NETHERLANDS FELLOWSHIP PROGRAM
REFRESHER COURSE 2005

REPORT

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1. Title of the refresher course

Name: "CASITA: Capacity building in Asia using Information Technology Applications in Disaster Management"

Field of study: The course will be organized at the interface of earth sciences, urban planning, and geo-information science.

2. Title of the original NFP courses or study programs

The refresher course was aimed at alumni from the following NFP study programs

- ITC's PM (Professional Masters program) and MSc. program Earth Resources and Environmental Geo-sciences (EREG)
- ITC's PM and MSc. program in Urban Planning and Land Administration (UPLA)
- ITC's PM and MSc program in Water Resources and Environmental Management (WREM)
- ITC's PM and MSc program in Natural Resources Management (NRM)
- Watershed Management course at IHE
- ITC's short course in Natural Hazards

Besides newly developed course materials, case studies and exercises, existing materials from elective modules offered in ITC's PM/MSc. programs were used for the implementation of the course. In particular material from the following two electives were used and adapted to the needs of the refresher course participants:
- Elective "Risk assessment";
- Elective "Natural hazard and disaster management".

3. Dutch and Non-Dutch institutions or organizations taking part in the refresher course

The following institutions in the Netherlands and abroad took part in the organization and presentation of the refresher course:

Asian Disaster Preparedeness Center (ADPC), Thailand
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ADPC is a regional resource center working towards disaster reduction for safer communities and sustainable development in Asia and the Pacific. Established in 1986, the Center is recognized as an important neutral focal point in Asia and the Pacific for promoting disaster awareness and the development of local capabilities to foster institutionalized disaster management and mitigation policies.
ADPC programs demonstrate a wide diversity in application, address all types of disasters, and cover all aspects of the disaster management spectrum - from prevention and mitigation, through preparedness and response, to reconstruction and rehabilitation endeavors. Ever since its establishment, ADPC has kept itself abreast of technical and methodological developments in the disaster management sector and has been continually adapting its approach to cater more effectively to the emerging needs of Asian countries. ADPC's work essentially revolves around the primary activities of training and education, provision of technical services, information, research and networking support, and regional

program management. ADPC and ITC have been involved in organising a series of joint courses over the last year, such as in India (2002), Nepal (2003), and Philippines (2003).

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Torsten Drey from Bonn University, Faculty of Geography in Germany, our partner in the CASITA project also provided an important input to the course.
Dr. Hofstee and Dr. Van Westen were the principal course lecturers during the course component of the refresher course. However, the emphasis in this course was given on the exchange of information, and many of the lectures were given by the participants, most of which are University professors.

In the first two days of the fresher course an international workshop was organized to establish a University Network on Disaster Risk Reduction in Africa (UNEDRA). The main objective of this workshop was to bring together university staff from Universities in Africa that are interested in establishing courses on disaster risk reduction, and representatives from disaster management organizations, including international organization.

The refresher course forms part of the activities organized in the framework of the United Nations University (UNU)-ITC Programme on Capacity Building for Disaster Geo-information management, recently established at ITC, Enschede.

4. Location of the refresher course

The refresher course was organized by ADPC and HAU and presented at the premises of the Vietnam Chamber of Commerce and Industry (VCCI), Institute of Information Technology for Business (ITB), International Trade Center - 9 Dao Duy Anh – Dong Da District. Website: http://www.itb.com.vn

5. Starting date and duration of the refresher course

The refresher course was held from 14-25 November 2005, directly following the Asian Conference on Remote Sensing, which was organized in Hanoi from 7-11

November in Hanoi. This was done to stimulate participants to attend both events.

6. Course participants

The total number of participants in the course was 35. Of the 35 participants to the course the number funded through the NUFFIC refresher course budget was 27, of which 16 participants were NFP alumni. The remaining 8 participants were self funded or funded through the UNU-ITC DGIM School. Out of the 35 participants 5 were female and 30 male. Due to the large number of participants, and the partial funding through the UNU-ITC DGIM School. it was difficult to make sure that exactly 60 percent of the participants was NFP alumnus and also the relation male / female was quite out of balance. This was mainly caused by the fact that most of the applicants were male.
The refresher course participants were coming mainly from the countries in SE Asia that have participated in the CASITA project, Bangladesh, Cambodia, India, Indonesia, Nepal, Philippines, Sri Lanka, Thailand and Vietnam. Also one participant was invited from Mongolia, and one from Iraq. ITC was represented by three staff members in the course (Cees van Westen, Paul Hofstee, and Mark van der Meijde).

Table 1 summarizes some aspects regarding course participants whose participation was financed using Nuffic funds. The complete list of participants and all corresponding contact details can be found in the annex 2.

Table 1. Summary of participants

Funding	Total number	NFP	No-NFP	Female	Male
Course (NUFFIC)	27	16 (60%)	9 (40%)	4 (15%)	23 (85%)
Course (Self & UNU – ITC)	8	1	7	1	7

7. Recruitment and selection of the participants

The course was advertised on the website of ITC and in the ADPC newsletter. Potential applicants were asked to fill out an application form indicating their academic background and association with the NFP program as well as their professional occupation and hence interest and affiliation with the topic. These forms were collected at ITC, ranked and discussed with the ADPC for final selection based on the NUFFIC criteria. More than 56 formal applications were received.

Participants were selected using following criteria:
- Relevance of position in a University in SE Asia related to the CASITA network or organisation related to disaster risk reduction;
- NFP alumni working in the thematic field of the refresher course
- Gender
- Regional distribution

In general, the response was much higher from non-NFP alumni that had teaching positions in Universities than from NFP alumni, which made it a bit more difficult to maintain the 60-40 percent division.

8. Implementation of the course

8.1 Deviation from planning

The course planning largely followed the original planning. Some minor deviations had to be incorporated, especially related to the presentations of the participants. Also more time was reserved than originally planned for group discussion on the content of a short course on “Multi hazard risk assessment” which will be developed as a result of this refresher course.

In summary, the course was implemented as follows:

- **November 14**
  - Course opening and inventory of expectations. Introduction to disaster risk management. Introductory exercises using the data set of a hypothetical city in a developing country which is exposed to different types of hazards, and which has a high vulnerability.

- **November, 15**
  - Elements at risk mapping, and computer exercises dealing with the use of Laser Scanning data to accurately measure the altitude of objects that are at risk such as buildings.

- **November 16**
  - Inventory and discussion on possible target groups for courses on (GIS) for disaster risk Management & lectures. Technological risk assessment, with an exercise simulating the effect of a chemical accident in the virtual city.

- **November 17**
  - Earth Observation for Disaster Management, indicating which types of satellite data can be used for different types of hazards, and for different phases of disaster management.

- **November 18**
  - Landslide hazard and risk assessment, in which an exercise was included dealing with the landslide analysis for the case study city, and illustrated with presentations from various participants on their own work on landslides.

- **November 19**
  - Field excursion to Halong Bay, which was mostly of a social nature.

- **November 21**
  - Lectures and exercises on vulnerability assessment & discussion on the set-up of a short course on GIS for multi-hazard risk assessment.

- **November 22**
  - Flood hazard and risk assessment, including an exericise where the result of flood modeling was used to estimate the number of buildings affected for different return periods for the case study city. Also with presentations by participants themselves

- **November 23**
  - Earthquake hazard and risk assessment, which also included a GIS exercise simulating the effect of an earthquake on the case study city. Estimation was made of collapsed buildings and of population affected.

- **November 24**
  - The results of the previous exercises were combined into a multi-hazard risk evaluation and discussion which risk reduction measures would be most appropriate. In the afternoon there was an excursion to the Hanoi dike system, and to the Hanoi Architectural University as well as to the department of GIS in the Hanoi University of Science in Hanoi.

- **November 25**
  - Final discussion on the follow up for the organization of course in different countries followed by course evaluation and course closure.

A detailed version of the program can be found in the annex 1.

8.2 Teaching methods used

The teaching methods used were a bit different from the standard approach that we normally do in our refresher courses. Since we had invited mostly academic staff from Universities that form part of the CASITA network, which aims at establishing courses on the use of Geoinformation for disaster risk management in Asia, we also asked them to make lectures on the topic of their specialization. This means that the majority of the lectures were done in an interactive way by the participants. All presentations were also recorded on digital video so that later on they might be used in a follow up course with an important distance education component. Also a substantial amount of time was reserved for group discussions, presentations and plenary discussions, in order to discuss the target group, general setup, topics and teaching methods of a course on "Multi hazard risk assessment " which ITC and ADPC are planning to develop and which can be given in future in one of the organizations of the participants.

8.3 Daily schedule

Lectures were presented mostly in the morning, from 9:00 to 12:30 with a coffee break of 30 minutes. With lectures mostly given in the mornings, the afternoons were reserved for practical sessions, group presentations and assignments. The course was quite intensive, and as the hotel was next-door to the course venue, also in the evenings a lot of discussions and interaction took place among the participants.

8.4 Organizational and logistic aspects

The organisation of both the course with a large number of participants, most of which came from outside Vietnam, was not an easy task for ADPC. ADPC is used to organizing short courses and workshops in SE Asia, as can be seen from their course schedule at www.adpc.net. However, the problem with Vietnam was the difficulty in communication before the course in order to arrange for the hotel, venue, visa, invitation letters etc. Although HAU was one of the organisers, who took care of the visa aspects, most of the organisation was done very professionally by the colleagues from ADPC. They even visited Vietnam earlier on their own budget in order to properly arrange the hotel and venue. The location of the course at the Vietnam Chamber of Commerce and Industry (VCCI) turned out to be very good, as they had excellent computer and internet facilities.

8.5 Pre- and post-evaluation

As a pre-evaluation, all participants were asked at the start of the course to share with the group their expectations, needs and wishes for this refresher course. The results are presented in Annex 4, and can be summarized as follows:

- Use of Information Technology. Although most of the participants have had a basic training in the use of GIS and Remote Sensing, there were a number of participants (mainly non NFP alumni or NFP alumni who studied at ITC long time ago) with little or no experience in the use of GIS and

Remote Sensing. Especially several of the Vietnamese participants had no background in this. Most of the participants indicated that they would like to know more how these tools play a role in risk assessment, and the various components.

- Course development. This was also an important component which came back with several of the participants, who indicated that they hoped to learn more on how to develop course modules on the use of Geoinformation for disaster management. Several also mentioned specifically the use of distance education in such courses.
- Disaster management / risk assessment. One aspect in the expectations of the participants was to receive more knowledge on disaster management, and particularly the component of risk assessment, with the hazard assessment, elements at risk mapping and vulnerability assessment parts.
- Capacity building & networking. One of the important expectations mentioned was that this workshop/refresher course would add to further developing a network of professionals and university staff working in the overlapping fields of Geoinformation science and disaster management. Specifically the CASITA project was mentioned as an important vehicle for that.

In order to assess the impact of the course a post course evaluation was conducted by asking the course participants to fill in a questionnaire, which would be treated confidentially. Also a final discussion was held in which the main points were mentioned, but which in fact focused mainly on the follow-up activities. The post course evaluation included a number of questions dealing with the overall structure of the course. To these questions participants could tick a box on whether they agree or not agree or partly agree. Furthermore there were open questions in which participants could indicate the best and worst parts of the course and indicate room for improvement. An example of a questionnaire is included as annex 5.

Approximately 23 participants filled in the evaluation form. Overall the participants found the course well organized and valued the course content very positively. It should be noted that some of the participants probably interpreted the 1-5 points in the reverse order, as they indicated very low scores, but were very positive in the open questions. The course was rated as good to very good by most participants.

Some of the positive points that were listed in the questionnaires:

- The organizers and resource persons were very much dedicated. The group of participants also very enthusiastic
- Course contents was good and given very well structured. Few more topics could be incorporated.
- The excursion and interaction with colleagues from similar backgrounds and universities

Some of the points the participants indicated which might get more attention in a future course were:

- Hazard topics such as floods and landslides, tsunami and storm surges, coastal erosion and epidemics, air pollution and contamination of soils with heavy metals
- Vulnerability assessment, and different methods for vulnerability rating
- A consolidated table indicating multi-hazard (elements at risk, vulnerability assessment, hazard and risks)
- Field exercise, using GPS
- Regional concepts, cooperation/ legal aspects

They also indicated a number of topics they would be interested in for a future workshop, such as:

- Social vulnerability, Post disaster management
- Curriculum development, module development and structure of the planned course.

- Spatial decision based criteria model in mitigation planning.
- Preparedness planning, land use planning, disaster information systems
- Damage and loss estimation, quantification, in addition to the risk assessment

The results of the evaluation questionnaires is included as annex 6.

8.6 Long-term objectives achieved

In the course proposal, the long-term objectives of the course were formulated as follows:

- To build knowledge in Asia on modern urban disaster mitigation tools & methods through the inclusion of relevant and up-to-date disaster management components in the university curricula of urban-planning courses in several Asian universities and training institutes
- To increase the capacity of government organizations in Asia responsible for planning and management, as the University graduates entering these organisations will have better knowledge and skills and awareness of the importance of disaster management.
- To strengthen the existing network of CASITA aiming at a successful completion of these longer-term objectives.

The organization of this course, focusing on the development of a curriculum for a course on “Multi-hazard risk assessment” which can be given in many countries in collaboration with CASITA partners, is an important contribution to achieve the long term objectives.

8.7 Short-term objectives achieved

The following short term objectives were identified in the proposal:

- To demonstrate to University teachers new approaches and data that can be utilized in their course curricula on disaster management, which they are giving or are developing in their Universities.
- To exchange ideas on didactical materials that can be used in the disaster management course modules they are involved in;
- To further elaborate the contents of an internet-based platform for the exchange of training materials in the field of risk assessment;
- To work out a particular case study on urban flood risk assessment for the city of Hanoi, as example;
- To strengthen the ties with alumni;

According to both the course participants and the course organisers, most of these originally formulated short term course objectives were well addressed and met. However, the development of a local case study was not possible, due to communication problems with the Vietnamese counterpart in the preparation of the course. Also the use of a hypothetical city, with partly invented data, was considered to be much better for didactical purposes. Also the emphasis on the use of the internet-based platform has been less than stated in the short-term objectives. This was because originally the planned course would have an important distance education component. However, during the discussion with the participants it became clear that according to most of them the development of full distance education courses where the participants are in their own working environment was not considered as productive as in face-to-face training. It was decided that the course which would be developed, and which was discussed during this refresher course, would be a face-to-face training course, with support from experts at a distance using tools such as recorded video lecturers, video conferencing, internet supported presentations, and blackboard as a central tool.

9. Conclusions and recommendations

The refresher course and workshop have been very successful in strengthening the CASITA network which allows capacity building collaboration in a much larger timeframe then the relatively short period of the course itself (2 weeks).
The course aimed to strengthen capacity on modern disaster mitigation tools, as part of the existing CASITA network, targeted at reducing disaster vulnerability of urban regions in Asia. It provided support to the development of academic courses on disaster mitigation at university level.
The partners involved in this course, HAU, ADPC and ITC were all recently involved in a project of the European Commission, under the Asia IT&C programme, which resulted in a network of Asian Universities from Vietnam, Laos, Thailand, Indonesia, Philippines, Sri Lanka, India, Nepal and Pakistan. All these Universities are busy developing/implementing or improving course on disaster management as components in their standard courses, e.g. on urban and regional planning, geography, geology etc.
The network makes use of the Internet for exchanging information on course materials, such as GIS case studies on hazard and risk assessment, lecture notes, powerpoint slides, GIS/Image processing software, data and internet resources. In this course the aim was to exchange materials and experiences in teaching (urban) disaster management, and to jointly carry out an example case study on multi hazard risk assessment for a city in a developing country, and discuss how this case study could best be structured didactically. The course is also intended to extend the CASITA University network with other interested University staff and further extend the CASITA website:
http://www.adpc.net/casita/
This website, coordinated by the Asian Disaster Preparedness Center (ADPC) contains a lot of training materials that can be utilized by the partners in the network, as well as other interested persons.

Refresher course products

- A CD-ROM containing all the lecturing materials and the presentations of the course participants
- A CD-ROM containing additional reading materials, the ILWIS GIS, the ITC textbooks on GIS and Remote Sensing, and the photographs taken by the course participants.
- A fully developed case study exercise on the use of GIS for multi-hazard risk assessment in an urban environment.
- In the near future all materials will be made available on a website: http://www.itc.nl/unu/dgim/

Finally we would like to thank NUFFIC for providing the funds to be able to organise this course. We also would like to thank our colleagues at ADPC, especially Arambe, Clarence , Suree , Rajesh, Falak and Shalini for the excellent collaboration, and also to the coordinating staff of HAU, especially to Nguyen Cong Hung and Ms. Nguyen Thi Phuong .

10. Financial statement

Financial details are found in Annex 5.

Annex 1: Course programme: WEEK 1, 14-23 November 2005

Period	Monday 14	Tuesday 15	Wednesday 16	Thursday 17	Friday 18
1 09.00 – 10.30	Registration Course Opening Inventory of expectations Introduction of participants Presentation of aim of the workshop	Lecture: Elements at risk classification Paul Hofstee Including small assignment (not GIS related)	Lecture: Population mapping & activity patterns Paul Hofstee	Lecture: Earth Observation for Disaster Management Torsten Drey	Lecture: Earth Observation for landslide mapping Torsten Drey
2 11.00 - 12.30	Lecture: Introduction to Disaster Risk Management Cees van Westen Discussion of possible assignments	Lecture: Building mapping & mobile GIS Paul Hofstee	Discussion session: Target groups for courses on (GIS) For disaster risk Management	GIS exercise RiskCity: Generation of a building database. Number of floors, Number of buildings	Lecture: Landslide hazard assessment Cees van Westen
Lunch					
3 13.30 – 15.00	Short Presentation on ILWIS 3.0 functionality Paul Hofstee Start with GIS exercise: introduction to RiskCity.	GIS exercise RiskCity: generation of a building database: city block digitizing Short demo followed by exercise	Lecture Debanjan Bandyopadhyay : Technological Hazard and risk assessment: ERRIS project	Discussion session: Focusing on short course on GIS for multi-hazard assessment. Defining objectives	GIS exercise RiskCity: Landslide hazard assessment
4 15.45 - 17.00	GIS exercise RiskCity: Creating and interpreting a Digital Stereopair	Presentations: Theme: DM Course curricula Prasad: IIRS Gunathilake: PGIS/DM Rocson Lim: Un.St Isabel Lyanaarachchi: Ruhuna	GIS exercise RiskCity: Technological risk assessment	GIS exercise RiskCity: Population estimates Presentation: Gonzalez: Landslides in Philippines Daag: landslide project AIT Naranchimeg (Mongolia)	GIS exercise RiskCity: Landslide hazard assessment Tran Tan Van & Nguyen Thi Hai Van: Landslides in Vietnam Ms. Pham Minh Chi: forest change monitoring

WEEK 2, 21-25 November 2005

Period	Monday 21	Tuesday 22	Wednesday 23	Thursday 24	Friday 25
1 09.00 – 10.30	**Lecture:** Vulnerability assessment **Arambepola.** **Including small assignment or discussion**	**Lecture:** Flood hazard and risk assessment **K.M. Maniruzzaman**	**Lecture:** Regional Seismic hazard assessment. **Mark van der Meijde**	**Lecture:** Loss estimation **Arambepola.**	**Lecture:** Vulnerability reduction measures. Non- Structural measures **Arambepola.**
2 11.00 - 12.30	**Lecture:** IT/GIS in Disaster Risk Management **Ketan Trivedi**	**Lecture:** Flood modelling **Hari Prasad**	**Lecture:** Seismic microzonation of Dhaka City **Maksud Kamal**	**Lecture:** Volcanic hazard and risk assessment **Arturo Daag**	**Presentation:** Municipal information systems for environmental and disaster management **P.K.S. Mahanama**
	Presentation: Lake outburst flooding: hazard and risk assessment **Pradeep Mool**	GIS exercise **RiskCity: flood loss estimation**	GIS exercise **RiskCity: earthquake loss estimation**	**Lecture:** Soil erosion and land degradation**.** **Suresh Kumar**	**Discusión on contents of the short course on Multi-hazard risk assessment**
Lunch					
3 13.30 – 15.00	**Presentation and Discussion:** Set-up of short course on GIS for multi-hazard risk assessment	**GIS exercise** RiskCity: flood loss estimation **Discussion** on the exercise structure and results	GIS exercise **RiskCity: earthquake loss estimation** Discussion **on the exercise structure and results**	Excursion: Dike system in Hanoi Visit Hanoi Architectural University	Course evaluation and planning of future activities
4 15.45 - 17.00	Presentation of case studies by participants. **Binod Doley**: NIDM (India) **P.Khatsu**: Kohima multi-hazard risk assessment	Presentation of case studies by participants. **E. Elcamel**: Naga flood problems. **Chandana Gunasena**: Ratnapura flood problem	Presentation of case studies by participants **Bhattarai**: Landslides Nepal **Sissakian**: Natural hazards in Iraq **Janaka:** Tsunami studies in Sri Lanka	Boat dinner	**Course closure**

Annex 2: Course participants

Capacity Building in Asia using Information Technology Applications
(CASITA) Refresher Course
Development of a course curriculum on "multi-hazard risk assessment"
14-25 November 2005
Hanoi, Vietnam

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Annex 3
APPLICATION FORM

For ITC Refresher Course in Hanoi, Vietnam

CASITA: Capacity building in Asia using information technology applications in disaster management

PERSONAL INFORMATION

Legal names *(in the order they appear in your passport/the certificates)*
Mr/Mrs/Miss/Dr _____
Correspondence address

_____

_____

[1]Tel. No. _____Mobile_____ Fax. No. _____
Email address _____ Valid until _____
Alternative E-Mail address_____
Sex Male _____ Female _____
Marital status Single _____ Married _____ (If married, no. of children _____)
Date of Birth _____**Place of Birth** _____
N**ationality** _____**Passport Number**_____
Contact Person in case of emergency_____
ACADEMIC QUALIFICATIONS *(Provide names of all universities and colleges you have attended, listing the most recent institution first)*

Educational Institution	Location (City/Country	Major Field	Degree	Duration	Language of instruction

[1] Include country and city code

Are you an alumnus of ITC? Yes _____No_____
If yes, state the specialization you followed_____

ENGLISH LANGUAGE PROFICIENCY

	Excellent	Good	Fair	Basic (or none)
Speaking				
Reading				
Writing				

Which of the following documents is attached to your application form (Yes or No):

Official TOEFL/IELTS score report _____
Evidence of completed degree program with English as the institution language _____
Other certificates _____
Neither is attached, but will be sent by *(month/year)* _____

PROFESSIONAL QUALIFICATIONS

Duration (From/To)	Employer (name and address)	Position	Nature of Work

COMPUTER SKILLS

Excellent	Good	Fair	Basic (or none)

Mention the RS/GIS software's/Programmes you use at your place of work (organization).

_____

_____

_____

MOTIVATION FOR THE COURSE

Indicate your reasons for applying to this ITC Refresher Course on Natural Disasters

_____

_____

_____

_____

Explain briefly the relevance of this course to your work and state how you intend to use the knowledge/skills gained from the training

_____
_____
_____
_____

[2]FINANCIAL REQUEST

Full Support _____
Partial Support (specify) _____
Self-support _____
The undersigned certifies that his/her statements in answer to the above questions are true, complete and correct.

Signature _____ *Date* _____

Send the completed application form, together with the relevant documents to the following address before **30th September 2005.**

Dr. Cees van Westen
ITC, P.O. Box 6, 7500 AA Enschede, The Netherlands
Fax: +31 53 4874336 . E-mail: westen@itc.nl
Or to:
Shalini Sharma Kanwar, Project Coordinator ADPC
ADPC, P.O. Box 4, Klong Luang, Pathumthani 12120 Thailand
Fax: (66) 02-524 5350 *or* (66) 02-524 5360
E-mail: shalini@adpc.net

[2] Applicants with self support or partial support will be given priority

Annex 4:
Expectations from the CASITA Hanoi Workshop
14-25 November , Hanoi, Vietnam

Use of Information Technology

- Attempt should be taken to make RS and GIS much more popular for hazard and risk assessment in the developing countries.
- Better understanding of GIS and RS applications for DM.
- To get guidelines for the preparation of exercies.
- To get a better understanding of using GIS and RS software.
- Gaining more knowledge about the ITC tools in "multi-hazard risk assessment
- How to reduce impact of disaster using IT/GIS
- How to give emergency response using IT/GIS
- How IT/GIS application can be used in early warning
- How IT/GIS can be used in community based disaster preparedness
- Hands on experience on application of IT tools specially ILWIS
- How GIS and Remote Sensing can be applied in this field.
- Using GIS and Remote Sensing for Mitigation
- Improve GIS application in GIS application.
- GIS/RS technology usefor disaster, practical exercise as well.
- GIS exercise
- GIS skill
- Improving and developing of skill in GIS and RS on " multi-hazard risk assessment"
- Multi-hazard data at the scale of urban planning (1:8000 and below)
- Getting more the application of Geoinformation Sciences and Technology for multi-hazard risk assessment.
- Learn about developing building level database for urban areas.

Distance Education / DM / IT courses in Course Curriculum / Research

- Course curriculum focussing on E-learning
- Training of myself to launch this course as e-course from the institute.
- to have and clearer view in the distance education program.
- Have a course curriculum (draft).
- This course can be utilised as part of the joint MSc education programme between IIRS and ITC.
- Syllabus and the presentation will be utilised in enriching the syllabus of the joint education programme.
- Good learning experience to orient the lectures in a distance education programmme.
- Depth of contents expected to be delivered in a short course.
- Be able to develop a comprehensive course in DM using GIS.
- To develop curriculum for university on the integration of Geo-information and GIS in DM.
- Integrate urban DM into our existing course in urban planning
- Development of modules that can be used in the classroom.
- Getting input...???needs in distance education courses
- To develop disaster management course (undergraduate and post graduate in the university)
- To develop skills of GIS and RS application for DM for university teacher.
- Case studies of developing cities in india/china
- Course structure/framework for multi-hazards/urban planning
- To development of a course curriculum on "multi hazard risk assessment" in different countries
- Development more information about new subjects for the M.Sc.program.
- Development of course content/design for distance education.

- Course module on geoinformation.
- explore possibility of ERRIS being involved to prepare course module on "Technological risk mgt."

Disaster Management

- Development of simple case studies to understand utility of Geinformation in disaster management
- To understand the concept and approach for disaster management.
- Disaster Management for all types disasters
- about disaster risk mgt., what is the..?? and needs on that application.
- To develop skill of research related to the DM
- Exchange more technique on natural disaster management.

Risk Assessment

- Landslide hazard assessment
- Landslide in vietnam
- To know more about Hanoi Urban problems/ planning in relation to "multi-hazard risk assessment
- Learn a lot from the workshop concerning assessment of multi hazard risks, since in Iraq are don't have any organization or dept.looking for that.- Geological hazards are causing enormous economic losts to infrastructures in Iraq, yearly. However, life losses are very rare, mainly caused due to flooding
- Technique and information for risk assessment of multi-hazard.
- Specially interested in flooding risk assessment.
- Looking at individual hazards assessment and combining them in a multi-hazard situation.
- Weight evaluation of different factors of hazards.
- Selection of appropriate factors of hazards.
- Basic features of RS/GIS for hazards assessment.
- Getting to know different ways on how to deal with multi-hazards.
- Technique of earthquake induced landlide hazard assessment.
- Geo-hazard assessment in urban areas.
- Landslide hazard in vietnam
- Identification of appropriate (cost effective) technology (software, hardware, tools and implements) for multi-hazard risk assessment.
- Develop on appropriate methodology for multi-hazard analysis in the SE Asia region.

Capacity Building, Sharing of experiences & awareness

- More on field experience/ practical problem solving, lectural/ talks/discussion during workshop; Tsunami, earthquake, storm and flood.
- More people should be trained to develop awareness campaign in the relevant country.
- Sharing and exchanging the experience of using remote sensing & GIS in the field of geohazards.
- Sharing the experience from other country, how they ….??? multi-hazard risk assessment.
- Share all these knowledge for managing and preventing people from multi hazard.
- Empowering local wisdom for early warning.
- to learn experience from other developing countries.
- learing experience from other participants
- Exchange of ideas and experience related to the teaching of disaster management
- Learning and sharing with each other to support ouir own work and for sustainable development
- How to disseminate the course into the scientific communities

- Getting to know more about other countires in natural hazards.
- more training that I can get from this course.

CASITA Programme

- To understand more on CASITA programme
- What are the constraints of CASITA programme
- To know more about HAU activities on CASITA and what resources curriculum they have on Geoinformation and urban hazard.
- What experience gain by multi-institution venture in such workshop and CASITA project.

Networking & Collaboration

- I also wish that I can arrange some type of cooperation with ITC or any other authority to start such programmes in Iraq because we need that very urgently.
- Continuous collaboration and contact with the participants and are required to enhance the knowledge to hazard and risk mgt.
- Get contact to other people working in similar fields.
- Making new friends from different countires as well as different background organizations
- Good networking among all CASITA participants.
- Developing network with university and organization (inlc.ADPC) working in the area of disaster managent in Asia.

Enhancing Existing Knowledge

- To enhance the existing knowledge in DM and ITC application .
- Filling of knowledge gaps in the existing course modules at the university courses in my country
- Giving me as much knowledge as possible.

Others

- Site visits to Halong Bay and more CD Hanoi city spaces.

ANNEX 5: Evaluation form

Refresher Course/workshop on Capacity Building in Asia using Information Technology Applications (CASITA

Development of a course curriculum on "multi-hazard risk assessment" Hanoi, Vietnam, 14-25 November 2005

Evaluation sheet

Encircle your answer. Please rate your opinion on a scale from 1 to 5: 1 = very bad, 3 = OK, 5 = very good.
Please add comments on a separate sheet (we are of course especially interested if your rate is less than 3).

Question 1
How did you appreciate the course with regard to the:

a)	Build-up of the course (Was it logical?)	1	2	3	4	5
b)	Contents (Topics that were treated)	1	2	3	4	5
c)	Material provided (hand-outs, digital documentation, software, data)	1	2	3	4	5
d)	Balance lecturing / exercises	1	2	3	4	5
e)	Balance between "cookbook" exercises and more open exercises.	1	2	3	4	5
f)	Relevance to your daily work and responsibilities.	1	2	3	4	5
g)	Applicability to your Institution	1	2	3	4	5

Question 2
How would you qualify the instructors with regard to?

h)	Their knowledge of the subjects taught.	1	2	3	4	5

i)	Clarity of their presentations (explaining theory).	1	2	3	4	5
j)	Clarity of their instructions (explaining the exercises).	1	2	3	4	5
k)	Their answers to questions from you (or fellow course participants)	1	2	3	4	5
l)	Design of the course	1	2	3	4	5
m)	The choice of the software	1	2	3	4	5

Question 3
Are there any topics or concepts treated in this course that their purpose remains unclear to you?

Question 4
Were there any topics you have missed in this course that should have been treated in your opinion?

Question 5
How would you rate the course?

Question 6
In case of a future refresher course, what topics you consider appropriate?

Annex 6: Course evaluation results

Question 1
How did you appreciate the course with regard to the:

		1	2	3	4	5
n)	Build-up of the course (Was it logical?)	**0**	**1**	**3**	**3**	**16**
o)	Contents (Topics that were treated)	**0**	**1**	**2**	**13**	**7**
p)	Material provided (hand-outs, digital documentation, software, data)	**0**	**0**	**2**	**8**	**13**
q)	Balance lecturing / exercises	**0**	**0**	**7**	**10**	**6**
r)	Balance between "cookbook" exercises and more open exercises.	**0**	**1**	**5**	**10**	**8**
s)	Relevance to your daily work and responsibilities.	**1**	**0**	**5**	**6**	**10**
t)	Applicability to your Institution	**1**	**0**	**3**	**5**	**14**

Question 2
How would you qualify the instructors with regard to?

u)	Their knowledge of the subjects taught.	**1**	**0**	**2**	**7**	**13**
v)	Clarity of their presentations (explaining theory).	**1**	**0**	**4**	**10**	**8**
w)	Clarity of their instructions (explaining the exercises).	**1**	**0**	**3**	**8**	**11**
x)	Their answers to questions from you (or fellow course participants)	**1**	**0**	**4**	**10**	**8**
y)	Design of the course	**0**	**1**	**3**	**9**	**10**
z)	The choice of the software	**0**	**1**	**1**	**9**	**11**

Question 3
Are there any topics or concepts treated in this course that their purpose remains unclear to you?

- Social aspect of disaster management / risk management
- One or two sessions on curriculum development and module development
- No
- Population mapping g
- Quantification of vulnerability
- Technological hazards
- Landslide related lectures are not very clear.
- Although my computer knowledge is very limited, but everything was almost clear.
- Earthquakes
- Management of disasters in terms of social and community perspective

Question 4

Were there any topics you have missed in this course that should have been treated in your opinion?

- No comment
- No
- Riverbank erosion risk to urban environment
- Air pollution and contamination of soils wth heavy metals etc. and risks to inhabitants
- Earth observation for landslide mapping
- Landslide hazard assessment
- Vulnerability assessment
- A consolidated table indicating multi-hazard (elements at risk, vulnerabuility assessment, hazard and risks) should have been provided as example
- Floods and landslides
- A bit more on vulnerability rating
- Field exercise, using GPS
- Yes, how you use GIS in preventing disasters, if applicable?
- There were limitations related to the making and treatment of the course curriculumn.
- Coastal erosion and epidemics
- Tsunami and storm surges, maybe under flooding.
- Regional concepts, cooperation/ legal aspects

Question 5

How would you rate the course?

- Comprehensive enough for a beginner - good
- Very good, several times
- Course contents was good and given very well structured. Few more topics could be incorporated.
- Very good
- Good organizations and quality
- Excellent (several times)
- Very much appropriate. The organizers and resource persons were very much dedicated. The group of participants also very enthousiastic.
- Very satisfactory
- 75 %
- Good
- Excellent, found to be very useful indeed/
- Good
- 85 %

Question 6

In case of a future refresher course, what topics you consider appropriate?

- Social aspects
- Post disaster management
- Emphasis should be given more on the curriculum development, module development and structure of the planned course.
- Drouhgts, desertification topics may also be considered.
- Spatial decision based criteria model in mitigation planning.
- Preparedness planning, land use planning, disaster information systems
- Forest fire, oil spills.
- Damage and loss estimation, quantification, in addition to the risk assessment
- Flood , drought , landslide, technological hazards.
- Urban hazard
- Tsunami hazard, volcanic hazard etc.
- Tropical storms, forest FIRE, drought, technological hazards
- More hands on experience in Rs/GIS applications in risk assessments.
- The same topics discussed can be further developed. More GIS/RS exercises.

- Biological hazards (avian flu etc). Public health in complex emergencies.

- I prefer:

1. To keep the participants in much relevant specialization e.g. geologists, geomorphologistss, eng. Geologists., etc.
2. To keep the participants in almost the same knowledge level, although this is not simple to do.
3. To keep the participants in closer management level, and
4. To keep the participants in more closer countries, so they will be dealing with the same type of hazards
5. Since in Iraq we have just started the application of GIS and RS, therefore I can't answer these two questions: Note: the Iraqie geological survey started using RS since 1973, using aerial photographs and almost all field geologists have excellent experience in using them. But unfortunately, that was interrupted, I mean not using GIS due to the lack of computers. However, we started (with a very small group) to establish the databases and we are kindly asking to get any chance to send the juniors for training. .

- Disaster management using GIS and RS
- Community based vunerability and capacity assessment
- Country, case type specific
- Typhoon hazard. Integration of multihazard risks.

Annex 7: Financial report