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German Committee for Disaster Reduction

within the International Strategy for Distaster Reduction (ISDR)

Necessity of tertiary education to better implement disaster reduction

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(DKKV)

Education for Disaster Risk Reduction, Session workshop, Geneva, 06.06.07

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The role of **education** in the field of disaster management is widely accepted. The existing examples are quite encouraging, because of their positve effects, mainly relying on project oriented approaches and successes.

Most of the educational efforts are directed
to the endangered people themselves in most direct way.

On the other hand it is clear that the successful education in the field of disaster reduction does need a pool of internal know-how, and knowledge carrying people. Otherwise, only an ever continuing repetition of projects would be necessary to achieve positive results in disaster reduction.

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The German situation here serves as an example and quite a number of lessons can be learned from the setting :

The decentralisation is quite distinct in Germany
and produces the same features as anywhere else.

The relative rareness of extreme events in Germany provokes neglect and ignorance with repect to awareness of extreme natural risks and this eventually might even compensate for the effects of more frequent and stronger natural risks.

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To bring knowledge to the people living under the threat of natural hazards, means to communicate basic information on the risk level, warning signals and information, behaviour under warning conditions, training of what to do under warning conditions and during the actual occurrence of natural extreme events. This needs an enormous amount of know-how being availbale in many persons acting decentrally.

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German Tertiary Study programs : Background

- Complexity of events is increasing

  → specialised education necessary
- Federal system: complex organisational structure; each University is independent to offer programs

Bachelor study programs in Germany

- 5 bachelor programs:
  - UAS Magdeburg-Stendal: „Security & danger prevention“ (2003)
  - UAS Cologne: „Rescue Engineering“ (2002)
  - University Wuppertal: „ Safety engineering “ (1975)
  - HAW Hamburg: „Rescue Engineering“ (2006)
  - University Koblenz-Landau: „Ecological Impact assessment“ (2005)

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Master study programs in Germany:

- 7 master programs:
  - University Bonn: „disaster reduction/-management“ (2006)
  - University Bochum: „European course humanitarian aid” (1993)
  - University Wuppertal: „Safety engineering“, „Fire protection“ (2003)
  - University Bayreuth: „Global Change Ecology“ (2006)
  - Neisse University: „Environmental Health and Safety Risk Management“ (2007?
  - UAS Kaiserslautern: „Safety engineering“ (2005)
  - UAS Eberswalde: „Global Change Management“ (2006)

Postgradate (PhD-) Programs :

2 PhD-programs:

- University Karlsruhe: postgraduate course 450 “Natural disasters”
- TU Braunschweig: International postgraduate course 802 „Risk management of natural- and civilisation hazards for buildings and infrastructure“

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Special study programs in Germany:

TU Dresden: International lesson module “Integrated Flood Risk Management of Extreme Events” – FLOOD master integrated in master course: „Hydroscience engineering“

HU Berlin: Trainee program „Disaster Reduction“ within the „Seminar for rural development“

HU Berlin : program for law students in “Disaster reduction and the legal framework”

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EXAMPLE 1 bachelor : UAS Magdeburg-Stendal & Otto-von-Guericke-University: „Security & danger prevention“

- Since WS 03/04
- Partner: Institute of the fire department Saxony-Anhalt, fire- and civil protection school Heyrothsberge
- **Master in Accred.: WS 06/07**
- Focus: natural science; engineering

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Example 2 (bachelor) : UAS Cologne „Rescue Engineering“

- Since WS 02/03
- Partner: Institute for emergency medical aid of fire dept. Cologne
- **Master in Accred.: WS 06/07**
- Focus: medical science, sociology, economics & engineering

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Summary: Bachelor-programs

- mainly new programs (except Wuppertal since 1975)
- no fees
- 6-7 semester
- continuation in master program intended
- focus: mostly technical (natural- & engineering science); safety & rescue engineering; medical, practical application in disaster management
- Often in coorperation with rescue institutions (fire dept., medical aid)

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Example 1 (Master) University Bonn „disaster reduction and -management“

- Since WS 06/07 (distance learning)
- Partner: Federal Office for population protection and emergency aid (BBK); Center for natural risks & development (ZENEB)
- Fees: 6000 €
- Focus: Natural-, social-, environmental science, risk analysis & -communication

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Example 2 (Master) : University Bochum „European course humanitarian aid“

- Since 1993
- Partner universities: Aix-Marseille, Deusto-Bilbao, Louvian, Dublin, Uppsala, Groningen
- Fees: 1950,- €
- Focus: international law, geography, medical science, economics / management and anthropology / ethnology

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Example 3 (Master) : University Wuppertal: „Safety engineering“, „Fire protection“

- Since WS 03/04, 3 master programs: Safety engineering / environmental protection; Safety engineering / employment protection; fire protection
- Focus: mathematics, natural-, engineering science, Safety engineering, fire protection, law & management
- No fees!

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Example 4 (Master) : UAS Eberswalde: „Global Change Management“

- Since WS 06/07
- Partner: PIK, Germanwatch e.V., Munich Re, NABU
- Focus: natural sciences, sociology, political basics in global change, nature conservation and forestry
- No fees!

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Summary: Master-programs

- new programs (except Bochum since 1993)
- Very different fees (0 up to 10000€)
- 4 semester
- focus: mostly technical (natural-, ecological- & engineering science); safety & rescue engineering; medical; humanitarian
- Most of them with collaboration partners from public or private sector

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Example 1 (postgraduate) Uni Karlsruhe: Graduiertenkolleg „Naturkatastrophen“

- Okt. 98 bis Sep. 07 (limited to 10 years)
- Addressed at PhDs and Postdocs
- Duration: 6 semesters (aim : doctorate)
- Cooperation with specific university research units/programs
- Broad interdisciplinary education : Geo-, Natural-, economic-, engineering- and environmental Sciences

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Example 2 (postgraduate) : TU Braunschweig: Intern. Graduiertenkolleg 802 „Risikomanagement bei Natur- und Zivilisationsgefahren für Bauwerke und Infrastrukturanlagen“

- since 2002
- cooperation with university Florence
- Duration : 3 years (PhD)
- Qualification necessary (first degree minimum)
- Concentrates on engineering, science and mathematics

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Conclusions 1

- different study programs on different levels of education already available :
  - technical, natural- and human science
  - bachelor, master, postgraduate
- heterogeneous participants: basics important
- demand visible (number of students enrolled), needs partly unknown
- accreditation system rather clumsy
- little coordination between programs (role of national platforms)
- all programs at present are discipline based

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Conclusions 2

In addition, it is necessary to add elements of disaster reduction education to many study programs.

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