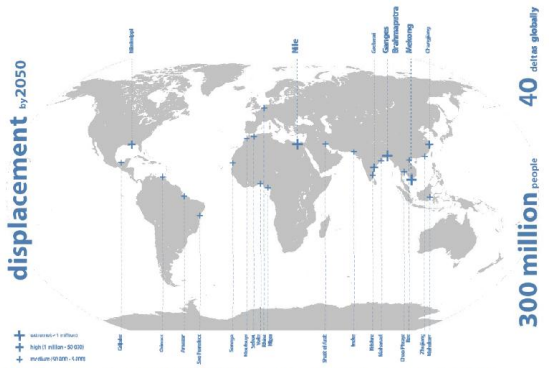
- In 2030, damages due to natural disaster in VN account up to 3-5% GDP (INDC)



effects in Vietnam will be 'potentially catastrophic' (according to the WB)
consequences of sea level rise on urban areas in Asia

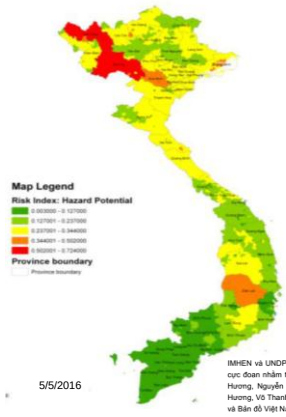


10.8% population impacted by 1m SLR – most in Red and Mekong River Deltas
consequences of sea level rise in Vietnam



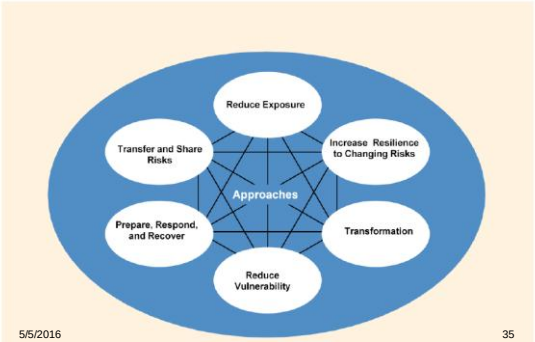
Deltas Worldwide as Hotspots for Vulnerability Vietnamese deltas vulnerable for displacement by climate change

Những đồng bằng trên thế giới như là những điểm nóng để bị tổn thương Những đồng bằng của Việt Nam dễ bị thay thế do biến đổi khí hậu



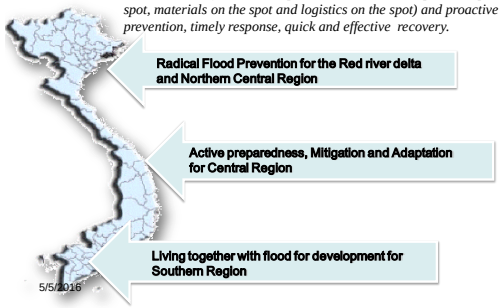
IMHEN và UNDP. 2015. Báo cáo đặc biệt của Việt Nam về Quản lý rủi ro thiên tai và hiện tượng cực đoan nhằm thúc đẩy thích ứng với biến đổi khí hậu [Trần Thục, Koos Neefjes, Tạ Thị Thanh Hương, Nguyễn Văn Thắng, Mai Trọng Nhuận, Lê Quang Trí, Lê Đình Thành, Huỳnh Thị Lan Hương, Võ Thanh Sơn, Nguyễn Thị Hiền Thuận, Lê Nguyên Tường], NXB Tài Nguyên - Môi trường và Bản đồ Việt Nam, Hà Nội, Việt Nam 2015.

Adaptation and Disaster Risk Management Approaches for reducing and managing disaster risk in a changing climate



NATIONAL STRATEGY FOR NATURAL DISASTER PREVENTION, RESPOND AND MITIGATION UP TO 2020

The principles used for disaster prevention, response and mitigation in Vietnam is the "four-on-the-spot" (command on the spot, man-power on the spot, materials on the spot and logistics on the spot) and proactive prevention, timely response, quick and effective recovery.



Basis for establishing the National Platform in Viet Nam (Decision 43/QĐ-TTg)

1. National Strategy for Natural Disaster Prevention, Response and Mitigation to 2020.
2. Action plan for implementing National Strategy for Natural Disaster Prevention, Response and Mitigation to 2020.
3. Community Based Disaster Risk Management Program
4. National target program to respond to climate change.
5. Climate change and sea level rising scenarios
6. Action Plan Framework adapting to Climate change of Agricultural and Rural development sector in stage 2008-2020
7. Law of Disaster Management (under construction)

NATIONAL PLATFORM FOR DISASTER RISK REDUCTION

A generic term for national mechanisms for coordination and policy guidance on disaster risk reduction that are multi-sectoral and inter-disciplinary in nature, with public, private and civil society participation involving all concerned entities within a country.

Objectives of National Platform for Disaster Risk Reduction and Climate Change Adaptation

- To serve as a **coordination mechanism** to enhance multi-stakeholder collaboration and coordination for the sustainability of DRR activities
- To foster an **enabling environment** between stakeholders for awareness-raising on DRR, integrating DRR into development policies, planning and programmes;
- To discuss and address the **urgent need issues on DRR** in context of CCA in order to **strengthen** and **maximize** the effective of DRR activities

The Institutional Framework of the Natural Disaster Mitigation Partnership (NDMP) in Viet Nam

The National Steering Committee of the National Target Program to Respond to Climate Change

- NTP-RCC was established in 2008 and is chaired by the Minister of MoNRE and with MPI and the Ministry of Finance being Vice-Chairmen.
- to work on principle of consensus by majority and to meet bi-annually.
- The Department of Meteorology and Hydrology and Climate Change of MoNRE is the Standing Office of the Viet Nam National Committee for UNFCCC and Kyoto Protocol (established in 2007).

- several informal networks involved with disaster risk reduction and climate change adaptation also exist:

- *Climate Change Working Group (CCWG)*
- *Disaster Management Working Group*
- *Joint Advocacy Network Initiative*
- *UN Programme Coordination Group for Natural Disasters and Emergencies*

Typical cases: Floods

- in past 50 years, the number of storms affect Vietnam tend to be unchanged or reduced slightly
- but storms tend to rise in coastal mainland and south -central and the southern VN
- medium and strong hurricane storm tends to decrease , but very strong storms tends to rise

- many large and unusual storm made landfall in Vietnam in all 3 regions .
- Central is the region most affected by hurricanes , especially two big storms Ketsana 2006 and Xangsane 2009.
- The South rarely suffer from storm, but hurricanes Linda (Typhoon No. 5 in 1997) has caused heavy losses for the southern provinces
- Typhoon Son-Tinh in 2012 caused much damage to the north

Sự kiện	Năm	Mô tả	Thiệt hại về người	Nhà đổ (căn)	Tổng thiệt hại thành tiền (VN đồng)
BÃO LINDA	1997	Di chuyển nhanh, tăng cấp, cấp 10 khi đổ bộ vào vùng bờ biển Cà Mau, Bạc Liêu (đêm ngày 2/11).	Người chết: 778 Người mất tích: 2.123.	107.819	7.200 tỉ
BÃO XANGSANE	2006	Cấp 13, di chuyển nhanh, đổ bộ vào miền Trung (ngày 1/10).	Người chết: 72 Người mất tích: 4 (do bão và mưa lũ sau bão).	24.066	10.000 tỉ
BÃO KETSANA	2009	Cấp 13, di chuyển nhanh, đổ bộ vào Quảng Nam, Quảng Ngãi (ngày 29/9).	Người chết: 179 Người mất tích: 8 (do bão và lũ).	9.770	14.000 tỉ (cả do lũ sau bão)
BÃO SƠN TINH	2012	Cấp 12, 13 di chuyển nhanh, diễn biến khó lường, đổ bộ vào miền Bắc (ngày 28/10).	Người chết: 8 Người mất tích: 3		11.000 tỉ

(Nguồn: BCĐ PCLB TƯ, 1997, 2006, 2009a, 2009b, 2012, KTTV TƯ, 2013)

Responses

Linda (1997):

- Forecasts and warnings : National Hydrometeorology Center
- Inform local authorities and implement solutions against storms : Central and Local Flood Prevention Committee
- Evacuation, rescue

Existing:

- Difficult to inform the off-shore fisherman
- Southern people have limitted experience against storms

Lesson learned

- Forecasting and Early warning
- Enhance awareness of communities
- Enhancing resilience of communities in high-risk areas (relocation , mangrove planting , building storm)
- The attention of governments is important, thereby mobilizing the resources of the whole society

Thank you for your attention

Disaster Risk Management for Sustainable Development (DRM-SD) Capacity Building

AtKisson's Compass & Accelerator Methodology for interdisciplinary climate risk reduction project management

Robert Steele – Systainability Asia
Senior Associate - AtKisson Group

A Global Network Dedicated to Transformative Change

AtKisson Group
A global network, established in 1992

Current And Past Clients Include:
Levi Strauss & Co. • Ernst & Young • Nike • Baltic 21 (the 11 nations of Northern Europe) • European Sustainable Development Network • Brother, Inc. (Japan) • Earth Charter International • Swedish SIDA's Advanced International Training Programs • United Nations Division for Sustainable Development Egyptian National Competitiveness Council • Government of Singapore • Greater New Orleans, Inc. • SEIYU (Japan) • SERDP - Strategic Environmental Research & Development Program (US Government) • Seliger Forum 2010 (Russia) • Sustainable Fashion Academy • States of Queensland, Victoria, NSW, and South Australia • Stockholm County • Sustainable Seattle • Heinz Endowments • Toyota • UNEP • UNDP • Nile Basin Initiative • Bank of Indonesia • Volvo Cars

*The AtKisson Sustainability **ACCELERATOR** Toolkit*

Tools, Methods and Processes to Support Sustainable Development

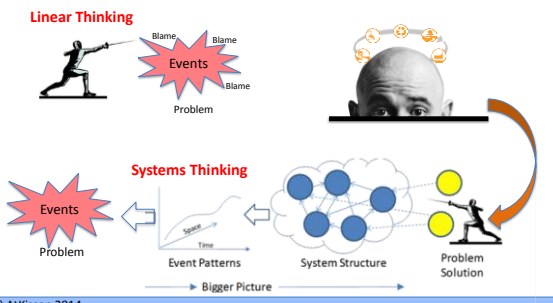
Compass Pyramid Amoeba StrateSphere

Goal of the Accelerator toolkit

To engage more and more people, to make more change for sustainability, more effectively, and more quickly.

Our Sustainable Development Challenges link across sectors

The needed Transition – From Analytical (Linear) Thinking to System Thinking



What are systems?

Systems are …

… groups of discrete elements that work together to make a whole.

Systems are bound together by the laws of cause and effect, and governed by flows of information, energy and materials.

Note: *People give definition to systems based on an idea of what should happen at a given point in time. Thus, systems have a purpose.*

System Thinking …

"*Systems Thinking* is seeking to understand the connections among elements in a system

- ✓ what depends on what,
- ✓ what is causing what,
- ✓ where are information flows,
- ✓ where control decisions are made,
- ✓ what information flows are critical,
- ✓ And how best to manage or intervene in the system for desired results.

Systems Thinking as a Set of Tools

The field of systems thinking has generated a broad array of tools that let us:

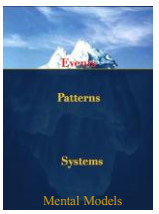
(1) graphically depict your understanding of a particular system's structure and behavior,

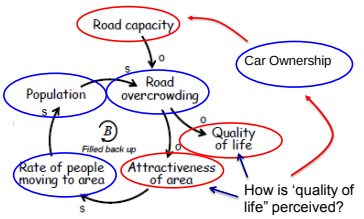
(2) communicate with others about your understandings of the system;

(3) design high-leverage interventions for problematic system behavior.

Systems Thinking helps us to . . .

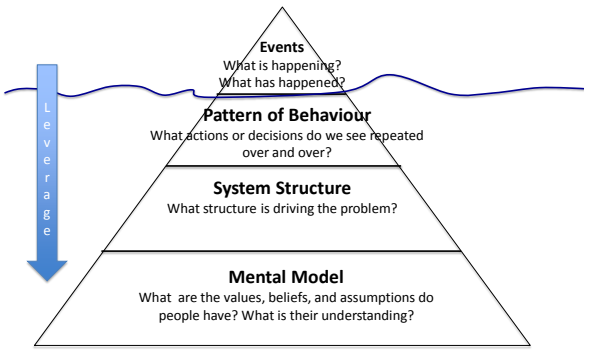
❑ . . . move the focus away from events and patterns of behavior *(which are symptoms of problems)* and toward systemic structure and the underlying mental models



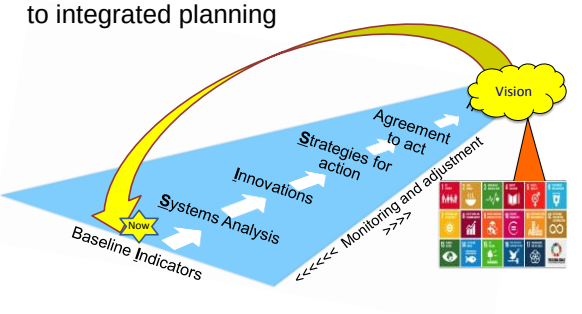


Source: Senge, Peter, The Fifth Discipline, 1996.

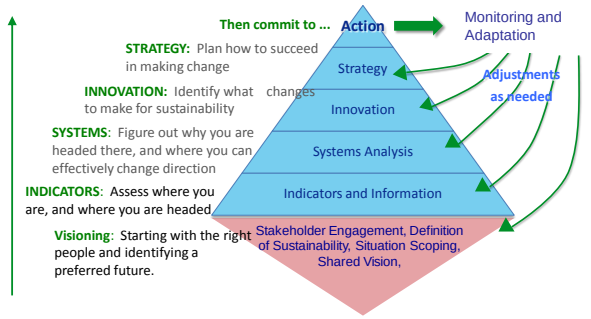
The System Iceberg



Accelerator uses a 'backcasting' approach to integrated planning



AtKisson's VISIS Method simplifies this to make it easier to use and communicate in practical ways



The Foundational Tool . . The Compass

An Orientation, assessment, planning and collaborative action tool for sustainability and transformation

The Sustainability Compass is designed to accommodate many kinds of differences: cultural, sectorial, geographic, etc.

It is also designed to interface well with other common frameworks (e.g. GRI, ISO 26000, SDGs)

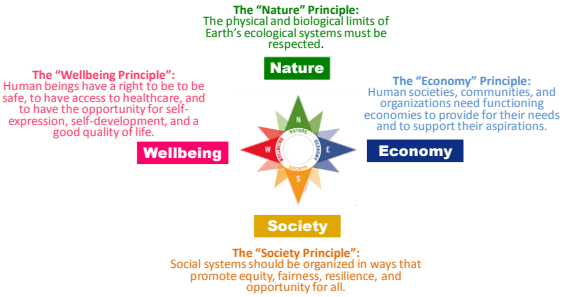
COMPASS is the foundation of the toolkit

Assist organisations to do all of the following…

- *Create better understanding of sustainability*
- *Create a sustainability vision*
- *Manage stakeholders in a sustainability process*
- *Create or manage a set of sustainability indicators*
- *Create an Overall Sustainability Index*
- *Assess the sustainability profile of a company*

Built into the Compass approach is a set of core guiding principles about sustainability

The Compass Principles



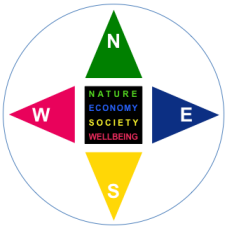
The "Integration Principle":

All four dimensions of the Sustainability Compass are interconnected in a web of cause-and-effect relationships. They are interdependent on each other.

- The Compass approach is grounded in the science of system dynamics and in general understanding of how complex systems behave.
- In recognition of this principle, governance and management systems should strive to achieve optimal results across all four Compass Points in an integrated way.

The Compass Points in Practice

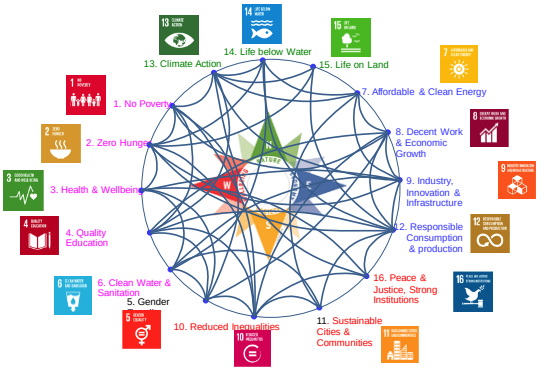
- *N = Nature =*
  Environmental impact, resource use, waste, ecosystems and habitat, water, energy, climate change
- *E = Economy =*
  Production, consumption, employment and work, money, investment, debt, business, innovation
- *S = Society =*
  Governance, equity, transparency, security, culture, institutional management, levels of trust
- *W = Wellbeing =*
  Health, education, self-expression, happiness, relationships, family, creativity, quality of life



It helps us think about issues from many different perspectives

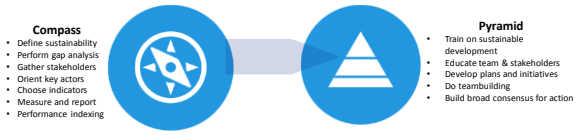
The Sustainability Compass also lines up well with the 17 SDGs

THE COMPASS IS A SYSTEMIC INTEGRATION TOOL

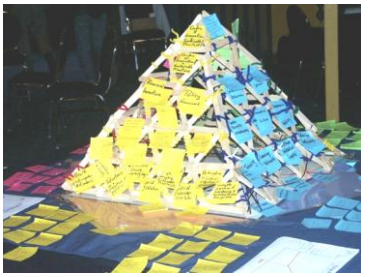


Pyramid

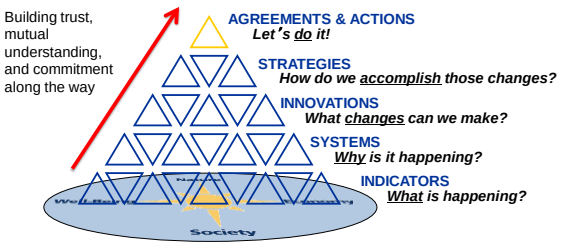
... helps groups move from analysis to action, while building learning and consensus



Compass + VISIS = PYRAMID



The Pyramid works with the Compass and the VISIS Accelerator method



Pyramid

- ✓ Built around the VISIS sequence
- ✓ Used for collaborative group learning and planning processes
- ✓ Guides people quickly (takes 1-2 days or 1 years) through the entire learning/ planning/ action cycle
- ✓ Produces a 3-D record of the results ... and strong consensus on action

Pyramid

A Tool for Collaborative Strategic Planning, Initiative Design, Professional Training, and Educational SD Programming

A workshop process that combines …

- Understanding sustainability
- Selecting and interpreting indicators
- Basic systems analysis
- Innovating for change
- Strategic planning for sustainable development
- Teambuilding

Pyramid has been used by hundreds of groups around the world

AtKisson Sustainability Accelerator

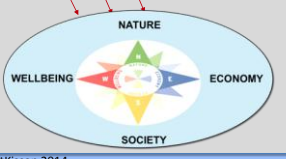
Foundation Level

Clarifying your Purpose, Principles, and Guiding Definitions

WHO DO WE INVOLVE IN THIS PROCESS? WHO ARE THE KEY STAKEHOLDERS?

WHAT ARE THE KEY ISSUES, NEEDS, AND AREAS OF CONCERN IN DEALING WITH THE CHALLENGES THEY FACE NOW AND IN THE FUTURE?

WHAT ARE PEOPLE'S ASPIRATIONS FOR THE FUTURE?



- Working Definition Of Sustainability
- Key Principles
- Vision, Goals, Needs
- Boundaries
- Measurable Future Outcomes

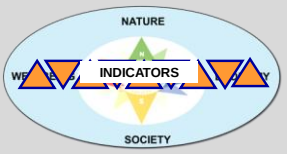
AtKisson Sustainability Accelerator

Indicators Level

Baseline Information about critical & long-term trends

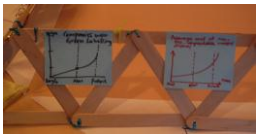
Objective: To construct a responsive ***Sustainability System Status Indicator*** framework.

At the Indicator Level, groups / teams are collect and select data, both formal and informal, on trends and issues working for and against progress toward the vision and/or goal and desired future Outcomes.



- ✓ Using multi-disciplinary teams or consultation processes, covering all aspects of sustainable development
- ✓ Using a framework to cluster the indicators
- ✓ Using formal data/indicators when available
- ✓ Use informal/subjective knowledge of prevailing trends, when formal data is not available

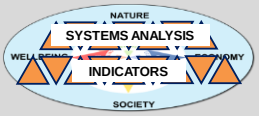
Indicator Level



AtKisson Sustainability Accelerator

Systems Level

Multi-disciplinary teams review the indicators and look for cause-and-effect links, including chains of cause-and-effect.



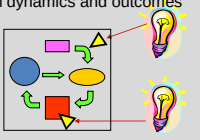
- ✓ Discussion to identify important causes and drivers of change, and to share other systemic insights
- ✓ Group sketching to illustrate important links and webs of connection between issues
- ✓ Formal systems modeling

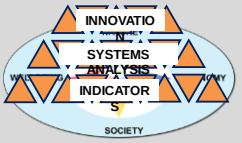
AtKisson Sustainability Accelerator

Innovation Level

New Ideas that can change the System dynamics and outcomes

Identification of options, interventions, changes that can be made at key "leverage points" (entry points) in the system.

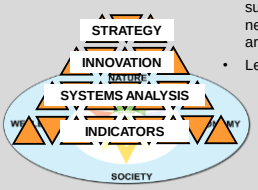




STRATEGY Level

Framing of implementation options.

Change
Innovation
Cultural Shift



This part of the process:

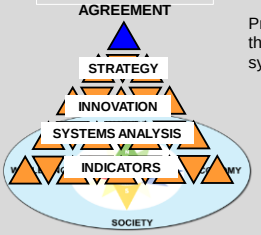
- Can make use of any useful strategic planning tool
- Should consider all the elements required for successful implementation, including any necessary changes in institutional arrangements or organizational culture
- Leads to a coherent "Theory of Change"

AMOEBA

STRATESPHERE

The Capstone Agreement

Making an Agreement to Act Together



Proposal for integrating and supporting the other initiatives in order to create a synergistic and holistic sustainable plan.

Baltic Countries' Environmental Ministers The Riga Proposal: Agenda 21 for the Baltic Sea Region

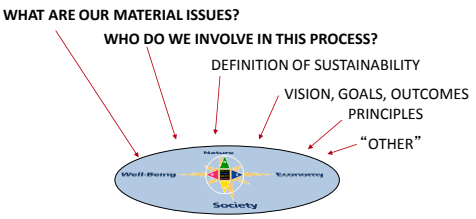
A Short Compass Exercise

Planning for Community Climate Resilience and disaster risk management & response

Interdisciplinary Climate Change Risk Reduction and Sustainability Resilience Building

Scenario Goal: Develop the foundational systems based situational scoping for resilient long-term climate change risk reduction & sustainable development management plan.

Pyramid Level 0 – Preparing the Ground



Who do we involve in the process?
What do we mean by sustainability?
What are out priorities?

Level 0 Tasks:

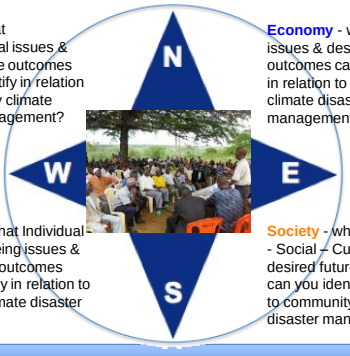
1. Identify which government agencies and other key stakeholder groups that should be involved in this process. - Document these for each Compass Point on the Compass Template
2. In 1-3 sentences. Define what an effective climate change risk reduction management plan would need to look like that reinforces the goals of sustainable development. Record at the top of your Compass Flip chart paper.
3. For each of the four Compass directions, identify the 4-7 priority **material needs** that will provide the foundational focus of this integrated management plan.

Material needs include those things that have a direct or indirect impact on the involved stakeholders and your ability to help or hinder the achievement of goals and objectives of your interdisciplenary climate change risk management plan for all stakeholders and society at large.

Compass Issue Identification

Nature - what Environmental issues & desired future outcomes can you identify in relation to community climate disaster management?

Economy - what Economic issues & desired future outcomes can you identify in relation to community climate disaster management?



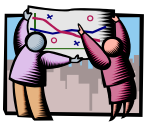
Wellbeing - what Individual Human Wellbeing issues & desired future outcomes can you identify in relation to community climate disaster management?

Society - what Community - Social – Cultural issues & desired future outcomes can you identify in relation to community climate disaster management?

Record all of your information on your Compass

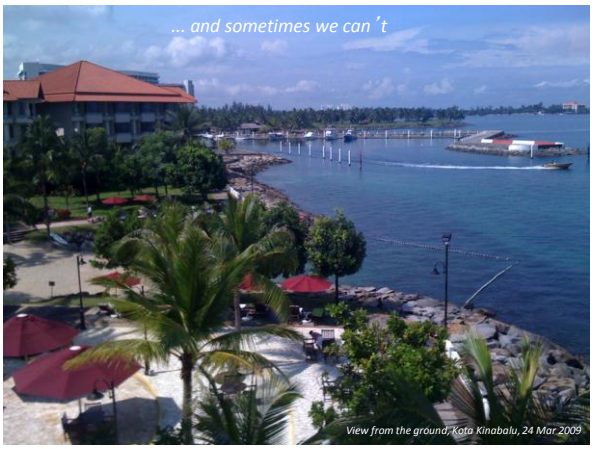
Pyramid Level 1: Indicators

Information about critical & long-term trends

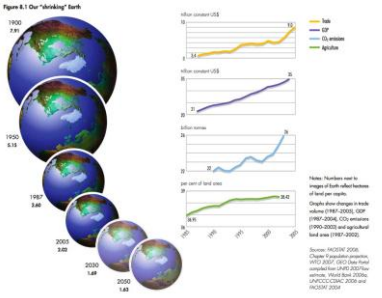


INDICATORS

What is happening? What are the trends? Where are we headed?



Indicators are information signals about **what is happening ...**
data interpreted in a way that makes it easier to understand



CLIMATE CHANGE

Level 1 Indicator Tasks Summary

1. Review your priority materiality issues and desired future outcomes.
2. Select one "good" Indicator that can provide the necessary data for each issue / outcome set.

Note: Remember who is the stakeholder group who needs to engage with this indicator

(feedback → response)

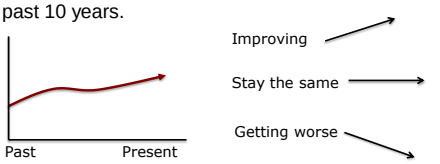
3. Develop a Behavior over Time Trend graph

4. Record your information on the Post-it Notes provided.

Level 1 Task: Choosing Sustainability Indicators

Instructions:

1. Identify 1 good Sustainability Indicator for each of your priority desired future outcomes for each Compass point.
2. Make a general trend graph of what your feel is the direction and rate of change of each indicator over the past 10 years.



Level 1 Task: Choosing Sustainability Indicators

Remember: Indicators are measurements and sources of feedback to determine current status and changes in conditions that are relevant to your goals and objectives. (e.g. ensuring Sustainability of our company / organisation)

Make sure to think about who will be engaged with this information (i.e. which stakeholders will be interested in this data?)

Seven Criteria of a Good Sustainability Indicator

- √ **Relevant . . . i.e.** directly connected to the issues you are concerned with
- √ **Measurable** . . . objective or subjective, qualitative or quantitative
- √ **Reliable . . . i.e.** you can trust the data
- √ **Understandable . . . i.e.** the average person can "get it"
- √ **Clear in Direction** . . . it is obvious which direction is "good"
- √ **Responsive . . .** they react when you make change
- √ **Linked . . .** causal linkages with other indicators across sectors

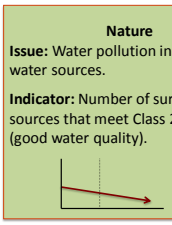
Replicate on Post-it Notes and Post on your Compass template

Example

Nature

Issue: Water pollution in surface water sources.

Indicator: Number of surface water sources that meet Class 2 Standards (good water quality).

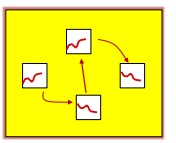


Pyramid Level 2: Systems

Why is it happening?

What causes what?

What is the most important thing making our trend happen ?



STEP 2: SYSTEMS

INDICATORS

Pyramid Level 2: Indentifying Linkages

Step 1: Identify Cross Systems Linkages

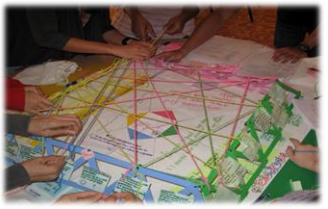
1. Discuss with your group the key linkages that you can find between the different Compass Point Indicators. Share your opinions and findings with the others.

1. Use your markers to draw arrows to draw the links between different indicators.

2. Identify hubs or concentrations of system links (high impact leverage points)

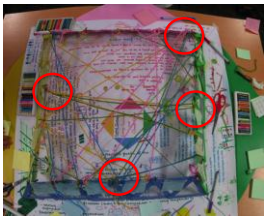
Step 1: Consider Linkages

Note: In a Pyramid Process, we would use the colored yarn to physically link together (tie) the indicators that you see some form of causal relationship between (whether it be direct or indirect relationship).



Step 2: Identify your Leverage Points

The bottom line of systems thinking is leverage - seeing where actions and changes in structures can lead to significant and enduring (sustainable) improvements. Thus, a *leverage point* is a place in a system's structure where a solution element can be applied.



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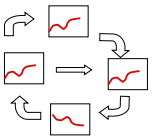
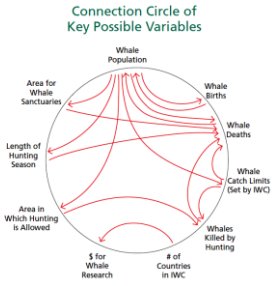
Systems Diagramming Exercise: Using Connection Circle

Step 2:



Identify one or more important feedback loops that can have implications for long-term sustainability in your company

Step 3: Creating a Systems Connection Circle



Step 3: Creating a Systems Connection Circle

<u>Task</u>

1. Draw a large circle on your flip chart paper
2. Write all the key indicators from your Compass Point around the perimeter of the circle, along with all the indicators that you have identified connections to with the colored yarn.
3. Draw the linkages that you find between each variable with a curved line, and with the arrow head pointing to the variable that is influenced by the other.
4. After all variables are connected, count the number of lines going out from each variable along with the number of lines coming in to each variable (e.g. 5/8), and record this next to the variable on the flip chart paper.

Level 2 System Analysis

Step 1:

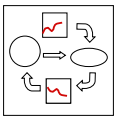
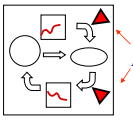


Figure out how trends, decision-making, and information flows are linked together in multiple cause-effect relationships

Step 2:

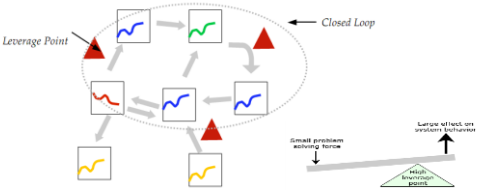


Leverage Points

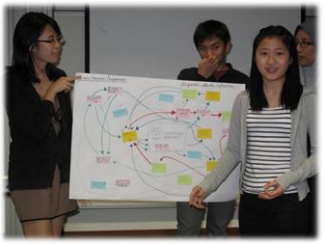
Use that analysis to identify the best leverage points for introducing change

Finding the Leverage Points for system intervention

Leverage points are places in your system map where you can intervene with an projects, program, technology, policy, etc. that will change the system relationships towards the direction that you want and be reflected in your main Indicator.



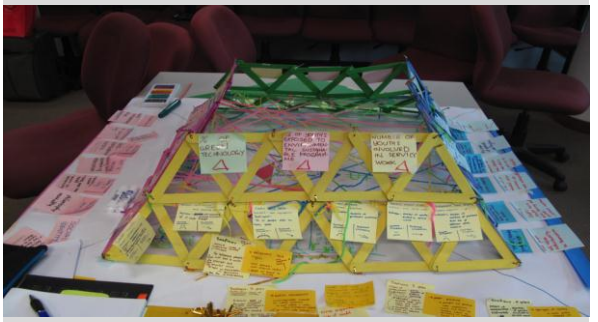
Step 3: Compass Group System Presentations



Each Compass Team …

- Identifies their central indicator and what is the goal you want to achieve
- Identifies the main feedback loops and tells the story.
- Identify the key leverage points for each loop.
- Why is this leverage point so important for focused intervention for climate change risk reduction and SD?

Construction of Pyramid Level 2 Systems



AtKisson Accelerator Resources

Book: The Sustainability Transformation
(AtKisson, Routledge/Earthscan, 2010)*

The *Accelerator* tools (based on the VISIS method)
See **http://AtKisson.com/tools**

Free simplified version:
Accelerator Lite
http://AtKisson.com/acceleratorlite

Building a VISIS "Pyramid" with water officials in Botswana, 2013

*Note: The method was originally known as "ISIS" but this was changed to VISIS after the acronum became associated with the Islamic State in Iraq and Syria.

Comments, Questions?

THANK YOU FOR YOUR ATTENTION!

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VISIS ACCELERATOR

Sub National Level …. Sustainable Pittsburgh

- Regional Outreach Strategy
- Compass Report and Community Indicators Handbook

Results:
- Contributed to Launch of Smart Growth Partnership
- Pyramid Workshop to Train Partnership Founders in S.D. and Generate Strategic Options

Source: http://www.sustainablepittsburgh.org/

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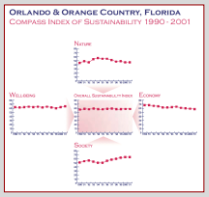
VISIS ACCELERATOR

Sustainability Indicator Projects
Orlando: Healthy Community Initiative

- *Compass Index*
- *Pyramid Strategy*
- *Expert Forums on Linkages*
- *Sustainability Awards Program*



Results:
- *Local funders use results to set funding priorities*
- *Political leaders use to focus attention on system drivers*

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VISIS ACCELERATOR

Sustainability Indicator Projects
New Orleans/SE Louisiana: Top 10 by 2010

Process
- Regional multi-stakeholder dialogue process
- Compass-based indicator system
- Pyramid-based strategic planning (behind the scenes)

Results to Date:
Direct impact on regional economic development strategy and foundation giving as well as new insights on key challenges facing region … and the leverage points to address them

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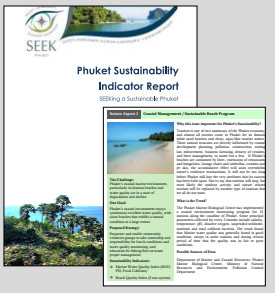
Sustainable Phuket Initiative

Developing Sustainability Indicator Framework

Phuket Sustainability Indicator Report was presented to the Phuket Governor on 22 November 2013….



ISIS ACCELERATOR

Sustainable Community Development

- Nine work groups met three times to develop "visions, goals, and metrics
- All work groups brought together for intensive one-day working session using Pyramid

Results:
- Rough draft of indicator report
- Estimate of long-term trends
- Rough draft systems analysis
- 100s of ideas for innovation
- Consensus list of top 25 initiatives

Community Development of Multi-sector stakeholders Molby, Sweden

VISIS ACCELERATOR

Regional Policy Making

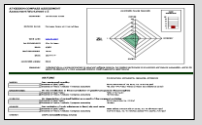
- Eleven Baltic nations in a cooperative initiative for regional sustainable development
- Mandate from the Prime Minister level
- Driven through government ministries, but multi-stakeholder in character and governance
- Seeking a new strategic mandate for 2004-2010
- Adopted VISIS / Pyramid to develop a new strategy
- Process to culminate with Prime Ministers summit in June 2004

Baltic Countries' Environmental Ministers The Riga Proposal: Agenda 21 for the Baltic Sea Region

ISIS ACCELERATOR

Corporate Sustainability with Indonesia Business Sectors

- GOAL: promote sustainability scheme to business community and assist the companies to have long term commitment toward sustainability, measurable progress, and more accountable sustainability report.
  - PT ANTMA tbk (mining industry)
  - INCO Mining tbk
  - Losari Eco-Resort & Spa
  - Indah Kiat Pulp & Paper
  - Indonesia Power
  - Bank Negara Indonesia (BNI)
- **Result:** All companies were able to develop their own specifically tailored Sustainability Indicators to support companies' sustainability performance.



LFA for Project Management

(Risk Reduction Project Design & Implementation)

DRM-SD Learning Lab
Freedom Hotel, Siem Reap, Cambodia
2-4 February 2016

Prof. K. Koshy
Centre for Global Sustainability Studies
Universiti Sains Malaysia, Penang
kanayathu.koshy@gmail.com

Overview

- Logical Framework Analysis – LFA
- Solution-oriented and Policy–relevant outcomes

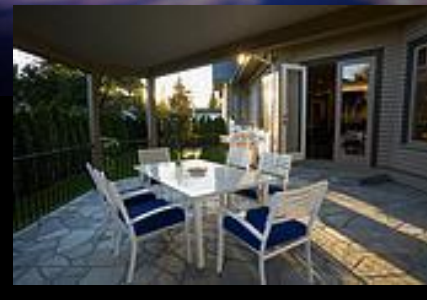
What is LFA?

Logical Framework Analysis/ Approach

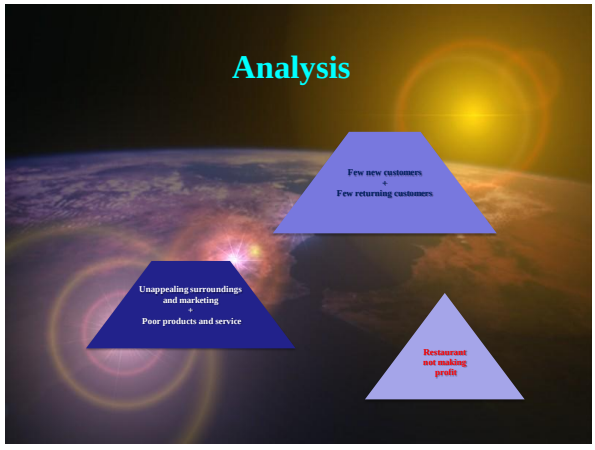
… it is an approach to develop well analysed and logical project framework & activities…

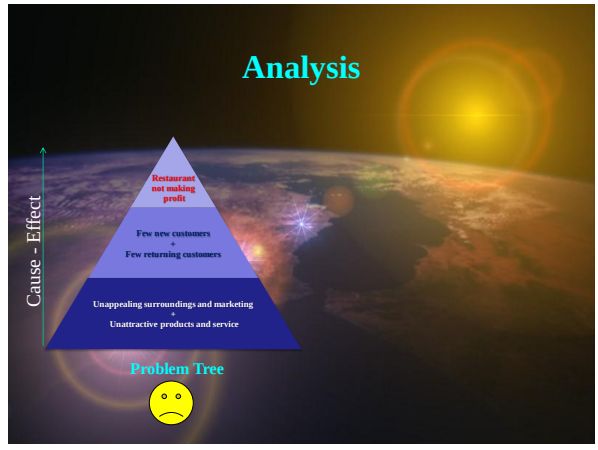
Story Time

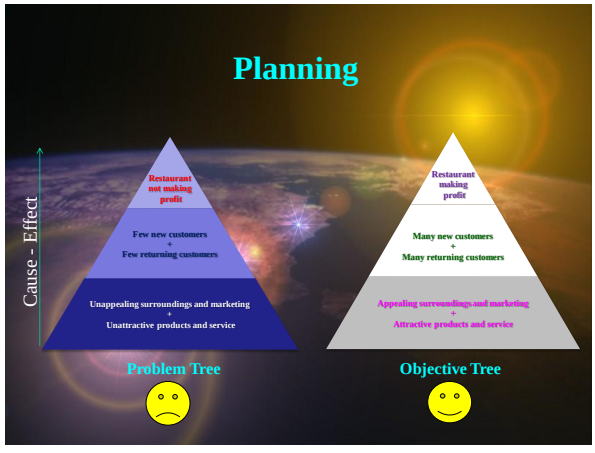
About a new restaurant…

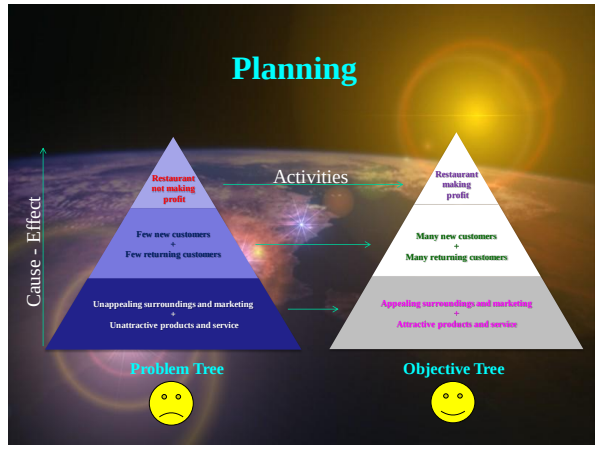


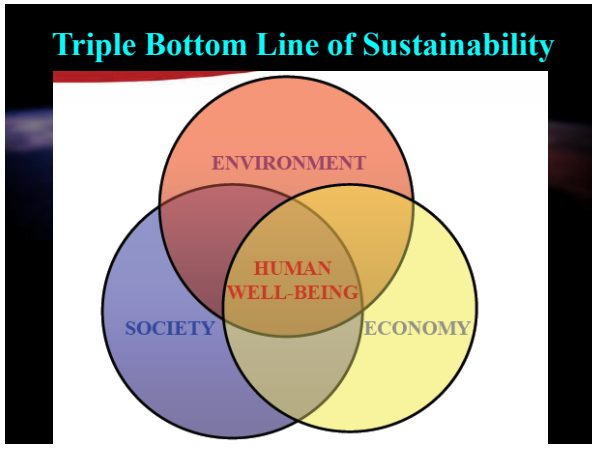
Story Time…


Analysis
Few new customers
+
Few returning customers
Unappealing surroundings and marketing
+
Poor products and service
Restaurant not making profit


Analysis
Cause - Effect
Restaurant not making profit
Few new customers
+
Few returning customers
Unappealing surroundings and marketing
+
Unattractive products and service
Problem Tree


Planning
Cause - Effect
Restaurant not making profit
Few new customers
+
Few returning customers
Unappealing surroundings and marketing
+
Unattractive products and service
Problem Tree
Restaurant making profit
Many new customers
+
Many returning customers
Appealing surroundings and marketing
+
Attractive products and service
Objective Tree

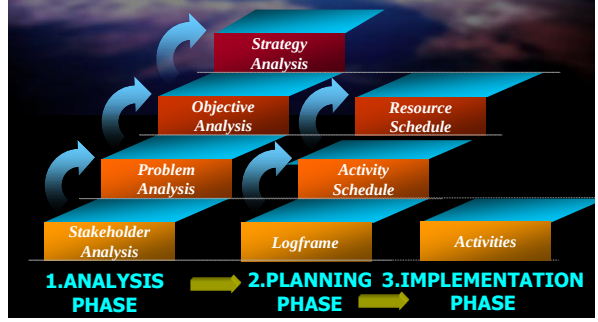

Planning
Cause - Effect
Activities
Restaurant not making profit
Few new customers
+
Few returning customers
Unappealing surroundings and marketing
+
Unattractive products and service
Problem Tree
Restaurant making profit
Many new customers
+
Many returning customers
Appealing surroundings and marketing
+
Attractive products and service
Objective Tree


Triple Bottom Line of Sustainability
ENVIRONMENT
HUMAN WELL-BEING
SOCIETY
ECONOMY


Implementation – A1

Implementation – A2

LFA Phases



Phase 1 Analysis Phase

1. Stakeholder Analysis

Stakeholders

People, groups, institutions etc. that are likely to influence or be influenced by the project, e.g.

- Decision makers
- Implementers
- Donor partners
- Target groups
- Beneficiaries

World Cafe

Phase 1 Analysis Phase

2. Problem Analysis

Problem analysis

There are different levels of problems:

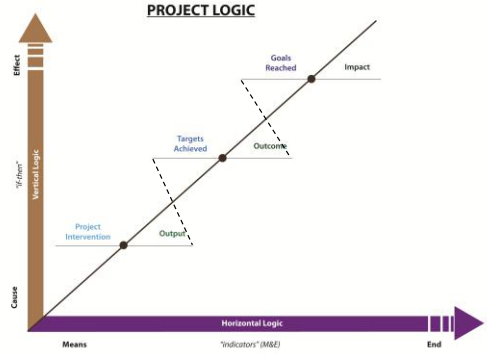
- **Overall Objective (Goal)**
  - Produce impact – projects contribution to the beneficiaries
- **Specific Objective (Target, Purpose)**
  - Produce outcome - benefit to the target group
- **Component Objective (Results level)**
  - Produce outputs or results – tangible products or services delivered by the project
- **Activities/Project intervention**
  - address the cause of the problem

Sustainability

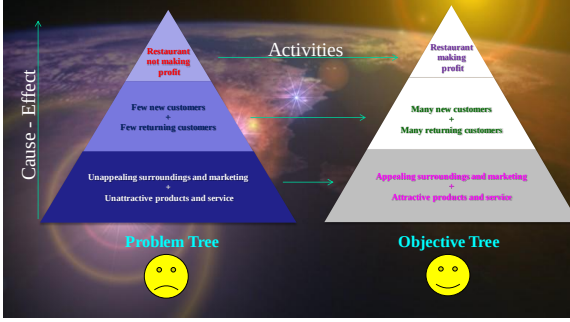
Why a Problem Tree?

Problem Tree (Logframe)	Objective Tree (Indicator)
Goal	Impacts
Targets	Outcomes
Activities	Outputs

PROJECT LOGIC

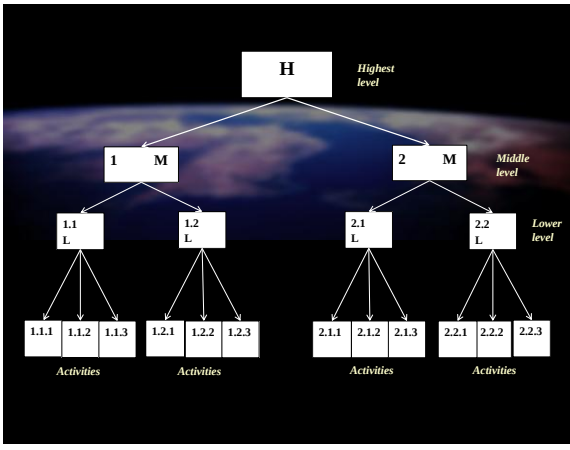


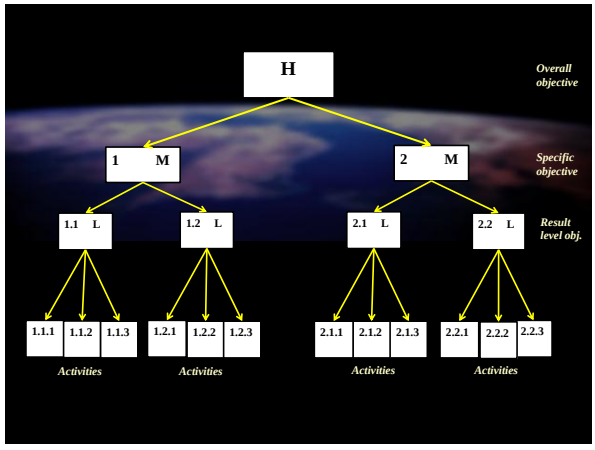
Logical Framework Analysis



Phase 1
Analysis Phase

3. Objective Analysis





Logframe (Logical Framework Matrix)*

Narrative	Intervention Logic	Objectively Verifiable Indicators (OVI)	Source of Verification (SOV)	Assumption(s) (Pre-conditions)
Overall Objective/s (Goals) Produce impacts - (Contribution of beneficiaries)	Make the restaurant profitable	Measures of achievement of overall objective	Sources of information & methods used to verify that the indicators have been achieved	
Specific Objectives (Targets, Purpose) Produce outcome - (Benefit to target group)	1. Attract many new customers 2. Attract many returning customers	Measures of achievement of specific objectives		Assumptions affecting linkages between Specific & Overall Objectives
Results level Objectives (Component objectives, Action) Produce output - (Product or service from the project)	1.1 Ensure appealing surroundings 1.2 Adopt proactive marketing strategy 2.1 Improve catering with attractive menu 2.2 Provide quality services and value for money	Measures of achievement of results		Assumptions affecting linkages between Results & Specific Objectives
Activities (Project intervention) - (Address the cause of the problem)	1.1.1 Ensure an inviting exterior 1.1.2 Make the interior design and settings modern 1.1.3 Manage waste sustainably and keep the place clean 1.2.1 Newspaper, TV ads and social media 1.2.2 Target tourists through travel agents and hotels 1.2.3 Put up posters, sign boards and bill boards 2.1.1 Find an operating nexus 2.1.2 Provide in-service training for chef and staff 2.1.3 Source quality ingredients 2.2.1 Improve food presentation 2.2.2 Train staff to be energetic, proactive and polite 2.2.3 Always provide quality products at attractive price; satisfied customer the best advt.	Measures of achievement of activities		Assumptions affecting linkages between Activities & Results Objectives

*Note: It is the 'Objective Tree' that is used to develop the logframe. The 'Activities' will normally be part of OT but in this case it is simply not shown in the triangles.

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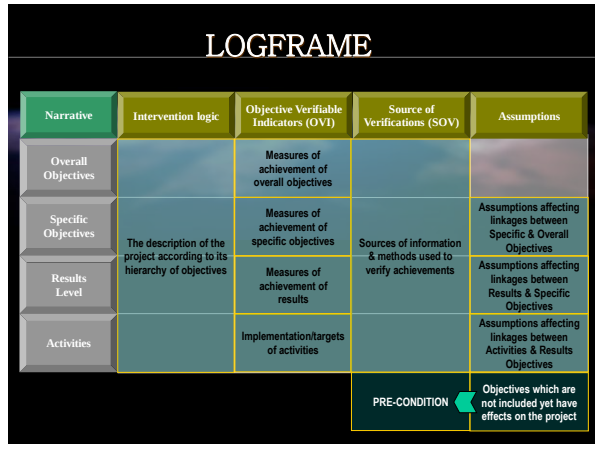


Phase 2
Planning Phase

6. Activity Schedule

AVTIVITY SCHEDULE

Year *Planning for a five-year period

No.	Activities	Responsible	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
	List of activities from the logframe	Name of the person assigned to carry out the task	Milestones (a critical decision point before moving to the next stage)											

Phase 2
Planning Phase

7. Resource Schedule

The budget

RESOURCE SCHEDULE

No.	Activities	Unit	Quantity	Cost/Unit (RM)	Funding Source	Recurrent Cost	Total (RM)
	List of activities from the activity schedule	Types of unit e.g. package, pax, etc.	E.g. number of package, pax, etc	E.g. cost per package, cost per pax, etc.	Source of fund to carry out activities which includes self funding if possible	Repetitions in activities	Total cost for each activity

Phase 3
Implementation phase

8. Project level activities

All phases
Implementation

9. Monitoring & Evaluation

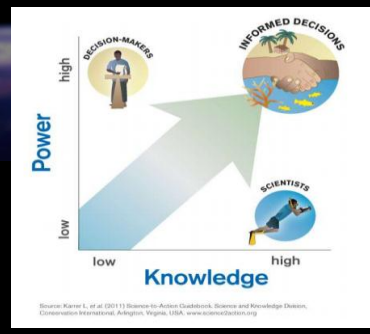
Use Indicators

Science-Policy Relevance

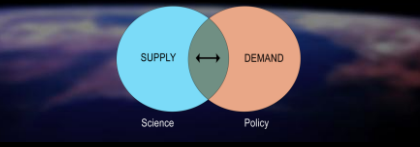
- Scientists to Decision makers
- Decision makers to Scientists

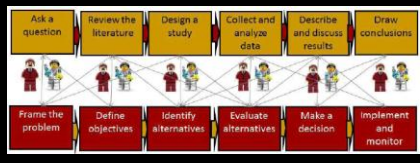
Science for policy and Policy for Science
Science based policy, Policy based Science

Science-Policy Dialogue



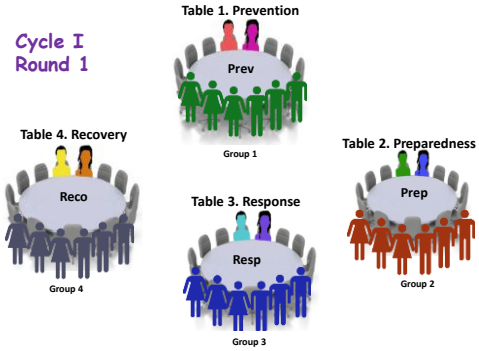
Science-Policy Interface





World Cafe

WORLD CAFÉ DISCUSSION METHOD

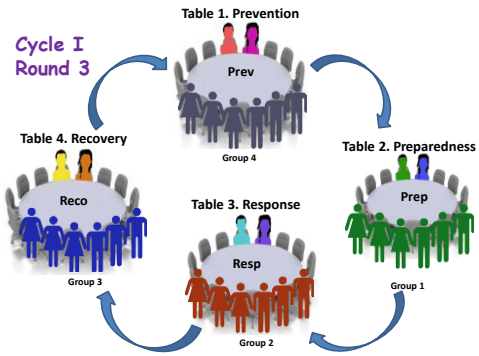


After 60 minutes…

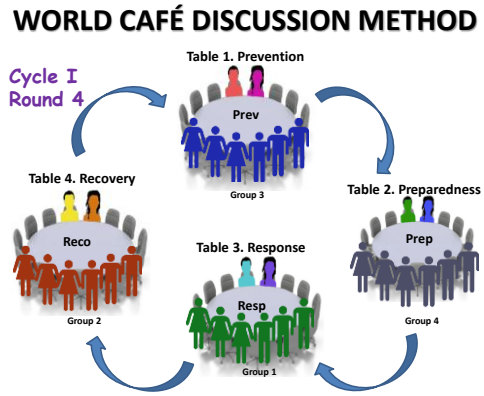
WORLD CAFÉ DISCUSSION METHOD

After another 40 minutes…

WORLD CAFÉ DISCUSSION METHOD



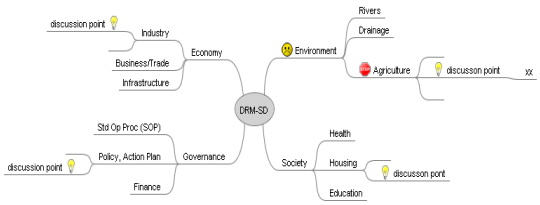
After another 40 minutes…



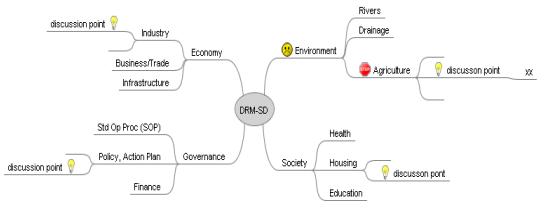
After another 40 minutes…

End

Mind Mapping for Stakeholder discussion



Mind Mapping



FLOOD DISASTER KUALA NERANG, KEDAH MALAYSIA

Dr Suzyrman Sibly
Centre for Global Sustainability Studies
Universiti Sains Malaysia

Where is Kedah?

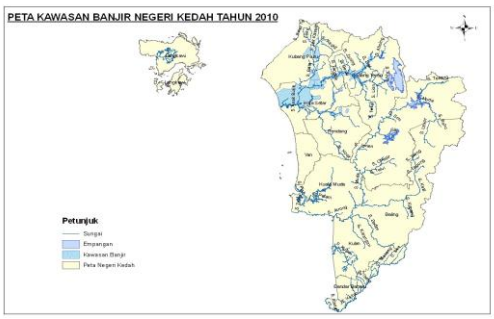
Background

- Severe flood in Padang Terap District, Kedah
- 2000, 2005, 2006, 2007, 2008, 2009, 2010
- Number of flood victims 1,500 (Estimated data from District office)
- Padang Terap - Remote and Isolated area
- Flood Management - addresses flood only during flood event
- Cost of flood - RM7 million (USD1.8 mil) for Padang Terap District, RM17 million for Kedah (USD4.4 mil)

Background

- 11 sub districts affected
- Flood duration 3 - 6 days. Average depth of flood water is 4 feet deep
- Average losses increasing (estimated data from district office)
  2000 - RM1100 per household
  2005 - RM1500 per household
  2010 - RM2400 per household

Flood Area



Causes of Flood

- Changes in rain patterns - Continuous rain
- Geographical factors - Low lying areas
- Uncontrolled development - Reduced rain water catchment, river becoming shallower

Flood in Kedah

Focus Group Discussions

Survey

Survey

Assistance

Capacity Building

Boat training

Findings & Recommendations

- Urgent needs:
  - Rescue boats + Engine
  - Tents, cooking utensils, electricity generators for emergency flood relief centres, electric water jet spray
  - Floodkits
- Intermediate needs:
  - Manpower needs to be built up through capacity building & training
    - Flood disaster management
    - Rescue boat handling
- Long term needs
  - Flood disaster awareness campaign in schools
  - Disaster adaptation

Lao PDR

Sharing Experiences of Disaster Risk Financing: State Reserve Fund (SRF)

Mr. Saychai Lithchana
Deputy Director,
Planning and Commodity Reserve Management Division
State Reserve Department
Ministry of Finance, Lao PDR

January 2016

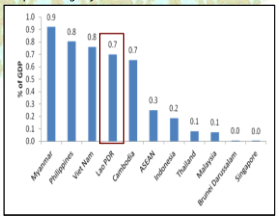
Presentation Outline – State Reserve Fund (SRF)

1. **Impacts of Disasters in Lao PDR**
2. **Motivation for Establishing the State Reserve Fund**
3. **SRF Legal Framework**
4. **The disaster risk financing instruments are available in Laos and Financial protection options**
5. **Challenges**
6. **Next Steps**

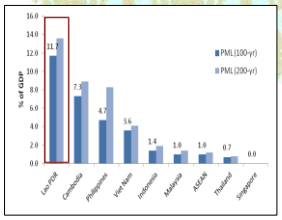
Lao PDR is one of the ASEAN countries most affected by natural disasters as % of GDP (preliminary analysis)

- In 2011, Typhoon Haima and Tropical Storm Nok-Ten caused damages of US$66 million and US$71.9 million, respectively.
- In 2009, Typhoon Ketsana resulted in estimated damages and losses of US$58 million.

Estimated Annual Expected Losses (AEL) as a percentage of national GDP.

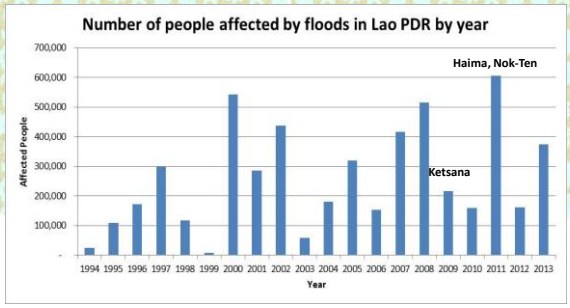


Estimated 100-year loss and 200-year Probable Maximum Loss (PML), as percentage of national GDP.



Source: World Bank (2012)

Floods are a major disaster risk in Lao PDR



- Average annual number of people affected: **258,000**

Establishing the State Reserve Fund – Motivation

- Dedicated source of funds to be used for responding to natural disasters (to improve government financial planning)
- SRF accrues resources to smooth government expenditure when large scale events occur
- Opportunity to consolidate existing/ planned disaster funds in Lao PDR (to increase efficiency of fund management and expenditures)

State Reserve Department (SRD)

- Technical department under the Ministry of Finance, established September 2012 (MoF Decision No.2429)
- Main role to manage operation and use of the State Reserve Fund (SRF)
- Acts as Secretariat to the Minister of Finance for administering the State Reserve Fund

SRF Legal Framework

- Law on State Budget (2006)
  - Annual budget allocation to SRF
- PM Decree on State Reserves No. 291 (Nov 2013)
  - Key legislation for establishment and management of SRF
- PM Decision on the Implementation of State Reserves No.76 (2014)
  - Responsibilities of line ministries for managing SRF goods reserves
- Implementation Guidelines for the Decree on State Reserves, MOF (draft, 2015)

SRF Operational Framework – Developing SOPs

- **Aim of Standard Operating Procedures (SOPs)**
  - To document work processes for government staff to adopt and use as rules to operate the SRF
  - To enable timely access to funds following a disaster, and minimise economic and social impact
- **Method for Developing SOPs**
  - Developed with technical assistance from World Bank
  - Review of international experiences operating disaster reserve funds
  - Consultations held with other government departments and international organisations in Lao PDR

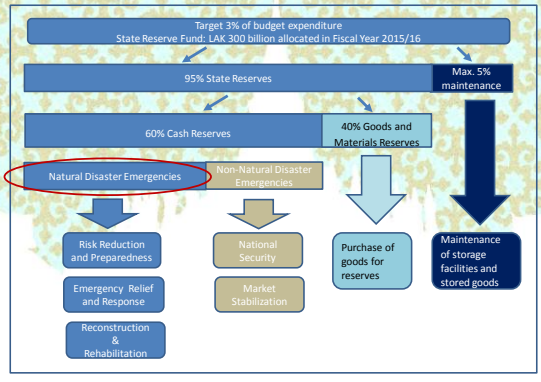
Scope of Use of SRF

"Responding to urgent and emergency needs to prevent, fight and rehabilitate impacts of disasters as well as to contribute to market adjustment, to national defence and to public security…" (Decree on State Reserves no. 291/GOV)

Scope of Use of SRF continued

- SOPs focus on disaster related use of funds:
  - i. **Risk Reduction and Preparedness** (e.g. strengthening public buildings, information for public awareness and education)
  - ii. **Emergency Relief** (e.g. evacuation/rescue operations, medical supplies, food and water for those affected)
  - iii. **Rehabilitation and reconstruction** (e.g. repair of damaged assets; roads, bridges, public buildings, agriculture sector, etc)
- Target allocation for each expenditure type
- Key department recipients of SRF identified
- Non-disaster emergency uses – national security and market stabilisation

Structure of State Reserve Fund



Source of Funds

Main Sources:

i. Annual State Budget allocation; target 3% of budget expenditure

ii. Balance of annual budget expenditure or budget surplus

iii. Other sources
  - natural resource sales revenue, interest earned on SRF, contribution from individuals or organisations

- FY 2014/15: budget allocation of **LAK 300 bn (US$ 37 million)** (1% of budget expenditure). LAK 130 bn (US$ 16 million) transferred to account

Process For Withdrawal

Approval Process

- Two separate approval processes developed:

A. Standard Approval Process

- For preparedness and reconstruction expenditures
- Detailed review of requests, reconstruction requires post disaster needs assessment, etc

B. Rapid Approval Process

- For emergency relief expenditures
- Streamlined process; less steps and documents required
- Requires notice of disaster, and letter of request to PM

Disbursement and Expenditure Guidelines

- Following PM approval, funds disbursed by SRD from SRF account at National Treasury to recipient
- Existing government procurement laws and guidelines to be used for SRF expenditures
- Emergency procurement guidelines to be used for SRF emergency relief expenditures
- Emergency procurement implemented by MOF or ministry responsible for storage of goods

Reporting, Monitoring, and Accountability

i) Recipient agencies' reporting requirements

- Use of existing reporting channels and requirements for expenditure of State Reserve Funds (to avoid duplication)
- E.g. principles to follow Accounting Law

ii) SRD's reporting requirements

- Reporting on accumulation and disbursement of State Reserve Funds
- Use of SRF expenditure codes for recording expenditure
- External audits or reviews of SRF, e.g. by State Audit Organisation, Internal Inspection Authority

Technical Working Group

Role of Proposed Technical Working Group:

- Inter-ministerial coordination to support SRF operation, including review of requests and making recommendations for approval

Yet to be established.

The disaster risk financing instruments are available in Laos

The currently finance the costs imposed by disaster in Laos as

- Stat Reserve Fund (SRD, MoF)	= 300 Billion kip
- National Contingency Fund (Budget Department, MoF)	= 100 Billion kip
- Social Welfare Fund (MLSW)	= 0.5 Billion kip
- Road Maintenance Fund (MPWT) (includes non-disaster uses)	= 400 Billion kip
- Provincial Emergency Fund (e.g. Xayaboury, Salavan Provinces)	= 0.1 Billion kip

Risk Financing

Financial protection options

¿How can the government cover the costs of the attention of emergencies and reconstruction?

Post-disaster(ex-post)

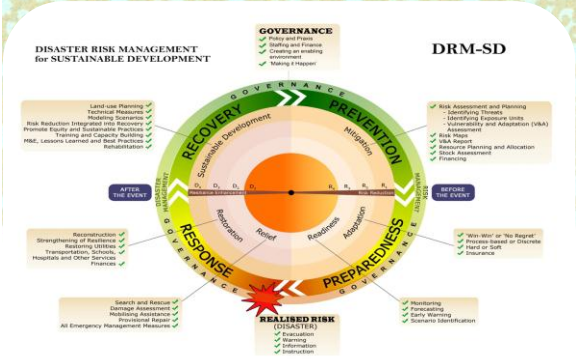
- *Reassignment of budget categories and loans*
- *New Taxes*
- *New-additional (international) credits*
- *Assistance from donors*

Pre-disaster (ex-ante)

- *Disaster reserve funds*
- *Insurance/Reinsurance*
- *Catastrophe bonds*
- *Contingent loans*
- *Capital markets*

Source: CAPRA & UNISDR

The Disaster Risk Management Model for SD from GCSS



Source: USM Global Center for Sustainability Studies, 2013.

Challenges

- SRD is a relatively new department, and is still gaining experience on managing the SRF
- The full amount of the budget allocation has not been transferred to the SRF account for FY 2014-15 (received approx. 43% of budget allocation)
- Budget Department (MOF) is still the primary source of funds for post disaster expenditure needs, from the National Contingency Fund

Challenges (continued)

- Disaster Management Law is not yet available
- The new structure for National Disaster Prevention Control Committee (NDPCC) it was not clear about the role and responsibility
- Disaster Planning Template in the national level is not yet available
- Limited the capacity of government staff for Post Disaster Need Assessment (PDNA)
- Lao PDR is lack fund for disaster risk management.

Next Steps

- **Hold consultation workshop on draft SOPs** with other key government agencies and I/NGOs – for further input, and to coordinate with use of other funds (e.g. contingency fund etc.)
- **Coordinate with Budget Department** to ensure planned budget allocation to SRF is realised
- **Capacity and training needs assessment for SRD staff** – to feed into SRD training plan
- **Hold dissemination workshop to increase awareness of SRF**, and how funding can be easily accessed by line ministries for disaster response and recovery
- **Explore linkages of SRF with regional catastrophe risk pooling mechanism**

Thank you!

Disaster Risk Management for Sustainable Development (DRM-SD) Capacity Building

Pre-Disaster : Discussion on SE Asian Climate, Risk Management – Pre disaster stage: prevention and preparedness (a case for systems thinking)

Robert Steele – Systainability Asia
Senior Associate - AtKisson Group

Five storms hit Thailand in 2011causing the great flood on more than ¾ of the country.

Systainability Asia
www.systainabilityasia.com

Bangkok, was flooded heavily in late November and December 2011

Systainability Asia
www.systainabilityasia.com

For 2 months, Thai society learned an unforgettable experience and meaning of 'disaster'.

Systainability Asia
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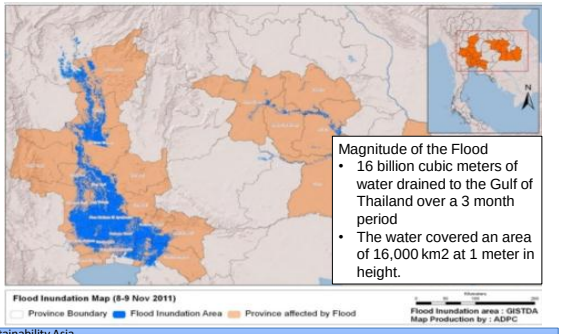
Urban areas were not the first flood protection priority. Which area did the government want to protect most?

Systainability Asia
www.systainabilityasia.com

Geographical extent of the flood



Systainability Asia
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The Global Impact

The World Bank ranked the 2011 Floods of Thailand as the 4th costliest disaster in the history, after the 2011 earthquake and tsunami in Japan, the 1995 Kobe earthquake, and 2005 Hurricane Katrina.

The flood also interrupted the global supply chain of automobile and electronic industries in Japan and Europe.

The Flood waters covered vast areas

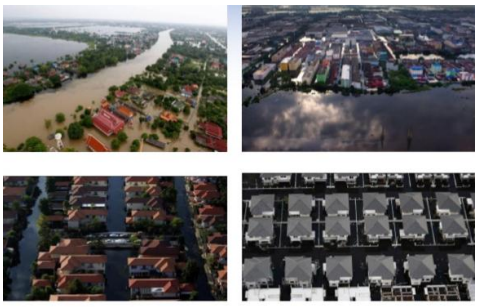
Including World Heritage Monuments

250 Historical sites were damaged

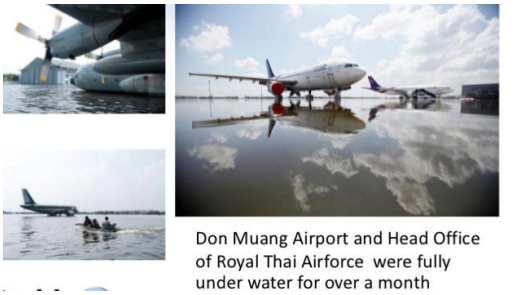
Industrial Estates

7 Industrial Estates
838 Factories
1,055 New Cars
1 Million workers lost their jobs temporary or permanently

Residential Neighborhoods



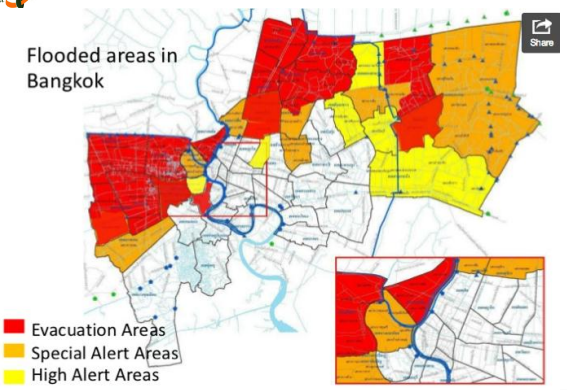
Transportation Hit Hard



Don Muang Airport and Head Office of Royal Thai Airforce were fully under water for over a month

Transportation Hit Hard

Rescue and response… many people had to do it themselves …. Thai resourcefulness



Thai floods—natural factors and other causes

A. heavy rainfall continuing longer than other years;
B. the duration of inundation was prolonged due to the structure of the rivers, such as the moderate slope of the Chao Phraya River and the low flow capacity of the downstream channel; and
C. the inundated industrial estates were originally located in low marsh areas

Five major Tropical Storms (Typhoons) July – Oct 2011

Flood severity contributing Factors

- Global Warming
- Climate and Topography - Excessive rainfall / Basin subsidence
- Duration of inundation was prolonged due to the structure of the rivers and the low flow capacity of the downstream channel;
- Rapid and mostly unregulated urbanization
- Insufficient and poorly maintained drainage and flood protection systems
- Insufficient flood prediction system
- Poor flood warning and communication system,
- No single flood management command system/body
- Uncoordinated water management by Key Agencies
- Political intervention in dam operation and irrigation management
- Poor communication with key stakeholders
- Unsystematic emergency mismanagement & rescue efforts,
- Majority of the people in Thailand lack sufficient awareness, knowledge about disasters,
- Not very much serious interest in learning how to prevent or respond to them (culture of mai pen rai attitude).

Impacts of Flood Damage

Social & Economic Impacts

- During …. Food and water hording
- Conflict and fighting among adjacent communities (because of mistrust and misinformation from government flood communication
- US$45 billion in damages and losses to properties, industrial plants, goods and services
- Schools, 1,053 were affected and were forced to end the term early. 5 million people, or 1.9 million households were effected
- 758 deaths, mostly from drowning and electrocution
- Siginificant increase in burgularies of evacuated houses… no police force or security to patrol
- Reduction in tourist numbers and closure of tourism businesses
- *Reduction of total household expenditures by 5.7% to 14%.*

Banking Sector

- 451 branches of banks were closed, thus affecting people's ability to withdrawal and have cash on hand
- 4,942 ATM's were damaged and more were unserviceable for some time

Impacts of Flood Damage

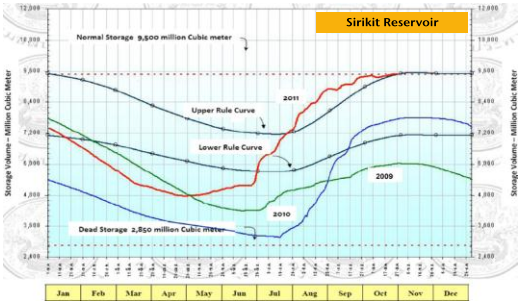
Business & Industrial Impacts

- 7 industrial estates flooded
- Over 1,000 factories, including major manufacturers such as Sony, Canon, Nikon, Honda with long-term impacts on exports
- 1.055 new cars, plus over 25,000 cars and trucks severely damaged by water
- 1 million workers lost their jobs temporarily or permanently.
- The damage to the industrial sector was particularly devastating. According to the estimates released by the UNISDR Secretariat (2012b), the event set back global industrial production by around 2.5%.
- Decrease in investor confidence in Thailand as a low risk place for locating manufacturing industries.

Government Policy and Infrastructure

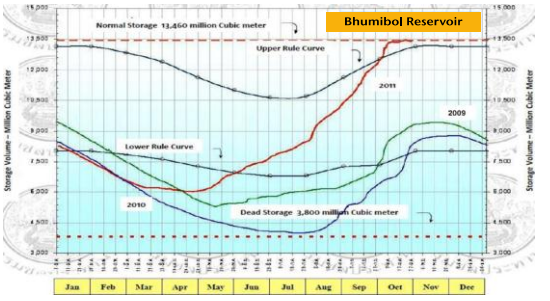
- US$11 Billion Water Management Budget and Plan passed (water diversion plan)
- Construction by central government, BMA, and local authorities of flood walls along waterways (not coordinated)
- Cleaning, deepening and widening of canals

Water Management Profile – Sirikit Reservoir



Source: Thailand's Royal Irrigation Department

Water Management Profile – Bhumibol Reservoir



Source: Thailand's Royal Irrigation Department

Concrete flood walls were built immediately after the ground was dry; 7 m. high and 80 km. long

Nearby towns along the river developed higher concrete walls against the flood.

Meanwhile, Thai society is seeking for something as resilient and adaptive options living with water.

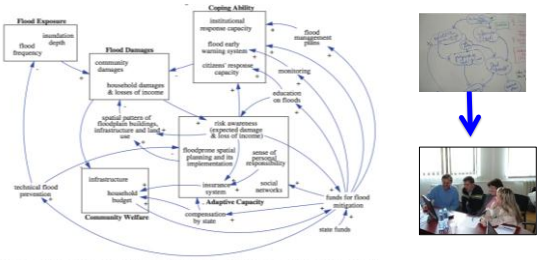
Thai traditional house on stilts is a good typical form of adaptive settlements.

Traditionally floating house is another form of adaption.

Case Study Discussion

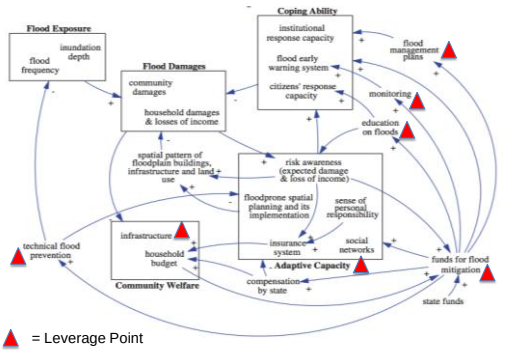
- What are the similarities and differences with the situation of flood prevention, mitigation, preparedness, response and recovery with Vietnam?

Example use of Causal Loop Systems Diagramming – flood preparedness



Group models developed for the Transcarpathian Tisa basin: the causal-loop-diagram (1) of a concept of flood preparedness that links coping ability (short-term measure in the case of a hazard event) and adaptive capacity (long-term preparedness). The pluses (?) and minuses (-) indicate the polarity that the relationship is assumed to have (thanks to Piotr Magnszweski for contributing to the model structuring)

Identifying key Leverage Points for Intervention



= Leverage Point

THANK YOU FOR YOUR ATTENTION!

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Comments, Questions, Discussion