



Certificate of Advanced Studies in

Disaster Risk Reduction

Vulnerabilities and capacities in the context of climate change

1 - 12 September 2008 → EPFL, Lausanne, Switzerland

3 - 14 November 2008 → IISc, Bangalore, India

With the support of:

Swiss Agency for Development and Cooperation (SDC)



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GENERAL INFORMATION

Justification

There has been growing awareness and mobilisation over recent years regarding the problem of natural disasters on the part of many of the actors concerned: scientists, IOs, NGOs, and states. Climate change, a phenomenon now acknowledged by almost the entire scientific community, is a key factor in the increase in hydrometeorological disasters. Although no region of the world is completely spared by this type of disaster, the poorest countries are by far the most vulnerable, due to their lack of appropriate resources. The North-South scientific partnership and strengthening of the capabilities of scientists and other stakeholders are therefore crucial in the struggle to improve disaster risk reduction. Furthermore, training needs, at all levels, remain very considerable and must be looked upon as a primary objective in disaster reduction strategies.

Objectives

The main objective of the Certificate of Advanced Studies in Disaster Risk Reduction (CDRR) is to train specialists in both Southern and Northern countries, or strengthen their capabilities, in the field of natural disaster prevention, especially hydrometeorological disasters and/or those related to climate change.

This course proposes an integrated and interdisciplinary approach to the issue. It focuses on the reduction of vulnerabilities and strengthening of the capacities of populations at risk. The course does not have a technical vocation however.

Thus, upon completion of the course programme, participants should be familiar with natural disaster risk management, especially with regard to hydrometeorological disasters. They will be in a position to assess risk factors and vulnerabilities. Finally, they will have acquired knowledge concerning various methods and experiments aimed at enhancing the capabilities of populations at risk.

Host countries

The course will be held in Switzerland and India and thus offers a unique chance for sharing the different standpoints and experiences of Europe and Asia regarding the risk issue.

Switzerland is a country confronted with a considerable number of natural dangers (avalanches, landslides, floods, earthquakes, etc.). As protection against these, a national strategy has been adopted, based on extensive know-how and expertise with regard to both disaster prevention and crisis management. Geneva is moreover the home of many international organisations active in these domains. Their visions and practical experience will provide the training with an additional perspective.

India is one of the countries most affected by natural disaster (floods, drought, cyclones, earthquakes, tsunamis, landslides, etc.). It is also however a country with a vast amount of scientific expertise and local know-how, making it an important partner.

Location, dates and organisation

The course will be organised in 2 parts, each consisting of 2 weeks of full-time study:

- The first part will take place at EPFL, Lausanne, Switzerland, from 1-12 September 2008
- The second part will be held in India, at the Indian Institute of Sciences (IISc) in Bangalore, from 3-14 November 2008

Teaching staff are drawn from the organising institution (EPFL), the Indian partner institution (National Institute of Disaster Management, NIDM), the host institution in Bangalore (IISc), Swiss, Indian and foreign universities and institutes, international organisations, NGOs and the private sector.

Course organiser

The CDRR is organised by Cooperation@epfl, which is attached to the EPFL Vice-Presidency for International Affairs. The unit and CDRR are directed by Prof. Jean-Claude Bolay.

The course organiser is assisted by an **Organising Committee** comprising representatives of EPFL and the partner institutions involved in the programme.

Members of Organising Committee (in alphabetical order):

- Prof. Jean-Claude Bolay, EPFL, Cooperation@epfl, CDRR Director

- P.G. Dhar Chakrabarti, NIDM, Executive Director
- Dr. Bruno Haghebaert, Provention Consortium, Module 3 co-ordination, Swiss part
- Prof. H.S. Jamadagni, IISc, CEDT, Chairman
- Ms Avni Malhotra, SDC Delhi, content coordination, Indian part
- Prof. Valérie November, EPFL, ENAC, Study Group on the Spatiality of Risks (ESpRI Group), Module 1 coordination, Swiss part
- Dr. André Pittet, IISc, logistic coordination, Indian part
- Prof. Martine Rebetez, WSL / EPFL, ENAC, Laboratory of Ecological Systems, Module 2 coordination, Swiss part
- Ms Magali Schmid, EPFL, Cooperation@epfl, CDRR coordinator

Features

The course is based on the **North-South scientific partnership**. The CDRR gives professionals an opportunity to improve their knowledge in the field of natural risks directly linked to reality and actual experience.

Interdisciplinarity is also a very important component of the course, with a dialogue between the exact and human sciences being encouraged for a truly integrated and global approach.

The role of **science and technology** in the fight against disaster risks will also be focused on throughout the course. This topic is in line with the objectives of the new UNESCO Chair in technologies for development.

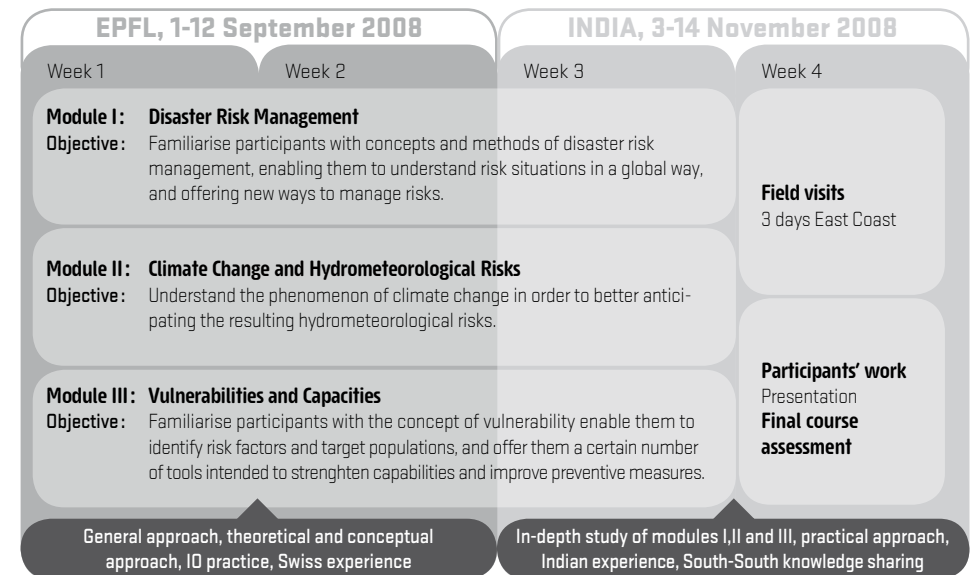
Target public

The course is primarily intended for professionals, researchers or managers specialising in natural risks or called upon by their profession to make decisions concerning risk situations. Participants are required to have a university degree or equivalent. Their background could be in environmental sciences, civil engineering, architecture, physics, or mathematics, but also human sciences, such as

sociology, geography, and international relations. This list is not exhaustive.

Teaching methods

The objective is to link theory and practice, involving the use of a wide range of tools: lectures, case studies, round-table discussions, workshops, 2 in-depth field trips, individual projects, report writing, presentations.

Structure and contents

The course will be structured around three closely linked thematic modules : 1. Disaster risk management, 2. Climate change and hydrometeorological risks, 3. Analysis of vulnerabilities and capacities. In order to avoid an arbitrary Swiss-Indian division of the three themes, it is proposed that both Swiss and Indian parts should consist of these 3 modules, thus providing a different - but complementary - slant.

FIRST PART - SWITZERLAND

Module 1A: Disaster Risk Management

This module focuses on the notion of risk. One day will be devoted to an introduction to the concepts of Disaster Risk Management. Different approaches will be presented and analysed, offering participants a critical and complementary vision of the state of the art. A second day will be dedicated to the new challenges and issues involved in DRM, against a background of globalisation.

Lecturers will be from both the scientific and academic environments and the world of international organisations. Participants will also have an opportunity to spend a day in Geneva, visiting several international organisations active in the DRM domain, and meet their key members.

Module 2A: Climate change and hydrometeorological risks

This module proposes an assessment of current knowledge. Scientists (climatologists, hydrologists, engineers) will discuss changes in precipitations, impacts on ecosystems and at the hydrological level. Reflection will then centre on hydrometeorological disasters (floods, drought, landslides, etc.) and their prevention. Some examples of research projects conducted in Switzerland will be presented to stimulate this reflection. A field

outing to the Valais will enable participants to visit research and project sites, and have discussions with key local figures.

Module 3A: Vulnerabilities and capacities

The theme of this module will be the link between disaster and development and its impact on Southern countries. After studying the hazards and environmental factors, attention will be focused on the concept of vulnerability. Social vulnerability is a key component in every disaster risk assessment carried out at local level. Risk factors such as urbanisation will also be studied. The module advocates a global and multi-risk approach to the issue.

Various methodological tools for assessing and strengthening capabilities will be presented and analysed (community-based DRM in particular). As backup to the theoretical part, seminars will be organised to allow participants to use these methods during real case simulations and assume a proactive role.



Students attending the class of a primary school in Khajura Cyclone Center, Bangladesh.

SECOND PART - INDIA

The proposed structure of the second part in India is as follows:

- One week of **theoretical courses**: A more in-depth study of the 3 modules of the first part, adopting a very practical approach.
- 1/2 week: **Field visits, East Coast**
- 1/2 week: finalisation of participants' **individual work**, presentation of this work and final course assessment.

Theoretical week in Bangalore

The objective is to examine the thematic modules studied in Switzerland in more detail and offer participants a more practical vision, based on knowledge and experience in India.

The programme is drawn up in partnership with the National Institute of Disaster Management (NIDM) located in Delhi, a governmental institute attached to the Ministry of the Interior. Experts will present the institutional framework and national prevention strategies in India. An assessment

of natural risks in India with its specificities is presented, supported by a certain number of field studies. These will reveal the contributions made by both the exact sciences (role of science and new technologies in prevention and preparation) and human sciences (vulnerability study and strengthening of capabilities thanks to Community Risk Assessment tools). Disaster Risk Reduction experts from developing countries will make their own contribution with a view to a South-South exchange of experience.

3-day field visit

This will be organised in an area particularly affected by natural disasters. Alongside field workers, participants will have the opportunity to familiarise themselves with different participative multi-risk prevention methods.

PRACTICAL INFORMATION

Language

All courses will be in English.

Applications

The deadline for receiving applications is 30 April 2008.

For their application to be considered, candidates should have a degree from a university or institute of technology. A good knowledge of both oral and written English is required. In all cases, two or more years of work experience will be an advantage.

A maximum number of 25 participants will be accepted, with roughly equal numbers from Switzerland, India and the rest of the world. The following documents are required:

- Completed application form
- Curriculum vitae
- Motivation letter (personal and professional objectives and expectations)
- Duly certified true copies of certificate, university degrees and/or equivalent titles
- Copy of ID card or passport and 2 passport photos

All applications will be reviewed by the course organiser (EPFL) and are then submitted to the School of Continuing Education and the Registrar's Office for approval.

The course organiser reserves the right to cancel this course if the number of enrolments is insufficient and to modify the present programme at any time.

Application forms can be downloaded from the URL website: <http://cooperation.epfl.ch/> or obtained from the address below. Completed forms should be sent together with relevant documents (certified true copies) to :

Ecole polytechnique fédérale de Lausanne (EPFL)
Cooperation@epfl - CDRR,
CM - Station 10,
1015 Lausanne, Switzerland
Email : cdrre@epfl.ch
URL : <http://cooperation.epfl.ch>

Rules and Regulation

A copy of the «CDRR Course Rules and Regulations» will be distributed to applicants upon confirmation of their acceptance for the course.

A jury consisting of 3 persons, including at least one representative of the CDRR organiser, assesses the dissertations and oral examinations.

Qualification

Participants who successfully fulfil all the requirements of the course will obtain a **Certificate of Advanced Studies in Disaster Risk Reduction**. This represents 16 credits as per the European Credit Transfer System (ECTS), corresponding to 400 hours of work (approximately 180 hours of classes, plus participants' individual work).

Tuition

The total tuition fee is CHF 3,080.- (enrolment fee:



Indonesia - Tsunami operation - Transitional shelter programme 2005-2007 - Community involvement.

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CHF 580.- plus course contribution: CHF 2,500.-). Please note that travel and board and lodging expenses are not included.

Enrolments are considered official only after payment of the tuition fee to the institution responsible for the participant's acceptance.

In case of withdrawal after official enrolment on the course but prior to the beginning of the course, an administrative fee of CHF 1,000.- will be charged. No refunds will be made to participants after the course starts.

Living expenses and budget

In Switzerland: The cost of living is very high. A minimum amount of CHF 250.- should be anticipated for food for 2 weeks. A full meal costs CHF 8.50 at campus restaurants. As far as accommodation is concerned, rooms are available for approximately CHF 80.- /day, including breakfast. A total budget of between CHF 1500.- and 1800.- should be allowed for living expenses.

In India: The cost of food in India is already included in tuition fee. Basic accommodation on campus

will be available for approximately CHF 10.- per day, i.e. CHF 150.- for the entire stay. A total budget of approximately CHF 500.- should therefore be allowed for living expenses.

The plane ticket from Switzerland to India costs between CHF 1,500.- and 1,700.-.

Financial support

In exceptional cases, financial support may be offered to participants who are unable to meet the total costs of enrolment, travel and local living expenses (limited number of grants). Priority will be given to Indian participants. Applications must be submitted to the course organiser.

Passport and insurance

European participants wishing to obtain a visa for India require a passport that is valid for a period of at least six months.

For Indian citizens and other nationalities, the requirements for entry into Switzerland can be found at: <http://www.eda.admin.ch/newdelhi>

Health and accident insurance is obligatory for all participants.

COOPERATION @ EPFL

Since October 2004, the Cooperation@epfl unit has been attached to the Vice-Presidency for International Affairs.

The aim of Cooperation@epfl is to address development issues through the promotion and strengthening of scientific cooperation, in conjunction with academic and research institutions in emerging and developing countries.

Adopting an interdisciplinary approach combining knowledge produced by the different disciplines at EPFL and the social, economic and institutional capacities of Southern countries, Cooperation@epfl seeks to promote the application of state-of-the-art technologies to real social, environmental and economic needs in order to respond to the world's most pressing challenges and contribute to poverty reduction efforts.

Cooperation@epfl activities are focused in 4 main domains:

Research

- Cooperation@epfl research activities
- Launching Inter-School Projects

Management of Research programmes

- Indo-Swiss Collaboration in Biotechnology (ISCB)
- EPFL-SDC Fund: 5 innovative research projects in 3 continents
- Seed Money Funding Programme (~10 projects yearly)

Education

- MAS in «Development, Technologies and Society», partnership with 2iE, Burkina Faso

- Postgraduate course in «Technology and Sustainable Development», partnership with IIT Madras, India
- CAS in Disaster Risk Reduction, Switzerland, India

Scientific services and Communication

- Expertise in implementation, monitoring and evaluation of development cooperation projects
- Advice and support for the setting-up of EPFL development activities
- Communication and dissemination of results (publications)
- Networking
- Conferences and workshops

In 2007, Cooperation@epfl was awarded a UNESCO Chair in Technology for Development, with 4 priority areas: Engineering and technology for disaster management, Technologies for sustainable development of habitat and cities, Technologies for the production of renewable energy and information and communication technologies for environment and development. This Chair will achieve better visibility for these activities and facilitate partnerships with institutions in emerging and developing countries.

Cooperation@epfl is supported by an International Scientific Advisory Board (ISAB-COOP)

For further information

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