Report for the module "Multi-Hazard Risk Assessment"
24 April to 12 May at ITC, Enschede, Netherlands

1. Introduction

The first trial run of the CASITA course on Multi-Hazard Risk Assessment was given from 24 April to 12 May in the Inernational Institute for Geo-Information Science and Earth Observation (ITC), Enschede, the Netherlands. As was concluded from the course development workshop held in Hanoi in December 2005, the course was conducted as a distance education supported course, rather then a full distance education course, where the participants were in different locations. We concluded that it is better to have the participants in the same location, which will greatly improve the possibilities for interaction between the participants, and allow for the direct interaction with teaching staff especially concerning the computer exercises. All of the training materials were made available on the Internet, through the Blackboard software for educational support. Part of the lectures were done using Internet using MSN Messenger, and through videoconferencing. There were 23 participants in the course, coming from 10 different countries. Among them were 4 participants from the CASITA partner Gadjah Mada University and 7 from the CASITA partner Indian Institute of Remote Sensing. The course was jointly conducted between ITC staff and ADPC staff. Falak Nawaz from ADPC was present during part of the course.

Participants:
Top row from left to right: Matthew Boafo (Ghana), Basanta Kumar (Nepal), Lesslie Annamalai (India), Falak Nawaz (ADPC), Mrs. Shrestha (Nepal), Suman Shrestha (Nepal), Rajesh Bhakar (India), Md. Shahjahan (Bangladesh), Shivraj Ghorpade (India), Robert Voskuil (ITC), Tannia Mayorga Torres (Ecuador), Julia Galindo Coronado (Guatemala), Sreyasi Maiti (India), Chrandrama Dey (India), Anandita Sengupta (India)
Front row from left to right:
Cees van Westen (ITC), Moonjun Ruamporn (Thailand), Ajay Kumar Katuri (India), Hero Marhaento (Indonesia), Anggri Setiawan (Indonesia), Rakiya Abdullahi (Nigeria), Dewi Anggraini (Indonesia), Barandi Widartono (Indonesia), Surabhi Kuthari (India), Cosmas Bangbam Sukatja (Indonesia), Shree Kamal Dwivedi (Nepal).

2. Distance education components

The course contained a number of distance education components: blackboard use as exchange platform, use of Webmail for communication, use of video conferencing and use of MSN messenger for both lecturing and discussion.

Blackboard use

The Blackboard software for distance education support was used as the main vehicle in the course for the dissemination of all course materials, containing of lecture materials (pdf files of all powerpoints), exercise materials (pdf files with exercise handouts as well as Zip files with GIS data. Also background reading materials were made available as well as links to useful websites. The materials were first put on a separate Blackboard site for the course, but were later on transferred to the CASITA blackboard page. The Blackboard page can be accessed through: http://bb.itc.nl Password: Casita Username: Casita. Once inside the Blackboard environment you can select within the window "My organizations" the option **CASITA II** (you might have to expand it to make it visible). The first button contains the link to the material of the distance education course (see picture below).
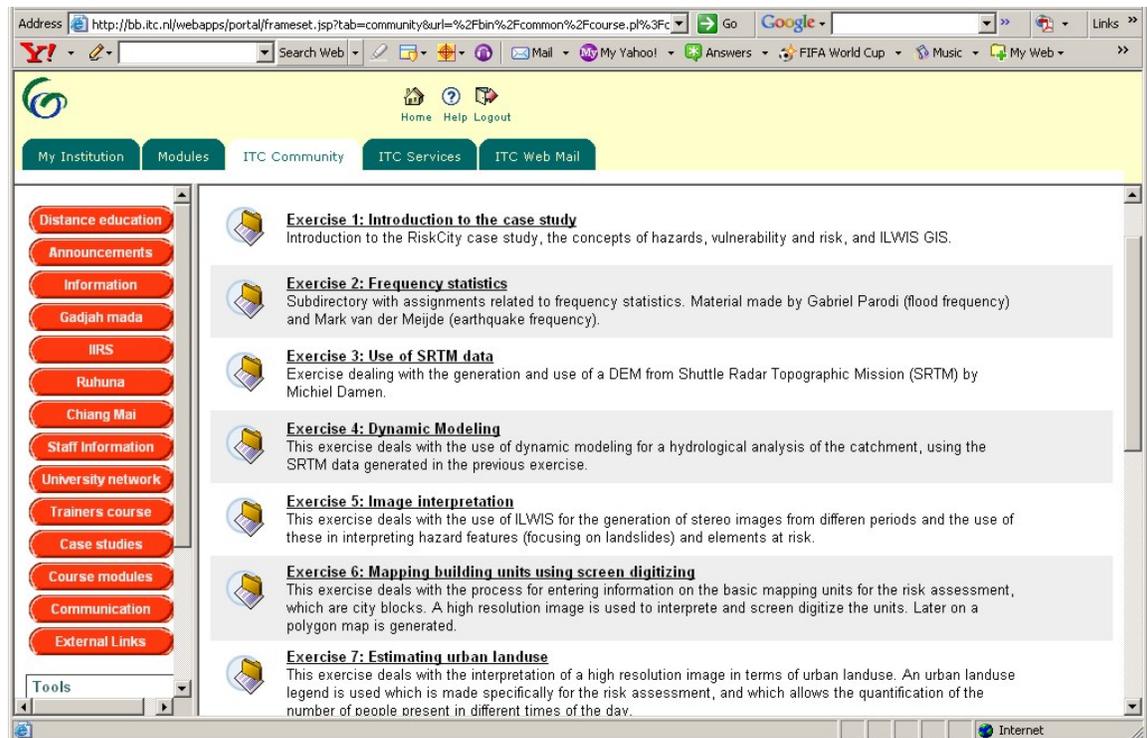

Video conferences and use of MSN Messenger.

During the Multi-hazard risk assessment course also several tests were made using the various possibilities for remote lectures. Two different methods were tested out: using video conferencing and using MSN Messenger.
One lecture was made by staff from ADPC using the video conferencing equipment of the AIT Geoinformatics Centre. N.M.S.I. Arambepola provided a lecture on "Non-structural vulnerability reduction". After the lecture there was a discussion session with Arambepola, Dr. Iktakar, Gabrielle Iglesias (ADPC) and Manzul Hazarika (AIT Geoinformatics Centre). Especially the discussion session went rather well, and there was a good interaction between the persons on both sides. The lecture was a bit more difficult to follow, also because the control over the

PowerPoint (which was projected on a separate beamer) was from ITC side, whereas there was a slight change in the PowerPoint file used from the AIT/ADPC side.

Also a lecture was given using the MSN Messenger video capabilities, with a simple webcam. Falak Nawaz (ADPC) provided a lecture on "Structural vulnerability reduction". With MSN Messenger it is also possible to take control over a remote computer, so Falak Nawaz was also able to control the PowerPoint programme during his lecture. Due to the short length of the microphone cable the students had to come forward to ask questions. The use of a wireless microphone is preferred in future. Most students were quite satisfied with the MSN Messenger use for lecturing. Although the video quality is less it is not so disturbing as the voice quality was good and the lecturer had direct control over the presentation.
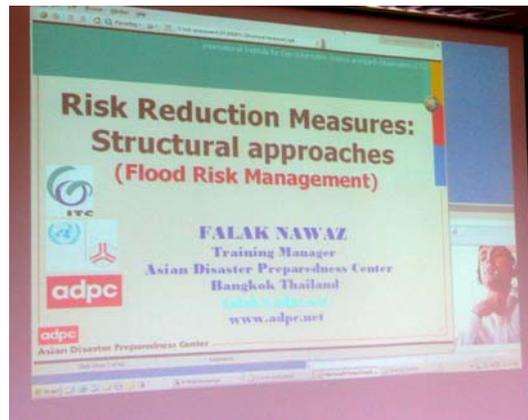
3. Evaluation

The course was evaluated very positively by the participants. Below the result of the overall assessment is given. The detailed evaluation of the course is attached.

Give an indication of your overall impression of this course

Not so good	So so..	OK	Good	Very good
			3	17 1x excellent

Annex 1: Course evaluation

Objective:
We would like to hear your opinion on the module on specifically on the aspects that we could improve for a next course?

1. Did you learn enough about risk assessment? Which things are still not clear?
- I did learn, especially with exercises, but not enough. I have a better idea and some basic knowledge on risk assessment. But many things are needed to really understand.
- Yes
- Yes
- I was learning enough about risk assessment.
- Hope the goal reached
- Yes, probability & estimating risk .. the frequency.
- Yes, the module was very informative. My concepts are clearer now and I feel I'd be better equipped now o apply disaster management concepts in content of my own country.
- Yes, I did. The definition and examples f vulnerability and hazard sometimes are not clear.
- Definitely this module has been very good, I learned a lot and I have to study a lot as well.
- Everything are clear except field work (mobile GIS)
- Yes, vulnerability courses.
- Yes, script writing is not clear.
- Yes, most of things are clear enough.
- Yes definitively. But to me still it is not clear how would I give value to the vulnerability of elements at risk.
- I grasp and petty clear idea about risk assessment with further readings it will get clearer.
- Yes I did. I would like to improve in ILWIS application.
- Yes I did learn more about risk assessment. How we will do vulnerability assessment, especially how we will make vulnerability …. Of each element of risk -> making the vulnerability.. Is not known for me.
- I learn so much about RA. All is lectures so clearly, briefly and smartly.
- The module "Risk Assessment" is sufficient to learn enough about Risk Assessment. Little more classes should be there from quantification of risk.
- Enough and well planned. A lot has been learnt.
- Yes, for this module we would learn more about the natural hazard and also technological hazard. For technological hazard it's can be got more of the data and the information for study to the future.

2. Were the lectures and lecture materials clear enough? Is there a need for lecture notes?
- Lecturers were ok but anyway more reading is needed if you know the topic.
- Yes
- Yes, well prepared
- Yes, geological Risk Assessment
- How to put data's on the exercises.
- It is very clear enough, so no.
- -
- The lectures were very clear and elaborate. The lecture notes (the hard copy) was good enough.
- Yes, I think it's enough
- The presentation of all classes was very good, which contain additional links to expand the information.

- They are clear enough 'cos the exercises lead the student step-by-step.
- Yes
- Yes, yes
- Yes, the teachers are nice and material too. No need for lecture notes.
- Yes, the lectures and lecture material are clear enough.
- They were clear enough.
- Yes they were
- All lecture notes or materials are clear enough.
- It will be better if you give some handbooks which give more explanation about the materials given.
- The lectures and lecture materials are clear enough. There is a need of lecture notes on Technological Risk Assessment".
- Risk hazards and disaster are more known and can be understand with a little explanation.
- For the exercise the materials seem to be enough but the lectures, we need more of the information of the hazard. And the methodology how to define the hazard zone?

3. How did you like the use of one case study throughout the course? Was the description clear enough? Was the support enough?
- Yes, it helps to get a general and complete picture. In reality different hazards may happen.
- It was helpful to understand the exercises. Both description and support provided are enough.
- Innovative approach to use Lidar data, study course almost all hazards. Description was so clear that one could go with it very easily. Sometimes I feel it should not be so simple. It should require to student to scratch his head.
- For the Sobek software we need more supporting guidance.
- Yes, since one case study area is one so it will be clear too as to look into other ..?
- It is a good exercise and good to know all the steps in the process of RA. The support was very good.
- Yeah! We were actually living in the Risk City by the end of the exercise. We could picture ourselves applying the various parameters of management cycle to help the city be risk free.
- Yes. But sometimes I found the materials are not suitable. Exp. For the anaglyph the filter is not suited for the image.
- Thanks for this module I have a better vision of my proposal of MSc.
- Very clear enough.
- We can have two case studies, after a point the city started to appear as a haunted place.
- Good, still two / three set of exercises even better.
- Yes, description was clear.
- Yes, it was great. Because we could see the inference of different works on it. Yes the description was clear of made easier the exercise.
- I think that was very good, it helped us to understand better.
- Yes, the description was clear enough.
- It is good case study, but less explanation about the software SOBEK and PC Raster.
- Throughout the course the use of one case study gave us a clear idea for several cases. However, it helps to get on idea of Multi-hazard analysis for an area.
- The description as well as the support is more than enough. As a beginner, I can say the instructions are very clearly described in order to carry out the exercise without any confusion.
- Really the study case has really exposed most GIS aspects and analysis of risk assessment. The various exercises were really well planned.

- The case study is very good area for study the multi hazard and for earthquake event is not clear enough about the information.

4. How did you like the distance education lectures?
- Not much because it is easier to lose attention. However if the person cannot be present it is acceptable.
- It was OK, content wise, but it was very innovative as a whole.
- Very much. Now it if possible to chase the ideas of expertise from anywhere over the world.
- The distance education lectures is interesting, but only for the special materials
- It is great, since this is less expensive so we can have classes around the world.
- Very well. Good efficient. We can extend the no. to more.
- Interesting!
- It van be wider the knowledge. I hope the distance education can practice for another location and other aspect on the world, to clear the materials.
- There is a way to communicate with people in other countries and get their knowledge.
- Interesting but need for improvement
- Yes, but we need to get used to them, also few adjustments (technical) need to come.
- So so (some cases ineffective).
- Good
- Yes, the second one mostly. But still interacting with teacher face to face is more convenient than this.
- Interesting
- By .., as I knew it gives a good result.
- Yes, it is very good communication for learning, especially by using MSN. Mr Falak lecture is good enough.
- Great. We can get information directly from the course.
- It is a wonderful experience.
- It is very good. It is same part of real time as of risk assessment from one own background we are able to understand what is really happening.
- The lecture, the time is not enough to study in the detail. But the hand-out and the content cover all of the hazardd is OK.

5. Was the workload in the module OK? Could you finish the exercises?
- Not all, I did not have time to read a little bit more about the subject because the day was fully scheduled and the individual exercise / assignment s not completed yet.
- Even work load was very high, I finished most of all exercises
- Workload was ok. Thoroughly prepared exercises lead to achievement of the goals of exercise.
- The workload in this module is enough; but is better to expand the time. I can finish the exercises around 95%.
- Yes, all the exercises were interesting so could finish all the exercises.
- Yes, the workload was just enough for us to be able to learn as we do the things
- Yes, it was enough. Yes!
- I did not get to finish all the exercises, but I got the purpose of each class and have learned a lot.
- Yes, except the individual report which was later taken care of.
- Workload was fine.
- OK, but need more time. Yes in most cases but little time to think and read from the ext books or references mentioned in the lectures.

- Yes, it is OK; yes most of them are finished.
- Yes it is all right. But it would be better if the excursions would be managed in last week of module after examination and presentation.
- There are a lot of hazards (natural) which were given in this module but sometimes there were lack of time to do all the exercises.
- Yes, we did all exercise we have finished the exercise every day.
- Yes, we need more challenging exercises ☺
- The workload in the module is quite OK. Except few exercises there is enough time to finish the exercise.
- Not really but it was quite involving and it as a good way to actually deal with all the aspects of the module.
- It could be better if we have more time to learn about the hazard and risk assessment. For the exercises we could finish them an it could be better for feedback of the exercise.

5. Overall Impression

Give an indication of your overall impression of this course

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- Some aspects .. tell .. in the info of Tsunami and other GI for RA. We can improve a bit more.
- Overall the module is excellent. All the classes as well as exercises are well organized, which helps to follow the module in a well organized manner.

6. Can you give us some hints on how we can improve the course next time?
- Make it two modules to have sufficient time to study, make exercises and assignment, or reduce the amount of subjects.
- Lectures on social vulnerability needs some emphasis with better resource person.
- Since this is an international class, we should have some more lectures from other countries to get an international experience too.
- Image interpretation and emergency planning/response can be incorporated.
- The course was good enough with the notes, exercises and also the excursion.
- Better if we use not only one study area, but more than one so we can compare them, with different problems.
- All the content has been developed in a correct way, we have seen main hazards and its applications and the time for doing everything have been a challenge.
- More field works.
- Case studies no. can be increased.
- Length of 3 modules all together for this course Risk Assessment.
- More duration could be good.
- More classes on multi hazard risk assessment; exercises in detailed way of SMCE on decision tree approach. Classification techniques for mapping the hazard zones.
- By reducing the coverage of the module.
- Because of many hazards which are assessed by a new models (PC Raster, Sobek, SMCE), it make a sense for the future to add assistance lecturer.
- This course is very useful and its good enough.
- There is no question or point to suggest anything for improving the module. But there should be some classes on quantitative approach on risk assessment especially in case of technological risk.
- The students need more the data requirement in the exercise.