COOPERATION & DEVELOPMENT CENTER
vice presidency for academic affairs

UNESCO Chair in Technologies for Development

PREPARATORY PHASE, E-LEARNING
3 - 30 September 2012

EPFL, LAUSANNE, SWITZERLAND
8 - 19 October 2012

FIELD WORK, BANGLADESH
24 Nov. - 2 Dec. 2012

INDIVIDUAL PROJECT
3 Dec. 2012 - 31 Jan. 2013

APPLICATION DEADLINE
June 10, 2012

http://cooperation.epfl.ch

Certificate of Advanced Studies in DISASTER RISK REDUCTION

SWITZERLAND - BANGLADESH

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Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development and Cooperation SDC

ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

GENERAL INFORMATION

Introduction

In recent years, natural disasters have been the subject of increased awareness and mobilization from many different actors: scientists, IOs, NGOs, and states.

Climate change is one of the most significant challenges that will confront the world over the next decades and a key factor in the growing number of hydrological and meteorological disasters.

Although no region of the world is completely safe, 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 in developing countries is essential in the struggle to improve disaster risk reduction.

In addition, training needs – at all levels – remain considerable and must be seen as a primary objective in disaster reduction strategies.

Objectives

The third edition of the Certificate of Advanced Studies in Disaster Risk Reduction (CDRR) proposes a continuing education program for professionals from Southern and Northern countries who already have significant experience in disaster risk reduction or a related field such as climate change adaptation or development.

The CDRR aims to strengthen the capabilities of participants in the field of disaster risk reduction, especially with regards to natural disasters.

Particular emphasis is placed on the issue of climate change as a factor in the increase of extreme hydrological, climatological or meteorological events, and which can have impacts on long-term sustainable development.

The program endeavors to build strong synergies between disaster risk reduction and climate change mitigation and adaptation.

It favors an integrated and interdisciplinary approach, focusing on the reduction of vulnerabilities and strengthening the capacities of populations at risk.

The program provides participants with a theoretical component to improve their knowledge of the issues complemented with a field-oriented approach to develop their skills in practice.

Upon completion of the program, participants will be familiar with natural disaster risk management.

They will be in a position to:

- Identify and assess disaster risks using risk management approaches;
- Interpret the current results of scientific research on climate change and its challenges to natural hazards and identify appropriate measures in a specific situation;

CYCLONE SHELTER, INDIA

- Apply methodological tools to assess vulnerabilities and strengthen adaptation;
- Improve their comprehension of the role and the challenges of science and technological innovations in disaster risk reduction, in an interdisciplinary manner.

Target Audience

The program targets professionals, researchers or managers specializing 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 the environmental sciences, civil engineering, architecture, physics, or mathematics, as well as the human sciences, such as sociology, geography, and international relations. This list is not exhaustive.

In order to make this training program as attractive as possible, and taking into account the keen interest on the part of participants to benefit from shared experience, the group will again be deliberately mixed:

- It will be composed of representatives of NGOs, international organizations, academics, national or local administrations, and the private sector.
- Participants will come from both developing and emerging countries (citizens of Bangladesh, neighboring and other Southern countries) and developed countries (Switzerland and other Northern countries).
- Participants of any age will be welcome, but priority will be given to those who already have a few years of work experience.
- The organizers will try to ensure that gender balance is respected within the group.

ORGANIZATION

Host Countries

The program will be held in Switzerland and Bangladesh, offering a unique chance to share the different perspectives and experiences of Europe and Asia regarding the risk issue.

Switzerland even though a small country is confronted with a considerable number of natural dangers (avalanches, landslides, floods, earthquakes, etc.).

A national strategy has been adopted, based on extensive know-how and expertise with regards to protection against hazards and management of risks.

Geneva is moreover the home of many international organizations active in these fields. Their vision and practical experience will give an additional perspective to the program.

After two editions in India, the field part of the CDRR 2012 will be held in Bangladesh, one of the most climate-vulnerable countries in the world.

The impact of climate change is already evident, in the form of temperature extremes, erratic rainfall, and increased number of intensified floods, cyclones, droughts, as well as the prevalence of severe weather conditions in the Bay of Bengal.

In addition, **Bangladesh** has developed strong competencies in disaster management, climate change adaptation and community-based vulnerability assessment, making it a highly relevant partner for this program.

Location and Dates

The program is structured in 4 parts (which are all compulsory):

- **Part I**
  3rd September 2012 to 30th September 2012
  Preparatory phase, E-learning
- **Part II**
  8th October 2012 to 19th October 2012
  Theoretical phase, EPFL, Switzerland
- **Part III**
  24th November to 2nd December 2012
  Field work, Bangladesh
- **Part IV**
  3rd December to 31st January 2013
  Individual project

The Certificate of Advanced Studies will be awarded by the end of February.

Teaching Methods

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

"Disaster risk reduction is everybody's business. Only by investing in tangible risk reduction measures can we reduce vulnerability and protect development."

BAN KI-MOON, United Nations Secretary-General

Program Organizer

The CDRR is organized by the Cooperation & Development Center (CODEV), which is attached to the Vice-Presidency for Academic Affairs at EPFL. The director of the CODEV and the CDRR is Prof. Jean-Claude Bolay.

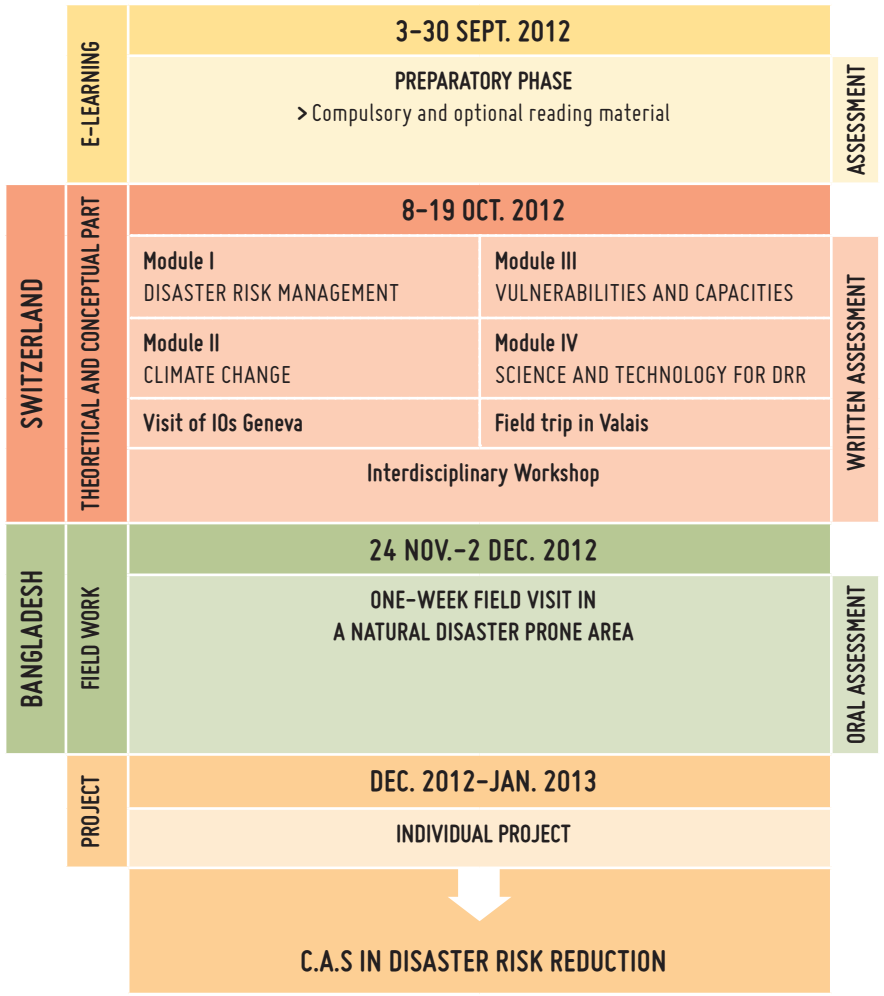
The program organizer is assisted by an **Organizing Committee** comprising of representatives of EPFL and the partner institutions involved in the program.

Members of the Organizing Committee

[in alphabetical order]

- **Mr. Matthias ANDEREGG**, SDC Bangladesh, Regional Disaster Risk Reduction Coordinator South Asia
- **Prof. Jean-Claude BOLAY, EPFL**, CODEV and CDRR Director
- **Dr. Bruno HAGHEBAERT**, The Netherlands Red Cross, Disaster Risk Reduction and Climate Change Adaptation Advisor
- **Dr. Valerie November**, EPFL, Senior Scientist, Research Director CNRS, LATTS, Paris, PLANAT Member
- **Mr. Muhammad Saidur RAHMAN**, Bangladesh Disaster Preparedness Centre (BDPC), Director
- **Prof. Martine REBETEZ**, University of Neuchâtel, Professor, Swiss Federal Research Institute WSL, Senior Scientist
- **Prof. Jakob RHYNER**, United Nations University (UNU), Institute for Environment and Human Security, Director
- **Ms. Magali SCHMID**, EPFL, CODEV, Project Manager and main Coordinator of the CDRR
- **Dr. Markus ZIMMERMANN**, Deputy Head of SDC's Specialized Group Environment & DRR, PLANAT Member

PROGRAM CONTENT



PART I
Preparatory Phase, E-learning

Participants will have access to compulsory and optional reading material that will allow them to understand the basic concepts to be covered in Part II, as well as to further increase their knowledge of the various subjects.

PART II
Theoretical and Conceptual Phase, Switzerland

The second part of the program in Lausanne will be structured around four main modules: Disaster Risk Management; Climate Change; Vulnerabilities & Capacities and Science and Technology for Disaster Risk Reduction.

These four modules will be interlinked, leading to an interdisciplinary workshop to be held at the end of Part II.

Module 1
DISASTER RISK MANAGEMENT (DRM)

Co-coordinators:
Dr. Markus Zimmermann, Dr. Valérie November

• Introduction to DRM concepts and approaches • Main challenges • Communication • Risk/Crisis management • Field experience, methodological tools • Case studies and lessons learned.

This module focuses on the notion of risk. Different approaches to risk will be presented and analyzed, offering participants a critical and complementary vision of the state of the art.

Against a background of globalization, the new challenges and issues facing DRM will also be discussed.

Module 2
CLIMATE CHANGE

Coordinator: Prof. Martine Rebetez

• State of knowledge in climate change and assessment • Impact of global warming on human beings and environment • Mitigation and adaptation • Political and technical challenges • The underlying risk drivers in climate change.

Subsequent to an introduction on climatology, this module proposes an assessment of the current research on global warming. Scientists will discuss changes in precipitations, the impact on ecosystems as well as on human beings.

Monsoon and climate change in Asia will also be analyzed.

The second part of the module will focus on mitigation and adaptation to climate change.

Module 3
VULNERABILITIES & CAPACITIES

Coordinator: Dr. Bruno Haghebaert

• Vulnerability • Social vulnerability • Adaptation • Capacity assessment • Community risk assessment • Resilience • Gender.

In this module, attention will be focused on how the assessment of local vulnerabilities and capacities is used as the basis for DRR planning at the community level. The module advocates an integrated and multi-risk approach aimed at strengthening community resilience. The question of gender will also be examined.

CDRR 2010, EPFL

Various methodological tools for assessing vulnerabilities and strengthening capabilities such as community-based Disaster Risk Management (CBDRM) will be presented and analyzed.

Seminars will be organized to allow participants to assume a proactive role and to link the theory and use these methods and toolboxes during real case simulations.

Module 4
SCIENCE AND TECHNOLOGY FOR DISASTER RISK REDUCTION

Coordinator: Prof. Jakob Rhyner

• Role of technology and its innovation in prevention and preparedness • Early warning systems • Risk mapping • Environmental remote sensing and GIS • Interdisciplinary research projects • Practical tools.

This module does not have a technical vocation, but rather advocates reflection on the role of science and innovative technologies for disaster risk reduction.

In addition, it is necessary for stakeholders to be able to speak and understand each other in an inter- (even trans-) disciplinary spirit.

Understanding technologies, its potentialities, as well as its constraints, are key components for any field actor in a context of crisis as well as risk management.

It is part of the dialogue required between communities, local authorities, scientists, facilitators, etc., in a specific environmental, socioeconomic and cultural framework.

Thus, having studied disaster risk management in Module 1 and climate change in Module 2, linking both thematics to development issues, participants will assimilate input from the

CORR 2010, FIELD WORK, TAMIL NADU, INDIA

social and human sciences in Module 3 to allow for a better understanding of the types of vulnerabilities and the resilience of vulnerable populations.

Module 4 will then incorporate the exact sciences and the technological innovations which lead to more efficient systems of prevention and mitigation.

These four modules will be closely interconnected so that an integrated vision of risk reduction can be achieved.

Special Sessions

Along with these 4 modules, the following sessions/visits will be also organized:

Intercultural Workshop

At the beginning of Part II, an interactive half day cross-cultural team session will be organized. This workshop will raise awareness of the issue and offer participants some practical tools to help them with interaction and collaboration across cultures.

Field trip in the Valais

Participants will spend one-day to visit research and project sites in the Valais, including discussions with key local figures.

Special day in Geneva

Visit to international organizations

During the program, one day will be dedicated to visiting several international organizations in Geneva active in the DRM or CC domains as well as meeting some of their key members.

Interdisciplinary Workshop

One full day will be dedicated to an interdisciplinary case study.

This will give an opportunity for participants to apply the knowledge they have acquired in the different modules and familiarize themselves with some methodological tools within the framework of an interactive workshop.

Closing day in Lausanne

Round table and wrap-up

The program in Lausanne will conclude with a round table. Participants will also be required to sit and pass a written examination to assess the knowledge assimilated during the two weeks.

PART III
Field Work in Bangladesh

The third part of the program will be strongly connected with the theory in the previous part.

An in-depth field trip in an area particularly affected by natural disasters will be organized.

For one week, participants will have the opportunity to experience first-hand such tools as participative community risk assessment whilst confronting the complex reality of poor, multi-risk prone areas.

The **Bangladesh Disaster Preparedness Center (BDPC)** will be the partner in Bangladesh and will assume the role of facilitator and moderator within the villages.

Participants will be required to work in groups in various villages focusing on specific issues.

They will have to carry out field work including not only assessment of vulnerability but also strategies for capacity-building and coping.

The framework of the field work will be elaborated in close collaboration with the local partners, in order for the results to have a clear and direct benefit to the communities.

At the end of the week, the groups will have to present their work for oral assessment in front of a jury.

PART IV
Individual Project

At the end of the program, in order to assess the knowledge and skills acquired, participants will have to write an individual report.

Participants will be requested to propose a topic that is closely linked to at least 2 of the 4 main modules and/or with the field work in Bangladesh.

After approval by the program organizer, they will have around 8 weeks to submit their report.

A mentor could be appointed to guide each participant in their individual project.

PRACTICAL INFORMATION

Language

A good knowledge of both oral and written English is required, as all courses will be in this language.

Application Procedure

The application is to be submitted on-line.
The deadline for applications is **10 June 2012**.
Applications forms can be found on the website: http://cooperation.epfl.ch/CDRR

Admission Requirements

- Participants are required to have a university degree or equivalent title
- Two or more years of work experience will be an advantage
- Strong motivation

Documents Required

- Application Form
- Curriculum Vitae
- Copies of University Degree(s) and/or equivalent titles
- Copies of Transcripts
- Motivation Letter (personal and professional objectives and expectations)
- Two Letters of Reference
- Copy of Passport and 1 Passport Photo
- Grant Application and Employer Affidavit (if applicable)

All applications will be reviewed by the program organizer (EPFL) and submitted to the Registrar's Office for approval.

Note that due to frequent forgeries, EPFL requests accepted participants to bring their original diplomas (on the first day of class or before) for verification.

A maximum number of 30 participants will be accepted.

The program organizer reserves the right to cancel the program if the number of enrolments is insufficient and to modify the present program at any time.

Qualification

Participants who successfully fulfill all the requirements of the program will obtain a Certificate of Advanced Studies in Disaster Risk Reduction.

This represents 14 credits as per the European Credit Transfer System (ECTS), corresponding to 350 hours of work (approximately 150 hours of classes, plus participants' individual work).

"The challenge for the future has one dimension focused on improving the knowledge base and one on empowering good decisions, even for those situations where there is lots of uncertainty,"

CHRIS FIELD, IPCC 2012

Tuition

The total tuition fee is CHF 3,400.–

It includes tuition, course material, as well as the costs of the field visits in Switzerland.

The costs of travel to Switzerland and Bangladesh as well as accommodation and board in both countries are NOT included.

Enrolments are considered official only after payment of the tuition fee.

In case of withdrawal after official enrolment in the program but prior to the beginning of the program, an administrative fee of CHF 1,000.– will be charged.

No refunds will be made to participants after the start of the program.

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 around CHF 9.– at campus restaurants. As far as accommodation is concerned, rooms are available for approximately CHF 85.– /day, including breakfast. A total budget of between CHF 1,600.– and 1,800.– should be allowed for living expenses.

In Bangladesh A fee of CHF 500.– will be paid to the program organizer to cover the cost of accommodation, board and local flights.

Financial Support

Several full and partial grants are available to participants coming from developing or emerging countries. The decision to award a grant (either full or partial) will be based on the funds available, the financial need, educational and career goals as well as the overall quality of the application.

Grants can cover tuition fees as well accommodation and board in Switzerland and Bangladesh.

Grants will NOT cover travel to Switzerland and Bangladesh, visa, insurance or any other costs incurred by participants for their private needs.

Applications (and all accompanying documents) must be submitted to the program organizer on the Grant Application Form.

COOPERATION & DEVELOPMENT CENTER (CODEV)

EPFL

With more than 350 laboratories and research groups and 13 complete study programs, EPFL (Swiss Federal Institute of Technology Lausanne) is one of Europe's most innovative and productive technology institutes. Its main campus brings together over 11,000 people — students, researchers and staff. The school's structure facilitates transdisciplinary research and encourages partnerships with other institutions in both fundamental research and engineering applications.

CODEV

Comprising a team of 20 people, CODEV's mission is to promote and coordinate scientific cooperation activities within EPFL.

EPFL thereby aims to contribute to the most pressing world challenges by encouraging scientific partnerships, research and education that will help adapt technological innovations to developing countries.

Activities

- Research
- Management of research programs
- Education
- Expertise & Advice
- Communication & Events

UNESCO Chair

In 2007, CODEV was recognized as a UNESCO Chair in Technologies for Development. The Chair organizes its activities around 4 priority areas:

- Technologies for the sustainable development of habitat and cities
- ICTs for the environment
- Science and technology for disaster risk reduction
- Technologies for sustainable energy production

For further information

http://cooperation.epfl.ch