EUROPEAN UNION

United Nations
International Strategy for Disaster Reduction

ASIAN DISASTER REDUCTION RESPONSE NETWORK

Project SELAMAT

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INSTITUT TEKNOLOGI BANDUNG
1959

Building Resilience to Tsunami In the Indian Ocean

Action Research, IEC and Practices

India, Indonesia
Maldives and Sri Lanka

About the Project

PROJECT SELAMAT Building Resilience to Tsunami in Indian Ocean

Indonesia, Sri Lanka, India and Maldives were four nations in the direct path of the South Asian Tsunami, where local communities even today are highly vulnerable and exposed to future disasters. The post-tsunami reconstruction efforts are still underway in most of the affected communities, yet most risk reduction initiatives are only at the level of pilot projects. The NGOs, CBOs and community groups at work do not have access to adequate knowledge resources and tools to address their local risks. Project Selamat recognizes the community and its educational institutions as the most crucial stakeholders for building resilience to disasters such as tsunamis.

As a direct implementation of the Hyogo Framework for Action (HFA), the project aims at building community level coping capacities towards long term resilience. The objectives of the project include making tsunami threatened communities aware of their risks and of actions needed, training local stakeholders in appropriate skills, establishing community based infrastructure, and preparing and using IEC (Information, Education and Communication) material for awareness, training and advocacy. In this setting, the project aims to bring together the NGOs, the academic institutions and the governments to work on a collaborative model of locally appropriate process of institutionalizing risk reduction process.This brochure describes the activities of academic institutions.

This project is funded by European Union

"The European Union is made up of 27 Member States who have decided to gradually link together their know-how, resources and destinies. Together, during a period of enlargement of 50 years, they have built a zone of stability, democracy and sustainable development whilst maintaining cultural diversity, tolerance and individual freedoms. The European Union is committed to sharing its achievements and its values with countries and peoples beyond its borders."

Disclaimer

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Building Resilience to Tsunami in the Indian Ocean

Action Research, IEC and Practices
In India, Indonesia, Maldives and Sri Lanka

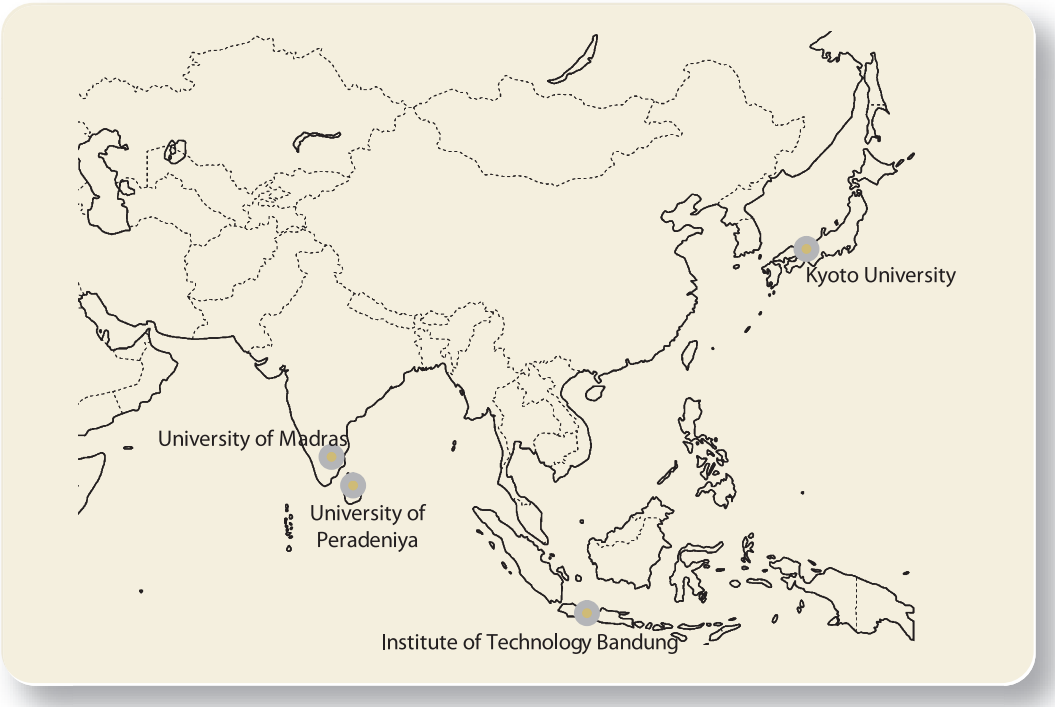
Implemented by

Kyoto University Graduate School of Global Environmental Studies

In partnership with

Center for Coastal and Ocean Studies, University of Madras, India
Center for Disaster Mitigation, Institute of Technology Bandung, Indonesia
Center for Environmental Studies, University of Peradeniya, Sri Lanka

September 2007 to March 2009



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Targeted Issue and Problem

"Education, including formal education, public awareness and training, should be recognized as a process by which human beings and societies can reach their fullest potential. Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues.
While basic education provides the underpinning for any environment and development education, the latter needs to be incorporated as an essential part of learning. Both formal and non-formal education is indispensable to changing people' s attitudes so that they have the capacity to assess and address their sustainable development concerns".

Chapter 36 of AGENDA 21,
on Education, Awareness and Training (1992)

Education has been there for ages. Need of education for sustainable development is stated in Chapter 36 of Agenda 21. The Hyogo Framework for Action (HFA: 2005-2015) also re-emphasized the need and urgency of disaster related education. While there has been quite active awareness raising and training for different sectors, formal higher education has been less dominant in disaster reduction field. Only after 2004 Indian Ocean Tsunami, an increasing trend is observed to develop and deliver disaster management courses in the universities targeting under graduate and post graduate students.

Education is considered as one of the key mainstreaming tools for any subject. There have been several attempts to mainstream risk reduction in development practices. However, the real mainstreaming starts from formal educational institutions, including schools, colleges and universities. The mode and method of education should be one of the important issues to make positive impacts. Disaster risk reduction being a multi-disciplinary subject needs a combination of theory and practice. Possibly, more emphasis should be given to the field practice and learning from the experiences. Thus, the academic and formal education should go beyond the traditional boundaries of the school and/or university compound, and communicate more with the communities, and learn from their experiences.

Non-government organizations (NGOs) have direct field access, and experiences in grass-root project implementation. However, these experiences are not properly reflected in the educational curriculum. Thus, the Selamat project aims at bridging academic research, education and field practice.

Objectives

Project objective is to build capacity of local communities at risk to tsunamis and other coastal hazards.
Some of the highlights of the university-NGO cooperation are:

Tell me, I will forget,
Show me, I may remember,
Involve me, I will understand
Source: Anon

1. **Quality of knowledge and information:** All participating universities in the targeted countries are esteemed organizations in the field of disaster risk management. Therefore, it brings high quality knowledge and information.

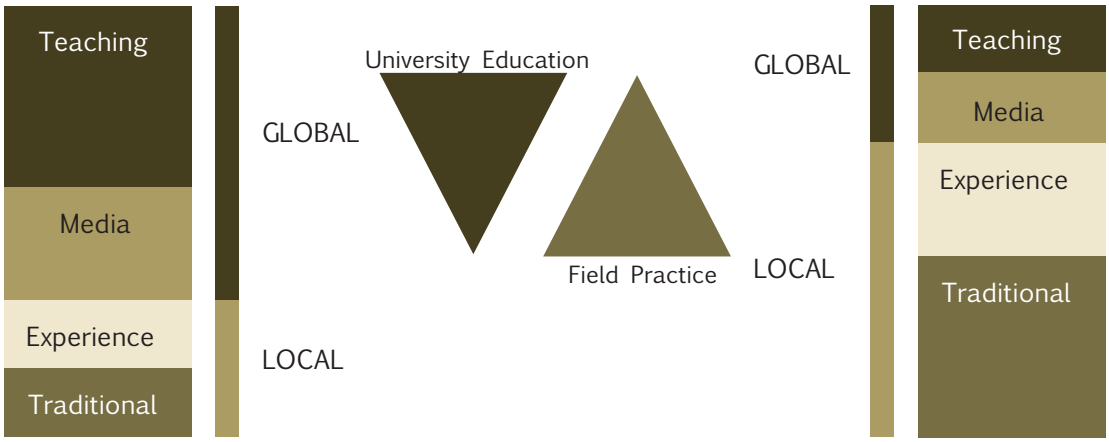
2. **Extensive network:** The four universities have largest networks in the tsunami affected areas, and thus ensure that the knowledge product will have largest circulation in future.

3. **Ensuring sustainability:** Through development of the certificate courses and customized courses, young professional development will be ensured, which is linked to the sustainability of the disaster preparedness activities in the targeted countries and communities.

What to Achieve?

The project targets on three specific achievements:

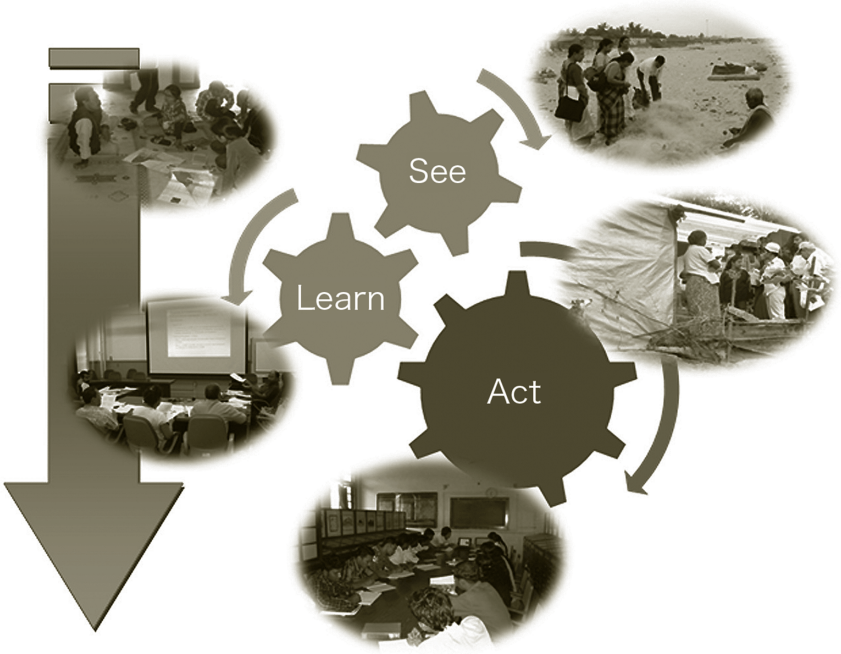
- **Education mainstreaming in the curriculum:** Through development of courses and making it part of the regular curriculum of the universities.
- **Linkages to field practice:** Linking the courses with the NGO project learning.
- **Participatory learning:** Academic learning through participation and experiences.



Source: Anshu Sharma 2008

How to Achieve? Process Based

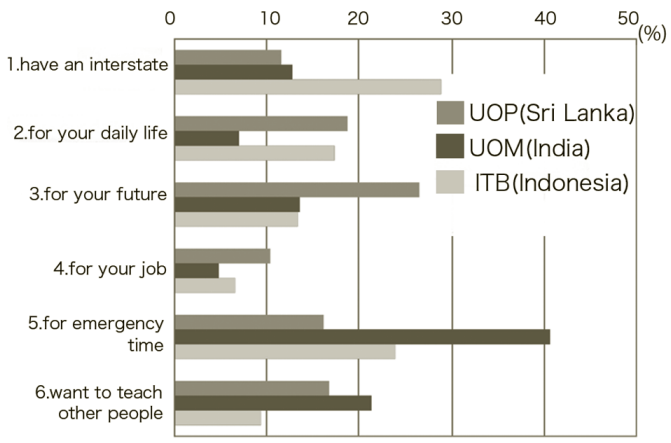
The project was developed through a series of consultation process with the universities, local and national governments, partner NGOs and school communities, especially in the tsunami affected areas.



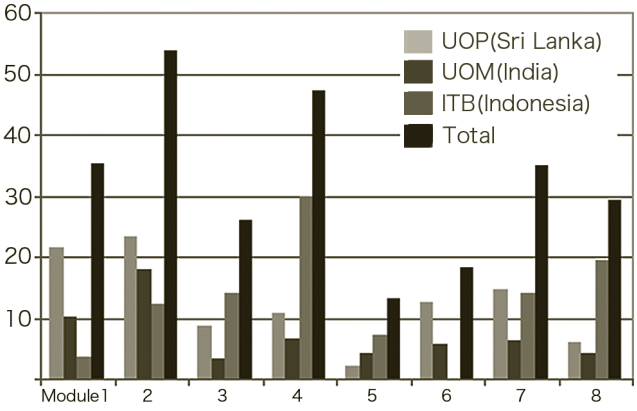
Where the Interest Lies?

To develop effective and sustainable education program, it is important to have a good market research, and to understand where the interest lies.

Q. Why do you want to study disaster management?



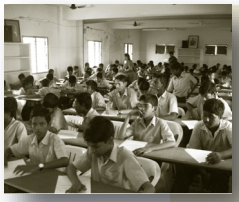
Q. Which among the following courses do you want to study?



Source: 2008 survey

Module 1:
School Safety

Primary Country: India
Primary Target: School teachers
Secondary Target: NGOs, practitioners and university students



School safety is the core of risk reduction education, and consists of both structural and non-structural safety. While there have been several debates on the nature, form and implementation of school safety programs in different countries, very few consolidated documents exists targeting school teachers. This module consists of 5 chapters: coastal hazards: conceptual framework, school safety: generic principles, coastal hazards in India, school safety in Indian context, and inclusive education. The module is prepared for 3.5 days of training program, which has 2 days of theory with illustrations and video, and 1.5 days of practical training with field knowledge.

Module 2:
Climate Change Adaptation

Primary Country: India
Primary Target: Local Government Planners
Secondary Target: NGOs, practitioners and university students



Climate change is real, and is happening. In recent days, climate change adaptation is becoming increasingly popular among development practitioners. However, very few adaptation practices exist in local government level. Therefore, this module targets specific "how-to" on climate change adaptation and local development planning. This module consists of 4 chapters: climate variability and climate change, climate change and disasters, mitigation and adaptation strategies and climate change practices in India. The module is prepared for 2 days of training program, which has both theory and practice.

Module 3:
Community Based Coastal Zone Management

Primary Country: Maldives
Primary Target: Local Government Planners and NGOs
Secondary Target: University Students

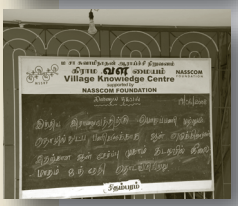
Coastal zone management is increasingly becoming revenant due to vulnerability of the coastal areas. While there exist several regulations, community participation is an important issue to sustainable coastal zone management. This module consists of 6 chapters: physical, biological and human dimensions of coastal zone management, followed by brief introduction on natural hazards in the coastal zone and specific context related to Maldives. The module is prepared for 2.5 to 3 days of training program, which has 2 days of theory with illustrations and video, and 0.5 to 1 day of practical training with field knowledge.



Module 4:
Community Based Information System

Primary Country: Maldives
Primary Target: Community leaders and Teachers
Secondary Target: University students and Local Governments

Information system is the key to the early warning operation in coastal areas. Community based information system (CBIS) engages local communities to take control of the information system and thereby enhancing their decision making power. One of the characteristic features of the CBIS is to link it to the regular information system like weather, agriculture, livelihood etc. This module consists of 6 chapters: basics of Community Based Information system (CBIS), contents and services provided in the CBIS, community based hazard mapping, and Maldives context of CBIS system. The module is prepared for 2 days of training program, which has both theory and practical training with field knowledge.

Module 5:
Participatory Urban Risk Management

Primary Country: Indonesia
Primary Target: Local Government Planners
Secondary Target: University students and NGOs



Urban risk is gradually increasing, and will continue to increase in the next decades. While urban risk management has been traditionally a responsibility of the local government, increasing community participation in urban areas is currently being recognized and practiced. This module consists of 8 chapters: disaster risk in urban setting, urban development planning tools, DRR framework and tools, preparedness planning in urban setting in Indonesia, participatory approach in development planning, participatory risk assessment, action planning and participatory M&E. The module is prepared for an intensive training of 4 days with both theory and practice.

Module 6:
Leadership Training Program for NGOs

Primary Country: Indonesia
Primary Target: NGO leaders
Secondary Target: University Students



The role of NGOs in risk reduction is increasingly recognized, even in the countries with traditional strong government presence. NGOs often face the issue of sustainability of their activities, and the key challenge is the leadership development for NGO activities. This module consists of 8 chapters: introduction to DRR, role and challenge of NGOs, leadership quality in building community resilience, facilitating and advocacy, CBDRR, participatory risk assessment and planning, risk communication and leadership development program. The module is prepared for an intensive training of 4 days with both theory and practice.

Module 7:
Post Disaster Environmental Impact Assessment

Primary Country: Sri Lanka
Primary Target: Local government planners and NGOs
Secondary Target: University Students

Post disaster environmental impact assessment is the key for sustainable recovery after nay disaster. In many cases, a quick estimate (Rapid Environmental Assessment) is done by outside agency with little involvement of local governments. It is important to enable the local governments with tools and practices of the post disaster impact assessment. This module consists of 8 chapters in two parts. The first part focuses on generic aspects of environmental impacts and the assessment tools, while the second part focuses on Sri Lanka experiences. The module is prepared for an intensive training of 3 days with both theory and practice.



Module 8:
Flood Risk Management

Primary Country: Sri Lanka
Primary Target: Local government planners and NGOs
Secondary Target: University students

Flood risk is a crucial issue in most Asian countries, and community based approaches to flood risk management has been increasingly popular. In most cases, NGOs are actively involved in community based initiatives. This module will focus on the local government involvement in the flood risk management with certain emphasis on community initiatives. This module consists of 8 chapters in two parts. The first part focuses on generic aspects of flood risk management and sustainability issues of community initiatives and its policy implications. The second part focuses on Sri Lanka experiences. The module is prepared for an intensive training of 3 days with both theory and practice.



Links

The project has established a strong link with the local governments, NGOs and local communities.

Governments

Tamil Nadu state government, Cuddalore district administration, India;
Aceh, Bandung and Yogjakarta governments in Indonesia
Atoll and Island offices in Maldives
Disaster Management Center, Kaluthara district administration in Sri Lanka

NGO Partners

SEEDS India, MERCY Malaysia, MPBI. SHEEP, 118, SEEDS Asia, Sarvodaya

University Partners

Kyoto University, University of Madras, Institute of Technology Bandung, University of Peradeniya

Links to the University Curriculum

MODULES	UOM	ITB	UOP
1. School Safety	Elective Course introduced by Applied Geology (ongoing)		
2. Climate Change Adaptation	Certain Components already incorporated in elective Course in Master degree students of applied geology-course begins for July 2009.		Introduced in PG and UG Courses
3. Community Based Coastal Zone Management	Elective Course introduced by Applied Geology (ongoing)	Courses in Oceanography and Urban Regional Planning	
4. Community Based Information System	Elective Course introduced by Applied Geology (ongoing)		
5. Participatory Urban Risk Management	M.A.,(Town and Country Planning), M.A., (Geography)	Introduced in Urban Planning at Master Level	
6. Leadership Training Program for NGOs	M.A. Social Work, M.A. Sociology and Anthropology Can be offered as value added certificate Courses		
7. Post Disaster Environmental Impact Assessment	M.Sc., Environmental Studies B.E., Civil Engineering	Elective Courses offered in School of Environment	Courses offered by the Environmental studies Department for UG Students
8. Flood Risk Management	Core and Elective Courses are currently offered by Department of Applied Geology for Post Graduate Students		Climate Hydrology for 50 students. Watershed Management for Under Graduate Students.

Post Script: AUEDM

Recognizing the needs and demands of higher education in disaster risk reduction, Kyoto University Graduate School of Global Environmental studies have established a network of Asian Universities, called: **Asian University Network of Environment and Disaster Management (AUEDM)**. It is hoped that the AUEDM network will sustain and build on the initial seed network developed among four universities in this project. For more information on AUEDM, see: **www.auedm.org**

Objectives of AUEDM:

- To share and work together (bilaterally or multilaterally) in promoting environment and disaster management in higher education (focusing on, but not restricted to, post-graduate education)
- To seek possibilities of mutual collaboration on field-based action research
- To broaden the scope of education and learning in the environment and disaster management field through collaboration with other stakeholders like NGOs and local governments

Characteristic Features:

- Multi-disciplinary approach
- Field-based action research
- Linking academic research to field practice

Participating Universities and Organizations

- BRAC University, Bangladesh
- Beijing Normal University, China
- University of Madras, India
- Tata Institute of Social Sciences, India
- Institute of Technology Bandung, Indonesia
- Kyoto University, Japan
- National University of Malaysia (UKM), Malaysia
- Myanmar Engineering Society, Myanmar
- Nepal Engineering College, Pokhara University, Nepal
- Peshawar University, Pakistan
- University of Philippines Los Baños, Philippines
- Peradeniya University, Sri Lanka
- Chulalongkorn University, Thailand
- Hanoi Architectural University (HAU), Vietnam
- GTZ Pakistan
- SEEDS
- United Nations University

About Implementing Partners

University of Madras, India

The University of Madras envisages to establish a **Centre for Ocean and Coastal Studies (COCS)** with multi disciplinary facilities for carrying out Research and Development (R&D) and human resources development programs in the areas of coastal and ocean science. The interaction between land and sea with particular reference to climate changes, ecosystem modifications in the east coast of India will receive special attention. Thus, the main objective of the Centre is to facilitate inter-disciplinary teaching, training and R&D programs with an aim to protect, conserve and manage the ocean and marine ecosystems for sustainable development towards optimum utilization of resources for the benefit of community.

Institute of Technology Bandung, Indonesia

Center for Disaster Mitigation (CDM) is an organization under the framework of Institute for Research and Community Services Institute Technology Bandung that support the university program in multidisciplinary disaster mitigation activities. Center for Disaster Mitigation conducts disaster mitigation research and development in urban and rural area, through an advocacy to support the strategic policies and legal mechanism, to identify and analyze the disaster impacts, to disseminate and transfer knowledge and skills through training, workshop, seminar, and community-based research action activities. Center for Disaster Mitigation was established on January 10, 2003 to respond national needs in reducing disaster impact. It was also established as an effort to institutionalize research activity in disaster mitigation that had been done in the past twenty years by ITB and also to make this research activity sustain.

University of Peradeniya, Sri Lanka

The **Center for Environmental Studies (CES)** was established in 1992 in the University of Peradeniya. Over the last 15 years, the CES has rendered a significant service both to the University and to the nation in the field of environmental education and training, especially in environmental impact assessment (EIA). The vision of CES is "to ensure an environmentally informed and responsible society." The overall objective of the CES is to contribute towards an environmentally informed and responsible society. Within this, the CES aspires to achieve the following objectives: 1) Popularize and promote environmental education within the University and outside, 2) Build a closer interaction with the Government agencies, civil society, private sector and international organizations, 3) Improve general and professional environmental training both at undergraduate and post graduate level, 4) Improve the environmental information base and dissemination of environmental information and research knowledge, and 5) Evolve into a self sustaining, internationally recognizes environmental training and education center. For these, CES is involved in cutting-edge research in the field of environment and disaster management.

Kyoto University, Japan

The **Graduate School of Global Environmental Studies of Kyoto University** was established with the objective of constructing a new civilization concept and scientific knowledge that contribute to both a stable environment as well as the human activities that support the environment. The purpose was to develop human resources capable of adapting this concept and knowledge to the real world, in order to clarify and solve global environmental problems. The study of the global environment is still in the formative stage, and its relation to development, and disasters are yet to be established. Strategic foresight, interdisciplinary collaboration, and flexibility are vital to achieving dynamic development in the research of this field. The educational side of this field also requires sound educational content of depth that encompasses related scholastic fields as well as steady research guidance that is both socially conscious and at the forefront of its field. The school promotes multi-disciplinary action and academic research in Japan and abroad. The graduate school has unique internship program for the students to enhance pro-active field research. Master students in Environmental Management course need to complete a compulsory internship of 5 months, and Doctor student for 9-12 months. The graduate school is currently actively involved in developing global leaders in the field of environment and disaster risk reduction. For more information, please see: http://www.ges.kyoto-u.ac.jp/

International Environment and Disaster Management Research Laboratory targets to reduce the gap between knowledge and practice through pro-active field-level, community-based project implementation. The target areas are mainly developing countries in Asia, which have the highest population growth, and high vulnerability due to different types of natural and man-made disasters. The focus of this research field is to learn lessons from the field experiences through effective environment and disaster related project management. Disaster issues are directly related to environmental degradation, and global climate change. Disaster, environment, and development are closely linked to each other under the broad umbrella of human security. The key of environment and disaster management is the end-user' s participation, which are the communities, and its people. Added to this, is education and learning through formal/ non-formal education, and community/ family interactions. Working closely with the governments, non-governments (NGO/ NPO), international organizations (United Nations and other bilateral and multilateral development agencies) and regional bodies, this research field is developing a unique process-oriented participatory approach of environment and disaster management through direct involvement and ownership of the community. Key research areas are: climate change adaptation, urban risk reduction, environment and disaster learning and education. For more information, please see: http://www.iedm.ges.kyoto-u.ac.jp/

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