

Annex 4
Standard Template
Technical Part of the Final Report

Name of the Asia-wide Programme :Asia ITC&C Program

Contract reference no.: TH/Asia IT&C II/04 (96405)

Project Title: CASITA II

Name of Beneficiary: Asian Disaster Preparedness Center (ADPC)

Period covered by this Final Report: 20 December – 19 December 2006

Due date of this Final Report: 19 March 2007

Project Budget	EUR 411, 346.00
Funds Disbursed by Commission to date	EUR 152,000.00
Expenditure Incurred by Project to date	EUR 441,336.12

I. Introduction

Provide an executive summary (show overall progress as well as progress in the last 3 months) of your report highlighting:

- The main activities that have been implemented.
- The main results achieved.
- Difficulties encountered.

CASITA (Capacity Building in Asia Using Information Technology Applications) is a project co-funded by EU Asia IT&C program and started its first phase in 2003. CASITA aims at institutionalizing graduate and postgraduate courses on the application of modern IT&C tools in Disaster Management-related curricula at university level. The project took place in collaboration with three partners: Asian Disaster Preparedness Center (ADPC, Thailand), International Institute for Geo-Information Science and Earth Observation (ITC, The Netherlands) and Bonn University (BU, Germany). CASITA phase I ended in March 2004 and helped in establishing a network between 14 universities in Asia. CASITA II is a follow-up to the earlier project and focused support to four successful CASITA 1 network university partners, in Thailand, Indonesia, India and Sri Lanka.

As a follow-up to the CASITA project Phase I, several universities requested assistance from ITC, the Netherlands for the development of a course on the applications of Remote Sensing (RS) and Geographic Information Systems (GIS) for hazard assessment and risk mitigation. The target group consists primarily of faculty members of the respective universities but also of urban planners, geographers and other professionals knowledgeable of modern disaster mitigation tools. To achieve cost effectiveness in sharing knowledge, the Internet-based e-learning platform developed under the CASITA project had been extended for a further period to support joint research and postgraduate course development on the use of RS & GIS for natural hazard and risk management under CASITA Phase II.

The activities planned for 2 years under the CASITA phase 2, have been implemented as scheduled and include the following:

- Kick-off workshop of project partners
- Needs assessment of project partners and universities
- Implementation of a communication strategy for the project
- Short course on GIS and Remote Sensing for Natural Hazard and Risk Assessment at ITC, The Netherlands
- Development of guidelines for a joint research program
- Conduct of landslide hazard mitigation regional course
- Conduct of hazard specific courses in universities

- Support for joint research and curriculum development in the selected universities
- Development of distance education course
- First offer of the distance education course
- Trial run of the distance education course at ITC Netherlands
- Offer of the distance education course to the faculty members, staff and post-graduate students of the selected universities
- Adaptation of distance education course
- Marketing of distance education course
- Final workshop

Main Results Achieved

- The target countries have experienced extreme events in the recent past resulting in considerable losses. Disaster risk management has become an imperative feature for most of the vulnerable countries. Therefore the development of postgraduate programs in the universities, eventually leading to Master of Science degree programs on Hazard and risk assessment have contributed immensely towards enhancing the capacity of the professionals involved in implementation of risk management programs for the benefit of vulnerable communities.
- The CASITA project has provided an active forum for faculty and students of the universities for sharing of information, data on case studies, and course materials. Therefore networking of Asian universities of similar interest and academic programs with European institutions was the key achievement of the CASITA. At the final workshop it was decided to convert the network into a permanent network. More universities are expected to join this network in future.
- The disaster situations and the socio-economic situations are different in the target countries. A serious difference is also present in terms of level of subject knowledge of disaster risk management, land use planning, etc and the level in expertise in application of tools such as GIS/RS. Therefore the needs and capacity assessment on subject matter as well as the capacity and infrastructure needs of respective universities were used in development of curriculum on disaster management.
- With IIRS a joint MSc course on Geo-information for Hazard and Risk Analysis had been developed, and the first group of MSc students recently graduated at IIRS. UGM had also developed an MSc programme on Geo-Information for Disaster Management, with the support of ITC, which resulted in a joint MSc degree. Chiang Mai University(CMU) has developed MSc courses in Geo-informatics with emphasis to Natural hazards and University of Ruhuna is in the process of obtaining approval from the University Grant commission, for the conduct of a master's course on Disaster management which had been finalized during the project period. The course material and case studies too have been finalized.
- The faculty members of the partner universities had the opportunity to enter into collaborative programs especially joint research and publications with European universities and to share the experience in Asia with European counterparts. The European partners were able to have research assignments in Asia in a new environment.
- The CASITA Phase II website was established which is regularly uploaded for updates on CASITA II activities. CASITA II information is also available on the ITC blackboard distance learning platform-<http://bb.itc.nl>
- The guidelines for research work were developed by ITC and were given to universities for collection of data to have uniformity in information to be gathered.
- The Master Programme on Disaster Management at Post-graduate Institute of Science (PGIS) in Peradeniya University, Sri Lanka, had been supported by ADPC and ITC.(This is not a planned activity).The support was provided for curriculum review and conduct of Hazard specific courses and resource inputs for the conduct of several sessions. In the same way the Master Programme on Disaster Management conducted by the Brack University of Bangladesh was supported by ADPC.These are two additional involvements under the project which were not foreseen during project development stage.

- Hazard specific courses on Tsunami wave Modelling, Landslide Hazard Mitigation, Urban Disaster Management, Earthquake Vulnerability Reduction for Cities, Damage and Loss Estimation for Recovery Planning and Disaster Risk Management, Community Based Disaster Management courses contributed towards skill and knowledge enhancement of the partner Universities, its faculty and students.
- The distance education course on “multi hazard risk assessment” has been finalized and pilot tested through the conduct of the course in ITC and IIRS in India. The review has been carried out during the workshop on curriculum development of distance education course on “multi hazard risk assessment” in November 2005. It helped immensely in the finalization of the distance education course on “multi hazard risk assessment” .It is a course developed to be conducted partly as a web based and partly as an interactive distance course.
- During the final workshop the participant felt the need for establishing a formal network by converting the Project based network in to a formal network. The ADPC and ITC will act as the facilitators and technical institutions and continue technical assistance to universities. The areas of future collaboration have been discussed and a work plan has been formulated(Reference ;the proceedings of the CASITA final workshop)

Project outputs till date

Year 1

1. Proceedings of the kick-off workshop
2. Detailed project work plan and tasks assigned to partners
3. A report on capacity assessment, inventory of needs and opportunities
4. Trip report by four participants from the partner universities attending the short course on GIS and Remote Sensing for Natural Hazard and Risk Assessment at ITC, The Netherlands
5. Course report on Urban Disaster Management Course at Chiang Mai University
6. Report on Regional Training Course on “Tsunami Wave Modeling & Multi-temporal satellite image processing and analysis of the impact of the December 26th event , 28th March – 1 April 2005, Bangkok, Thailand
7. A website of the project
8. Guidelines of joint research
9. Post graduate curriculum on GIS/RS for natural hazard and risk assessment , resulting in two papers ready for publication till now
10. Outline of distance education course on Multi-hazard risk assessment developed for review and feedback at development workshop on curriculum development of the distance education course at Hanoi, Vietnam on 14 to 25 November 2005
11. Minutes of the mid-term workshop
12. CD of presentations of the development workshop on curriculum development of the distance education course on “Multi-hazard risk assessment”

Year 2

13. A summary report on the Community Based Disaster Risk Management (CBDRM) course conducted in UGM on 21-23 March 2006
14. A summary report on the Disaster Risk Management (DRM) workshop at RU on 2-4 May 2006
15. A report on the second trial run of the distance education course held in ITC-The Netherlands
16. Seven Research papers submitted by participating universities of CASITA 2 to the 6th Asian Seismological commission (ASC) annual proceedings. ASC has accepted all 07 papers for publication and oral presentation in the sessions, which was held on November 7-10, in Bangkok. See website for presentation schedule <http://www.asc1996.netfirms.com/asc2006/general.htm>
17. Research Papers prepared jointly by ITC/IIRS and presented at the International Symposium on Geo-information for Disaster Management, held in Goa from 25-26 September 2006. See website for the abstracts: <http://commission4.1uphost.net/gi4dm.html>
18. One joint paper was presented jointly by ITC and UGM at the International Symposium on Geo-information for Disaster Management, held in Goa from 25-26 September 2006
19. Proceedings of the final workshop held in Bangkok on 4-5 November 2006

20. A CD of university project outputs and accomplishment during the final workshop
21. Web based material available in the web site on the courses conducted during the CASITA Phase II.

Difficulties encountered

- The project target countries have been affected by one of the most devastating events of the recent history the Indian Ocean Tsunami of 2004 December. This has generated an additional workload to participating universities and also to Technical partners. The project activities were carried out without delays despite the difficulties encountered due to extra workload.
- The demand for additional courses had to be met. In addition to Tsunami disaster in 2004 December there were several other serious devastating disaster events occurred in the project target countries during the project period. For example a powerful earthquake has affected one of the project target areas of Yogyakarta where the University of Gadjah Mada is located. The event generated a need for additional courses on Earthquake Vulnerability Reduction and Loss estimation. Also there was a need for helping them in conducting a rapid assessment of earthquake damages. In the same way Chiang Mai province of Thailand and several provinces of Sri Lanka hit by flash flooding and landslide events. Although project funding was limited to undertaking project activities, technical partners have assisted the countries through meeting the new demand. Up to some extent additional resources could be used but mainly it was possible through realignment of project based resources.

II. Implementation of Activities versus Work Plan and Logical Framework

- Ensure that the activities are consistent with those indicated in the work plan and logical framework relevant to that period. Highlight and justify any divergence.

Describe:

- The activities implemented in relation to the activities described in your work plan and logical framework.
- Quantify activities and outputs where applicable, according to the logical framework and the objective verifiable indicators included.
- Explain any divergences between planned and actual activities.
- Describe the actual resources used compared to planned.
- Highlight any changes to the logical framework, if any.

CASITA II Activities versus Work Plan and Logical Framework
(based on revised logical framework as of September 2006)
Contract TH/Asia ITC II/04 (96405)

Table 1

Activity No. and Title		Objective Verifiable Indicators	Qualitative Results
Activity 1:	Kick-off workshop of the project partners	Proceedings of the project kick-off workshop prepared	The kick-off workshop took place on 14-15 February at ITC, Netherlands with ten Participants from ADPC, BU, ITC, Thailand, Sri Lanka, Indonesia and invited experts from Norway Geotechnical Institute (NGI). During this workshop the project planning was done with the main partners and agreement was reached on a detailed outline of activities and methodology of execution. A detailed work plan was prepared identifying appropriate dates for workshops, trainings and other activities and the roles of each partner. Sub-contracts on the partnership for execution of activities under the project were also finalized. The minutes of the kick off meeting was one of the main project outputs. (see Year 1 annexes for the proceedings)
Activity 2:	Needs Assessment workshop of project partners and universities	Project reports on need assessments prepared	Needs assessment of four of the universities under the CASITA Phase II was carried out <ol style="list-style-type: none"> 1. Indian Institute of Remote Sensing, Dehradun, India 2. Gadjah Mada University, Indonesia 3. University of Ruhuna, Sri Lanka 4. Chiang Mai University, Thailand <p>These universities were approached to obtain more information on the needs and special features to be included in academic programs. The needs assessment was conducted by ADPC and ITC through email discussion list, questionnaire survey, preliminary assessments and interviews and visit to the selected universities. As a result of this activity a report on capacity assessment, inventory of needs and opportunities for the partner universities was produced. (see Year 1 annexes for the report)</p>

Activity 3:	Implementation of a communication strategy for the project	Increase in number of hits to the CASITA website and knowledge sharing through blackboard	<p>The strategies which were discussed and agreed during the kick-off meeting for implementation of effective communication links between partners and beneficiaries, adopted throughout the project. The CASITA website has been regularly updated with all the updates and activities. Knowledge sharing continued through Blackboard, an Internet-based platform for E-learning have been used under the project phase I. Updates on CASITA activities were circulated through ADPC's monthly e-Newsletter with more than 2500 subscribers. CASITA II information is available on the ITC blackboard distance learning platform http://bb.itc.nl. A separate web portal was created for the project by ADPC and is being maintained by ADPC. The website address is www.adpc.net/CASITA/default.html</p>
Activity 4:	Short course on GIS and Remote Sensing for Natural Hazard and Risk Assessment at ITC, The Netherlands	Ten trained university staff/post graduate students by ITC on modern ITC applications such as GIS/RS in hazard and risk assessment	<p>The selected faculty from the participating universities were awarded fellowship to follow a three-month short course on the use of GIS and Remote Sensing for Natural Hazard and Risk Assessment in ITC, the Netherlands 14th February to 13th May 2005. It was an intensive tailor made course on application of IT&C tools for hazard and risk assessment and data capturing, data analysis and data presentation. The course comprised 4 modules each of three-week duration. The selected participants were also exposed to use of the Blackboard tool for course support. The participants were:</p> <ol style="list-style-type: none"> 1. Mr Rahul Srivastav, IIRS Dehradun 2. Dr. V. Hari Prasad, IIRS Dehradun 3. Dr. Sudibyakto, UGM, Indonesia 4. Mr. Tawee Chaipimonplin, CMU, Thailand 5. Prof. P. Liyana Arachchi, University of Ruhuna, Sri Lanka <p>A report on Short course at ITC by the four partner universities was one of the project outputs. (see Table 2 below for the specific number of beneficiaries)</p>
Activity 5:	Development of guidelines for a joint research program	Post graduate Master degree courses established at least in 03 universities in Asia and at least 04 Joint research outputs based on scientific papers written and published	<p>It was considered that the postgraduate courses to be more sustainable the same should be accompanied by a research programme. The research programs under the purview of CASITA 2 focused on applications of GIS/RS in natural hazard and risk assessment. The guidelines for research were developed by ITC and were given to universities for collection of data to have uniformity in information to be gathered.</p> <p>The report on guidelines for research was one of the project outputs under activity 5. (please Table 2 for quantifiable result)</p>

Activity 6:	Conducting landslide hazard mitigation regional course		During the project period ADPC in partnership with Norwegian Geotechnical Institute (NGI) implemented the 1st phase of Asian Program for Regional Capacity Enhancement for Landslide Hazard Mitigation (RECLAIM) in six countries in Asia through funding from the government of Norway. The faculty and postgraduate students from the selected four partner universities also participated in the International Seminar on Landslide Risk Management, 6 th June in Colombo, Sri Lanka and also in the Regional Training course on Landslide Risk Mitigation from 8-12 th June at Bandarawela, Sri Lanka. A short report on the two events is attached as an annex.
Activity 7:	Conducting hazard specific courses in universities	At least 10% increase in number of young professionals knowledgeable in modern tools for disaster management	<p>Ten courses have been organized at the national level for the CASITA II member universities. The courses delivered have helped to enhance the knowledge and built the capacity of young professionals, academics and students. The courses conducted are regional course on "Tsunami wave modelling & multi-temporal satellite image processing and analysis of the impact of the December 26th event", national courses on Urban Disaster mitigation course, Community Based Disaster Risk Management, Urban Disaster Risk Management, Earthquake Vulnerability Reduction, Damage and Loss Estimation for Recovery Planning. Further to the hazard specific courses, the target participants were also trained through the modules on the Use of GIS/RS for Coastal Hazard Studies, Application of High Resolution Imagery for Landslide Inventory, Hazard and Risk Assessment and Dynamic Modelling.</p> <p>(Please see Table 2 for no. of beneficiaries)</p>
Activity 8	Support for joint research and curriculum development in the selected universities	The course brochure, curriculum and the calendar Papers published in journals or presented in conferences	<p>During the project period, support for post graduate research and curriculum development has been provided to each selected universities depending on the specific needs and requirements as per the discipline. The curriculum is specific to the socio-economic and hazard environment of each country.</p> <p>In UGM, with the MSc course on Geo-informatics for Disaster Management in place, further discussion were held and support was provided as a preparation for the planned UGM-ITC joint MSc on Spatial Planning and Disaster Risk Management. Few UGM selected students also participated in ITC to test out the MSc supervision procedure in preparation for the joint MSc program scheduled for September 2006.</p>

			<p>IIRS' MSc course on Geoinformation for Hazard and Risk Analysis was developed with support from ITC and the support continues and IIRS plans to review its syllabus and identify broad research themes with an expert committee.</p> <p>The University of Ruhuna has approved a 3-credit course curriculum on Natural Disaster Management and Natural Hazard studies in Sri Lanka. A few case studies were also developed on the applications of IT&C in hazard specific mapping. RU also explored the opportunities in developing course curriculum for Undergraduate program on GIS and RS Application for Disaster Management Application</p> <p>CMU is continuously developing new subjects related to disaster and development to be integrated into new master program in Disaster Management.</p> <p>Technical assistance to the Master Programmes on Disaster Management at (PGIS) in Peradeniya University, Sri Lanka, BRAC University, Bangladesh was materialized as an additional effort under the project.</p> <p>(Please see Table 2 for papers and journals presented and published)</p>
Activity 9	Development of distance education course	Task force for development and modification of course and the final developed course material	<p>Based on the materials and case studies developed during the first phase of CASITA project, a distance education course on natural hazard and risk assessment has been developed. The Blackboard has been used as a virtual platform for development of the course. A workshop for curriculum development of the distance education course on "Multi-Hazard risk Assessment" took place in Hanoi, Vietnam from 14th to 25th November 2005. It was considered as the first trial run of the distance education course. The refresher course focussed on presenting the outline of the distance education course on "Multi-hazard risk assessment" for evaluation by experts in training in the field of Geo- Information for Disaster Management. Participants were mostly the senior lectures representing universities in the CASITA network. This workshop was very interactive with a lot of feedback from the participants, which would help in introducing further modifications to course material for making them more oriented towards target audiences. It was also decided during the workshop that the course would be made partly interactive and partly web based as most of the purely web based courses have a lot of dropouts and there are a lot of factors and variable conditions in various countries which make them non conducive.</p>

Activity 10	Mid –term workshop	Workshop proceedings	<p>All the project partners participated in the Mid Term workshop held in Hanoi, Vietnam on 12th June 2005 to review the status and progress of the 1st year activities carried out under CASITA Phase :</p> <ul style="list-style-type: none"> ▪ to review the status and progress of curriculum development ▪ to review the joint research activities ▪ to comment on the distance education course and its delivery ▪ to discuss the problems faced by each university and plan for the next year <p>The decisions reached at the mid term workshop were</p> <ul style="list-style-type: none"> - The distance-based course will not be totally Internet based. It would be partly web based and partly interactive. ADPC would be the core agency to operate and moderate the course. The course would be further developed by ITC with inputs from ADPC and BU. - The trial run of the course on "Multi-hazard risk assessment" to be held in ITC, from 25 April to 12 May 2006. - Technical Support to be provided to the conduct of Master Programme on Disaster Management at (PGIS) in Peradeniya University, Sri Lanka - The marketing of the distance-based course will be done through the existing networks of ADPC, ITC and BU and also of the partner universities. Main lead for this activity will be ADPC - Two short courses each, one on Urban Disaster Mitigation and another one on Damage and Loss estimation, will be conducted in all four partner universities. The timing of these courses have been tentatively decided. ADPC will take the lead in conducting these courses - More emphasis has to be laid on research by Universities and production of research papers. The final output should show, at least one paper from each partner university - The Universities have to show more initiative and should be more proactive - The joint postgraduate programs in IIRS and UGM have already commenced. The other two universities have to take initiative for starting these specialized courses during the project period - The final workshop would be held in Bangkok. The core project team, and selected universities will review the outcome of the project during this workshop. ADPC will be responsible for organization of this workshop
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Activity 11	<p>First Offer of the Distance Education Course</p> <p>Trial Run of the Distance Education course at ITC Netherlands</p> <p>Offer of the Distance Education course to the faculty members, staff and post-graduate students of the selected universities</p>	<p>The course established on ADPC website and published in training calendar</p> <p>Positive feedback by the participants of the course</p> <p>Positive feedback by the participants of the course</p>	<p>The second trial run of the CASITA course on Multi-Hazard Risk Assessment was given from 24 April to 12 May in the International Institute for Geo-Information Science and Earth Observation (ITC), Enschede, the Netherlands. As was concluded in the course development workshop held in Hanoi in November 2005, the course was conducted as a distance education supported course, rather than a full distance education course, where the participants were in different locations. In this activity, participants were in the same location, which greatly improved the possibilities for interaction between the participants, and allowed 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.</p>
Activity 12	Adaptation of distance education course	The final course material	<p>The distance education course was tested in India, in IIRS. A course was given together with the National Institute for Disaster Management (NIDM), and the Indian Institute of Remote Sensing (IIRS) in Dehradun, on 10-14 July in IIRS India. Input was given in the form of distance education lectures using SKYPE by ITC and ADPC.</p>
Activity 13	Marketing of distance education course	Worldwide dissemination of knowledge on multi hazard risk assessment	<p>This activity is being continued beyond the project grant period. Up to date marketing of the course was done using different forums and tools such as Regional meetings, Regional courses, Newsletters, electronic newsletters etc. The course curriculum was presented to the 6th ADPC Regional Consultative Committee Meeting participants (Disaster Management focal points of 18 Asian countries) held in China in November 2006. The CASITA final workshop was used to market the course among the universities involved in the CASITA phase I. ADPC has provided details on the newly developed course in the electronic newsletter and its quarterly publication of Asian Disaster Management News. Also it has been included as an activity in the new proposals submitted for funding by technical partners, ADPC and ITC. As a result the course will be conducted in March 2007 by ADPC and ITC jointly for five project target countries under the Program for Hydro-meteorological disaster management for secondary cities (PROMISE) funded by USAID/OFDA.</p>

Activity 14	Final workshop	Effective participation and feedback by CASITA 1 and CASITA 2 partners	<p>The final workshop was held on 4-5 November 2006 in Bangkok, Thailand participated by 30 participants from the CASITA network universities and institutions established in the first phase of the project. During the workshop, the outputs of CASITA 2 project were shared with the wider CASITA partners. In addition to the presentation of the project outputs (course materials and outcome of research studies), the lessons learned, effectiveness of distance education program, and strategies for sustainability of the project were also presented and discussed.</p> <p>During the final workshop the participant felt the need for establishing a formal network by converting the Project based network in to a formal network. The ADPC and ITC will act as the facilitators and technical support to the participating institutions and continue the assistance to universities. The areas of future collaboration have been discussed and a work plan has been formulated</p>
Activity 15	Preparation of final report	Final report reflecting the success and sustainability of the project	The final report reflecting the success and sustainability of the project plus audit report and final payment request is submitted to the EC office as required.

The activities implemented are summarised in the Table 2 below:

Activities	Indicators	Means of verification	Quantification
ACTIVITY 1 Kick off Workshop of Partners			
The kick-off workshop on 14-15 February at ITC, Netherlands	Ten Participants from ADPC, BU, ITC, Thailand, Sri Lanka, Indonesia and Norway.	Proceedings of the workshop	1
ACTIVITY 2 Needs assessment Workshop of project partners			
Completion of needs assessment of the four partner universities and compilation of the results and submission of the report	- Electronic distribution list - Preliminary assessments and interviews - Questionnaires sent to the universities	Needs assessment report	1
ACTIVITY 3 Implementation of a communication strategy for the project			
A strategy for implementation of effective communication, between partners and beneficiaries, was adopted which would be implemented throughout the project	ADPC website Emails to CASITA network ITC Blackboard site	CASITA II website (www.adpc.net/CASITA/default.html) Regular updates on CASITA II activities in ADPC's monthly e-News CASITA II information is also available on the ITC blackboard distance learning platform- http://bb.itc.nl Scholarship announcements in CASITA II website http://www.adpc.net/casita/casita_researchscholarship.html Web Based virtual platform for e-learning	05
Linking of CASITA website to the website of the Department of Geography of the University of Bonn and as well to the website of the working group of the involved staff from Bonn University. Additionally, the ITC has been linked to the Department of Geography of the University of Bonn.	Department of Geography, Bonn University website	http://www.giub.uni-bonn.de/personal/welcome.html ; http://www.giub.uni-bonn.de/gidi/seiten/research.html	NA
ACTIVITY 4 Short course on GIS and Remote Sensing for Natural Hazard and Risk Assessment at ITC, The Netherlands			

Short course on GIS and Remote Sensing for Natural Hazard and Risk Assessment at ITC from 14 th February to 13 th May 2005	One participant from each of the four university received fellowship from the project to attend the short course at ITC.	A short trip report by each participant	1 report compiled By 05 faculty staff attended the course
4 MSc students from Gadjadara University spend 3 months at ITC, to test out the MSc supervision procedure in preparation for the UGM-Itc joint MSc on Spatial Planning and Disaster Risk Management to be initiated on September 2006	Enhancement of skills and knowledge development of students from UGM and further curriculum development of UGM-ITC programme	Research made by UGM participating MSc students on selected hazard-specific topics Report by ITC and UGM	4
7 IIRS MSc students have come to ITC for a 3 months period (March-June) as part of the joint MSc course on Geo-hazards between IIRS and ITC	Knowledge development and enhancement of skills of the selected students of IIRS	Report made by Dr. Cees van Westen, ITC	7
ACTIVITY 5 Development of guidelines for a joint research program			
Development of guidelines for a Joint research program	Joint research undertaken by partner universities.	Guidelines for joint research developed	1
Development of guidelines for a Joint research program. Information of various research activities at ITC, ADPC and Bonn University as well as the four partner universities was added. Links to websites providing free soft software, remote sensing information and tutorials was added	Joint research undertaken by partner universities	The final guidelines	1
ACTIVITY 6 Conducting of landslide hazard mitigation regional course			
Organization of International seminar on Landslide risk Management, Colombo, 6 th June 2005 and Regional Training Course on landslide risk Mitigation at Bandarawela, 7-12 th June 2005. These courses were jointly organized by ADPC, NGI, Norway and NBRO, Sri Lanka	About 100 persons, including the chief guests and organizers, attended the international seminar 23 participants from six partner countries and 4 partner universities of CASITA II participated in the regional training courses	Proceedings of the events, short trip report, course presentations and documents	1
Activity 7 Conducting of hazard specific courses in universities			
Regional training course on "Tsunami wave modeling & multi-temporal satellite image processing and analysis of the impact of the December 26 th event" organized by ADPC in partnership with AIT, ITC and ITB Indonesia	12 participants from 6 countries - India, Sri Lanka, Bangladesh, Thailand, Indonesia and Philippines.	Report of the training course	1

Organization of Urban Disaster mitigation course, Chiang Mai, 9-11 April, 2005 in collaboration with Chiang Mai university	57 participants attended the course	Report on the UDM course	1
Conduct of the 'CBDRM' course at UGM from 21-23 March 2006	Knowledge development and enhancement of skills of 25 participants from UGM	Presentations, training course report, evaluation by the participants	1
Workshop on Disaster Risk Management conducted for university undergraduate students and faculty at Ruhuna University on 2-4 May 2006	Knowledge development and enhancement of skills of 71 students	Mission report by ADPC	1
Short course on Disaster Risk Management conducted for the post-graduate students of PGIS University of Peradeniya in Sri Lanka on 26-27 May 2006	Enhancement of skills and knowledge development of about 100 PGIS students	Presentations made by ADPC Email exchanges between ADPC and PGIS, University of Peradeniya	1
A course was given by ITC staff M.C,J. Damen at the Postgraduate Institute of Science (PGIS) of Peradenya University from 7-10 July 2006 on "Use of GIS and RS for Coastal hazard studies".	Enhancement of skills and knowledge development of the PGIS students and faculty members	Trip report by M.C,J. Damen and presentations made in the Postgraduate Institute of Science (PGIS) of Peradenya University	1
Visit of 2 ITC staff (Dr. Dinand Alkema and Theo van Asch) to Sri Lanka to give 1 week course on Dynamic Modeling in Sri Lanka with participation from the Ruhuna University faculty	Enhancement of knowledge and skills for Ruhuna University staff	Report made by Dr. Cees of ITC	1
Teaching contribution of Prof. Dr. Thomas Glade of Bonn University to the Training Cum Field Workshop on Application of High Resolution Imagery for Landslide Inventory, Hazard and Risk Assessment on 27 February – 17 March 2006	Enhancement of skills and knowledge development for the selected staff from different Indian offices of Geological Survey of India (GSI) Training Institute in the area of remote sensing techniques and its application to landslide hazard and risk issues	Mission Report by Bonn University	1
Short course on Earthquake Vulnerability Reduction for cities has been conducted during 25-27 August for the post-graduate students of UGM University following the earthquake in Yogyakarta.	Enhancement of skills and knowledge development of the UGM faculty and PG students (27 participants)	Presentations made by ADPC Email exchanges between ADPC and UGU,	1
Short course on Loss Estimation and Damage Assessment has been conducted during 28 August-1 September for the post-graduate students of UGM University following the earthquake in Yogyakarta.	Enhancement of skills and knowledge development of the UGM faculty and PG students (27 participants)	Presentations made by ADPC Email exchanges between ADPC and UGU,	1

ACTIVITY 8 Support for joint research and curriculum development in the selected universities

Support for curriculum development in the selected universities and joint research work.	Visit by ITC specialists to partner universities	Travel by ITC personnel to these universities	NA
*Visit by Dr. Cees van Westen of ITC to Department of Geography, ChiangMai University, 22-24 June 2005	Discussion with Faculty of Department of geography for introduction of more modules within the M Sc on Geoinformatics dealing with Disaster Management	Mission Report by ITC	1
Workshop on research collaboration with Department of Geography, Ruhuna University: 27 June- 28 June 2005	12 Teaching staff of Department of Geography attended the course	Mission Report and Workshop report by ITC	1
Workshop on curriculum development and joint research with Gadjah Mada University, 2-8 July 2005	6 faculty staff participated for discussions on planning and implementation of the Joint MSc program agreement, library support, support from ITC staff, software, and research collaboration.	Mission Report by ITC	1
Visit for research collaboration by D. Rossiter, ITC to IIRS, India: 20 August-4 September, 2005	Review of the Joint ITC-IIRS M Sc Programme and joint research work undertaken	Mission Report by ITC	1
Research work done by Bonn university on use of remote sensing data for mapping of landslides	Research work done by Mr. Torsten Drey from Bonn University in Chiang Mai with support from ITC	PhD Progress report	1
Announcement of M.Sc program on Geo-Information for Disaster management by Gadjah Mada University, with support from ITC	Enrollment of students for the above course	Brochure and announcements by Gadjah Mada University (GMU), Indonesia	1
Publication of two joint papers with partners Universities	Joint research work undertaken	Singh, L.P., van Westen, C.J., Champati Ray, and P.K. Pasquali, P. (2005) Accuracy Assessment of InSAR derived Input maps for Landslide Susceptibility Analysis: A Case study from the Swiss Alps. In: Landslides: journal of the International Consortium on Landslides, 1 (2005) Khatsu, P. and Van Westen, C.J., (in preparation) Urban multi-hazard risk analysis using GIS and Remote Sensing: A case study from Kohima Town, Nagaland, India – Proceedings Asian Conference on Remote Sensing, November 2005, Vietnam. Accepted for publication)	2

Acceptance of a final version of the proposal by BU for the joint PhD project within the framework of the CASITA II project by ITC	Literature review about the use of optical remote sensing data for the mapping of landslides, which can be provided to the four participating universities	PhD progress reports	1
Visit by ADPC staff to IIRS Dehradun for planning the agenda and organization of short course at IIRS	Course planned for either march or July 2006	Mission report	1
Visit by Dr. Cees van Westen of ITC to Gadjah Mada University	Further curriculum development of the M.Sc course on Geo-informatics for Disaster Management	Mission Report by ITC	1
Research on mapping analysis of landslides triggered by hurricane Stan on October 2005 in Guatemala initiated by BU	Intensify contacts with different institutions and people involved in landslides mapping activities in Guatemala and imparting of knowledge through proposed joint research activity	Progress report submitted by Torsten Drey	1
Visit of the new IIRS course coordinator, I.C. Das to ITC to discuss collaboration and organization of the joint course and to work on the distance education component	Further course development and distance education adaptation using Blackboard, MSN, Yahoo and SKYPE	Report received from ITC	1
2 UGM staff members (Dr. Pramono Hadi and Dr. Junun Satohardi) visited ITC for a period of 3 weeks to discuss collaboration and the management of the joint Msc course	Further course curriculum development and finalization of MSc course programme	Report submitted by UGM and ITC	1
Visit made by ITC staff (Dr. Norman Kerle) to Yogyakarta to advice on a joint work related to damage assessment of the recent earthquake in Yogyakarta on the use of Remote Sensing for building damage assessment	Shared knowledge and application of theories learned into the actual disaster event	Activity report by ITC	1
Joint supervision of 7 IIRS MSc students by both IIRS and ITC staff. They have been to ITC for a period of 3 months, and went back to India to work on their MSc research	Technical assistance for Enhancement of skills and knowledge of Postgraduate students. Up gradation of standards	Trip Report on the mission carried out by ITC staff. Email exchange between ITC and IIRS	1

Research papers by participating universities of CASITA 2 to the 6 th Asian Seismological commission (ASC) annual proceedings. ASC has accepted all 07 papers for publication and oral presentation in the sessions, which was held on November 7-10, in Bangkok. See website for presentation schedule http://www.asc1996.netfirms.com/asc2006/general.htm	Shared knowledge and application of theories learned into the actual disaster event	Abstract submitted to ADPC by CASITA participating universities to the ASC 6 conference	7
Research Papers prepared jointly by ITC/IIRS and presented at the International Symposium on Geoinformation for Disaster Management, held in Goa from 25-26 September 2006. See website for the abstracts: http://commission4.1uphost.net/gi4dm.html	Shared knowledge and application of theories learned into the actual disaster event	Abstract submitted by ITC/IIRS and uploaded in the International Symposium website	2
One joint paper was presented jointly by ITC and UGM at the International Symposium on Geo-information for Disaster Management, held in Goa from 25-26 September 2006	Shared knowledge and application of theories learned into the actual disaster event	Paper submitted and presented to the symposium	1
ACTIVITY 9 Development of distance education course			
Preparation and development of the distance education course on "Multi-hazard risk analysis"	Task force for development of the distance education course	Presentation of the distance education course at the Refresher course in Hanoi from 14-26 November, 2005	NA
Adaptation of existing course material at Bonn University concerning hazards, risk and vulnerability for the distance education course	Adaptation of the new course	Presentation of the distance education course at the Refresher course in Hanoi from 14-26 November, 2005	NA
Workshop on Curriculum development of the distance education course on "Multi hazard risk assessment", 14-25 November 2005 , Hanoi , Vietnam	Presentation of the developed distance education course for modifications and comments by experts in the field	List of participants and agenda of the workshop	1
ACTIVITY 10 Mid-term Workshop			
Preparation of CASITA Phase II, Mid-tem workshop and Refresher course at Hanoi, Vietnam	Collaboration and exchange between ITC, ADPC and Hanoi Architectural University	E-mails and Invitation letters to the participants Participants list	NA

CASITA midterm workshop , 12 th November 2005, Hanoi, Vietnam	Review of the activities during first year and action plan for the coming year by ADPC, ITC and BU as well as representatives from the four partner universities	Minutes of the Mid term workshop	1
ACTIVITY 11 First offer of the distance education course			
Preparation and development of the second trial run of the distance education course on "Multi-hazard risk analysis" at ITC from 25 th April to 12 th may 2006	Task force for development of the distance education course	Presentation of the distance education course at the Refresher course in at ITC	1
Second trial-run of the CASITA Course on Multi-Hazard Risk Assessment held in ITC from 24 April-12 May 2006	Developed course materials uploaded to CASITA blackboard serving as main vehicle in the dissemination of all course materials. Course delivery via internet using MSN Messenger, and through video-conferencing	Activity report received from Dr. Cees van Western and summary of evaluation by participants	1
ACTIVITY 12 Adaptation of distance education course			
The distance education course was tested in India, in IIRS. A course was given together with the National Institute for Disaster Management (NIDM), with Binod Doley (NIDM) and Hari Prasad (IIRS) as coordinators, from 10-14 July in IIRS India. Input was given in the form of distance education lectures using SKYPE by Cees van Westen (ITC) and Arambepola & Arghya Singha Roy (ADPC).	Enhancement of skills and knowledge development of the PGIS students and faculty members	A CD with all training materials, which was produced. Presentations made by ADPC and ITC Email exchanges between ADPC, ITC and IIRS	1
ACTIVITY 13 Marketing of distance education course			
The course curriculum was presented to the 6 th ADPC Regional Consultative Committee Meeting participants (Disaster Management focal points of 18 Asian countries) held in China in November 2006. The CASITA final workshop was used to market the course among the universities involved in the CASITA phase I		Mission trip report by ADPC to the RCC meeting, Agenda of the CASITA II final workshop	NA
ACTIVITY 14 Final Workshop			

Preparations for the final workshop of CASITA II with the participation of all universities of CASITA phase I to evaluate the progress and achievements.	Monitoring and evaluation of the project performance under CASITA phase II	Agenda of the meeting, invitations and acceptance letters forwarded	1
CASITA II Final Workshop was held on 4-5 November 2006 in Bangkok, Thailand participated by the selected universities and participants from the CASITA 1 & II network	CASITA phase II project monitoring and evaluation	Proceedings of the workshop submitted to EU, and circulated to ITC, and BU	1
ACTIVITY 15 Preparation of final report			
CASITA 2 final report preparation	Final report reflecting the success and sustainability of the project	Report submitted to EC	1

III. Partnership

Information on the functioning of the Partnership should be provided here:

- What has been the main role of each partner in implementing the activities described?
- What have been the main strengths and weaknesses of the partnership during this period?
- Describe any problem faced and how you have overcome the obstacles.

The partnership between ADPC, ITC and BU has been very fruitful in implementing various activities according to time plan as can be seen from the table below:

The main strength of the partnership has been the excellent collaboration and communication between the partner organizations. No weaknesses have been found during the entire project duration.

Activity	Responsible Partner(s)
YEAR I	
Kick-off workshop Organization	ITC (lead) with inputs from ADPC
Planning of activities in the project	ITC, ADPC, BU with 04 partner universities
Setting up of electronic distribution list	ADPC
Needs assessment of the universities	ADPC and ITC
Short Description of the project information for distribution through e-newsletter	ADPC/ITC/BU
Setting up of CASITA II website on ADPC server	ADPC with inputs from ITC and BU
Setting of space on blackboard environment and Uploading of files and Ongoing work on blackboard environment	ITC
Regular updates on CASITA II activities in ADPC's monthly electronic newsletter	ADPC with inputs from ITC and BU
Identification of representatives for the short course from the four universities and organization of the course	ITC with support from ADPC
Guidelines for Joint Research Programme	ITC with inputs from ADPC and BU
Regional Training course on Tsunami Wave Modelling	ITC and ADPC
RECLAIM Participants to get access to the Blackboard	ADPC & ITC
Needs assessment report	ITC in consultation with ADPC and BU
Conduct of the short course on GIS for the representatives from the four universities	ITC
Submission of the report by the four representatives on the short course	Compilation of the reports by ITC and submit to ADPC
Organization of the UDM course at Chiang Mai	ADPC and CMU
RECLAIM Participants to get access to the Blackboard	ADPC & ITC
Support for curriculum development in the selected universities and joint research work	ITC and ADPC
International seminar on Landslide Risk Management	ADPC and NGI
Regional training course on Landslide Risk Mitigation	ADPC and NGI
Workshop on research collaboration with Department of Geography, Ruhuna University	ITC and University of Ruhuna
Workshop on curriculum development and joint research with Gadjah Mada University	ITC and GMU
Visit for research collaboration by D. Rossiter, ITC to IIRS, India	ITC and IIRS
Publication of two joint papers with partners Universities	ITC and IIRS
Preparation of CASITA Phase II, Mid-tem workshop and Refresher course at Hanoi, Vietnam	ADPC and ITC
Mid term workshop at Hanoi on 12th November	ADPC and ITC
Preparation and development of the distance education course on "Multi-hazard risk analysis"	ITC with inputs from ADPC, BU and partner Universities
Development workshop on course development of distance education course on "Multi-Hazard Risk Assessment"	ITC and ADPC
YEAR 2	
Preparation and submission of Interim report and action plan for second year of CASITA	ADPC with inputs from ITC and BU
Disbursement of the second installment to ITC and BU	ADPC
Planning of activities in the project	ITC, ADPC, BU with 4 partner universities
On Going Work on CASITA II Website	ADPC with inputs from ITC and BU
Uploading of files and Ongoing work on blackboard environment	ITC
Regular updates on CASITA II activities in ADPC's monthly electronic newsletter	ADPC with inputs from ITC and BU
Visit to UGM for further curriculum development	ITC and UGM
Preparation and development of the second trial run of the distance education course on "Multi-hazard risk analysis" at ITC from 25 th April to 12 th May 2006	ITC with inputs from ADPC, BU and partner Universities

Conduct of the 'CBDRM" course at UGM from 21-23 March 2006	ADPC and UGM
Teaching contribution to the Training Cum Field Workshop on Application of High Resolution Imagery for Landslide, Hazard and Risk Assessment on 27 February-17 March 2006 in Hyderabad, India and Field visit to East India	BU with inputs from ITC
Preparation of conduct of training courses in University of Ruhuna and IIRS, India started	ADPC , University of Ruhuna and IIRS
Solicitation of 7 IIRS MSc students to ITC for the joint MSc course on Geohazards	ITC and IIRS
Participation of 4 UGM students for 3 months in ITC for the test run and development of the joint MSc on Spatial Planning and Disaster Risk Management	ITC and UGM
Visit of UGM staff for collaboration and management of the joint Msc course	ITC and UGM
Visit of ITC faculty to earthquake affected area in Yogyakarta	ITC and UGM
Course lectures and training made by 2 ITC faculty in Sri Lanka on Dynamic Modeling in Sri Lanka	ITC and University of Ruhuna
Research conducted by BU on application of remote sensing and hazard mapping in analyzing landslide triggered by hurricane Stan in Guatemala.	BU and ITC
Second trial-run on distance education course on Multi-Hazard Risk Assessment held in ITC from 24 April-12 May 2006	ADPC, ITC and partner universities
DRM course conducted at University of Ruhuna on 2-4 May 2006	ADPC and University of Ruhuna
Short course delivered to students of Post Graduate Institute Studies (PGIS)University of Peradeniya,	ADPC and University of Peradeniya
Preparation on "Awareness Course on Application of Geo-information in Disaster Management" by IIRS	IIRS with inputs from ITC, ADPC and CASITA partner institution in India (NIDM)
Resource inputs for field work by Dinand Alkema from ITC to three of the MSc students in the joint MSC between IIRS and ITC on HAZard and Risk Analysis	Conduct of field work by IIRS with inputs from ITC
Conduct of midterm review of the 7 MSC students of IIRS in the joint MSC course on Hazard and Risk Analysis by ITC staff Michiel Damen and David Rossiter and meetings with new MSc students from the next batch	ITC
On Going Work on CASITA II Website	ADPC with inputs from ITC and BU
Uploading of files and Ongoing work on blackboard environment	ITC
Regular updates on CASITA II activities in ADPC's monthly electronic newsletter	ADPC with inputs from ITC and BU
Joint supervision of 4 UGM MSc students by both UGM and ITC staff. They have been to ITC for a period of 3 months, and went back to Indonesia to work on their MSc research.	UGM with inputs from ITC
Conduct of flood study and ground survey by Peradeniya university and Ruhuna university for developing a flood simulation model for Kalu river basin in Sri Lanka with technical assistance from ADPC. This will be used as Case study material for conducting distance education program in Sri Lanka.	Peradeniya and Ruhuna universities with inputs from ADPC and ITC.
Visit of Dinand Alkema from ITC to ADPC for brainstorming about setting up an Asia level network of universities to promote usage of ITC in Disaster risk management as a follow up to CASITA II ensure sustainability of achievements under CASITA project Phase I & II.	ITC and ADPC, email communications between ADPC, BU and ITC with representatives from partner institutions..

Submission of 08 research papers To the Annual sessions of the Asian Seismological congress by university partners with inputs from ITC, ADPC, BU.All eight papers have been accepted by ASC for oral presentation and project has supported participation of university partners in the Regional workshop.	Project partners with inputs from ITC,BU and ADPC
Final workshop of CASITA phase II held on 4-5 November 2006 in Bangkok, Thailand	ADPC, BU and ITC and all collaborating partners

IV. Methodology and effectiveness

Describe the methodology applied and if any change has been produced from the initial methodology proposed:

- Management structure, showing current management capacity and technical expertise.
- Any changed needs or circumstances that have forced a change in management approach and the methodology.

There is no change in the management approach and methodology during the reporting period. The technical capacity and technical expertise envisaged in the proposal are adequate and no changes were made during the reporting period.

The methodology proposed in the project proposal has been followed:

The vast experience of the technical partners in conducting research and capacity building and implementing disaster risk management projects in target countries has been very useful in carrying out project activities as planned. It is hoped that partners will be able to further expand their interventions and replicate the experience of ongoing work to a larger number of other countries in the region. This project has provided each partner an opportunity to learn from each other and integrate the new experience to benefit their own organizations too.

Year 1

1. Joint brainstorming session during the kick-off workshop at ITC on 14-15 February was very effective in planning and discussing the activities and allocation of tasks and responsibilities among the partners. This methodology was also used for consultations with partner universities in order to find out their needs for curriculum development and joint research work.
2. The four selected participants from the universities underwent the short course on GIS and remote sensing for natural Hazard and risk assessment at ITC, which was an intensive tailor made course on application of IT&C tools for hazard and risk assessment and data capturing, data analysis and data presentation. All the four participants also used blackboard actively during their stay at ITC, which greatly enhanced their skills and provided them opportunities for learning by doing.
3. Training of faculty and participatory approach in training was used at the regional training course on "Tsunami wave modelling & multi-temporal satellite image processing and analysis of the impact of the December 26th event", which was organized by the ADPC in collaboration with AIT. The faculty members from ITC, ITB, Asian Institute of Technology and ADPC contributed in training and there was sharing of data and experiences among the participants.
4. Participatory approach(inter active sessions) in training was used at the international seminar and regional training course on Landslide Risk Mitigation at Sri Lanka. The personnel from Norwegian Geotechnical Institute (NGI), ADPC and National Building Research Organization (NBRO), Sri Lanka contributed in training and there was sharing of data and experiences among the participants from the six countries, Bhutan, India, Indonesia, Nepal, Sri Lanka and Thailand, involved in RECLAIM project. This approach was also used for training on Urban Disaster mitigation at Chiang Mai University.

The faculty and the professionals of the four partner universities were trained to make an assessment of the problems through joint research, collection, collation and analysis of data related to the disaster situation of each

country at city level. This training will allow them to assess the situation themselves in future. Future Research on the subject will pave the way for innovative solutions.

5. Strengthening of network of participating universities established under CASITA I by regular updates on CASITA II activities in its monthly electronic newsletter which is sent to about 2,500 subscribers including past and present CASITA network partners.
6. Guidelines on joint research opportunities enabled to train the faculty to make their own assessments of their country specific problems and innovative solutions.
7. Training of faculty was undertaken during workshops at University of Ruhuna, Gadjah Mada University and IIRS. This would also help them in learning by doing.
8. Guidelines on joint research opportunities enabled to train the faculty to make their own assessments of their country specific problems and innovative solutions.
9. Joint Brainstorming sessions were held out discuss the development of the distance education course on "Multi-hazard risk analysis". This will help country partners in their own assessment and conduct of the course at national level.
10. Collaboration and sharing of work between the partners for Organization of Mid Term workshop and the refresher course. The advantage is joint assessment and self critique on past activities under phase I and areas needed improvement.
11. Joint brainstorming sessions were held between the implementing partners and the four partner universities during the mid term workshop in Hanoi on the 12th November 2005. The brainstorming sessions helped in thrashing out the shortcomings and to plan for the future action for the next year
12. The development workshop on curriculum development on distance education course on "Multi hazard risk assessment" took place at Hanoi, Vietnam from 14th to 25th November 2005 which included lot of interactive sessions and feedback from the participants
13. There was no change in the management approach and methodology during the whole project period. The technical capacity and technical expertise envisaged in the proposal were adequate and no changes were made during the project period.

Year 2

1. Joint brainstorming sessions and participatory approach was used were used with the partner universities in order to find out their needs for curriculum development and joint research work.
2. Strengthening of network of participating universities established under CASITA I has been done by regular updates on CASITA II activities in its monthly electronic newsletter which is sent to about 2,500 subscribers including past and present CASITA network partners.
3. Joint Brainstorming sessions were held out discuss the development of the distance education course on "Multi-hazard risk Assessment".
4. Training of students on "CBDRM" was undertaken at the UGM by the ADPC staff so as to enhance their knowledge
5. Enhancement of knowledge and strengthening of network through teaching contribution by BU to the selected staff of Geological Survey of India (GSI) Training Institute
6. Created opportunities in applying research findings in real situation through establishment of new contacts by BU with people involved in the analysis of Guatemala hurricane Stan triggered landslides
7. Knowledge enhancement through training of Ruhuna University students and faculty by ADPC staff in Disaster Risk Management
8. Skills development and enhancement of knowledge of IIRS MSc students through participation in ITC joint MSc course on Geohazards
9. Joint brainstorming between IIRS and ITC on joint course and adaptation of distance education course
10. Training of UGM students in ITC to develop skills and enhance knowledge on Spatial Planning and Disaster Risk Management
11. Joint brainstorming between UGM faculty and ITC for further development of joint MSc course
12. Training of faculty in UGM by ITC in the application of IT&C and theories learned into the real disaster event
13. Course delivery and training by ITC staff to Ruhuna University faculty for further development of skills and knowledge enhancement
14. Development of skills and enhancement of knowledge through course delivery to PGIS students of the University of Peradeniya
15. Enhancement of knowledge and application of IT & C through the second trial run of the distance education course conducted in ITC-The Netherlands for CASITA university partners and other participating faculties.
16. Adaptation of distance education course and application of IT & C by IIRS and CASITA partner institutions
17. ITC supported it's counterpart University Gadjah Mada with the assessment of the damage to buildings in the Yogyakarta area after the earthquake of 6.2 Magnitude which occurred on 27 May. ITC provided 25 GPS systems

which were used by staff and students from UGM in the house-by-house survey and financial assistance for the survey.

18. 03 Research Papers prepared jointly by ITC/IIRS and presented at the International Symposium on Geoinformation for Disaster Management, held in Goa from 25-26 September 2006. See for the abstracts: <http://commission4.1uphost.net/gi4dm.html>

19. One joint paper was presented jointly by ITC and UGM at the International Symposium on Geo-information for Disaster Management, held in Goa from 25-26 September 2006.

20. Submission of 08 research papers by participating universities of CASITA II to 6th Asian Seismological commission (ASC) annual proceedings. ASC has accepted all 08 papers for publication and oral presentation in the sessions, which was held in November 7-10, in Bangkok.

21. Preparations for the final workshop of CASITA II in November 4-5 in Bangkok were as planned.

22. Conduct of the CASITA Phase II final workshop on 4-5 November 2006 in Bangkok, Thailand as planned. Proceedings of the workshop prepared and submitted to donor agency (EC) and circulated to CASITA II main partner organizations.

Changes adopted;

A mission which was planned to carry out joint research on flood hazard and risk assessment in Ratnapura, Sri Lanka together with University of Ruhuna and University of Peradeniya and ITC staff and students, had to be cancelled at the last moment, due to the escalation of civil unrest in some areas of Sri Lanka, due to the potential risk involved. This did not have any serious impact to project activities and ADPC has assisted in conducting flood simulation modelling of the Kalu river catchment with university of Peradeniya.

Dr. Thomas Glade from BU moved to Vienna to start his work as Professor at the Department of Geography and Regional Studies. With effect from August 2006 Torsten Drey started functioning as the BU coordinator of the CASITA II project activities.

V. Impact to date

List of achievements in concise format, e.g. bullet points or tabular

- Provide a list of project achievements to date. This section should allow persons not directly involved with the project to assess impact to date.
- What is the impact on target groups?
- What is the impact on applicant and partners?

Explain in which ways the project is increasing the technical and management capacities in the partner organisations.

- Is the project contributing to the achievement of the objectives of the Asia-wide Programme?

Each project should foster long lasting relations between the EU and Asian partners. There should be a transfer of know-how, and joint collaboration between EU and Asian organisations. Explain here how your project contributes to these aims and objectives.

Project achievements to date

Year I

- Networking of Asian universities of similar interest and academic programs with European institutions is the key achievement of the CASITA
- Needs assessment of the partner Universities was undertaken which has helped immensely in development of postgraduate curriculum on GIS/RS for natural hazard and risk assessment in two universities in Asia and gave shape to development of such courses in Chiang Mai university and University of Ruhuna also. Patnes can use the same in future for development of long term research programs.
- The expansion of network of the Asian Universities under CASITA 2 is proven by the fact that two more universities have seek support to the Master Programme on Disaster Management namely by the (PGIS) in Peradeniya University, Sri Lanka, and Brac University, Bangladesh. Also many other universities have sought support for integrating DRM subject in on-going curriculum. They have been added to the network.
- CASITA 2 gave impetus to research work undertaken in Bonn University, University of Ruhuna, University of Gadjah Madah and Indian Institute of Remote sensing, Dehradun
- Guidelines for joint research were established in order to help the universities in having uniformity in information to be gathered for research
- Regional training courses on "Tsunami wave modelling" and Landslide Risk Mitigation which were attended by the four partner universities enhanced their skills and knowledge on these subject areas

- Curriculum development of distance education course on “Multi-hazard risk assessment” was achieved for feedback by specialists in this field during the development workshop at Hanoi. IT could be further put on a trial run in the month of May 2006
- A strategy for implementation of effective communication, between partners and beneficiaries, was adopted by establishment of the CASITA 2 website, the electronic distribution list. The Blackboard Platform was also effectively used

Year 2

- The second trial run of the course on “Multi-hazard risk assessment” was held in ITC with the participation of the partner universities involved in research work. Application of IT&C tools were tested in providing resource inputs for post graduate courses.
- The short courses on hazard specific and disaster risk management were successfully conducted in collaboration with the selected CASITA partner universities to enhance skills and knowledge of the faculty and students
- Networking of Asian universities of similar interest and academic programs with European institutions is also one of the key achievement of the CASITA .now several universities are directly linked and supported by ITC and BU.
- The expansion of network of the Asian Universities under CASITA 2 is proven by the fact that more universities have sought assistance in conducting regular courses and post-graduate courses from the technical partners ADPC, ITC. It is fulfilled through the support to the Master Programme on Disaster Management at (PGIS) in Peradeniya University, Sri Lanka. Support has also been extended to Brack University in Bangladesh.
- CASITA 2 gave impetus to research work undertaken in Bonn University, University of Ruhuna, University of Gadjah Madah and Indian Institute of Remote sensing, Dehradun
- Curriculum development of distance education course on “Multi-hazard risk assessment” was achieved for feedback by specialists in this field during the development workshop at Hanoi. ADPC & ITC would be further strengthening through the conduct of the course at Regional level jointly by ADPC and ITC in March 2007.
- The joint research work carried out by partners resulted in production of 08 research papers and acceptance of the same by Asian seismological commission for annual sessions for oral presentations. This is the biggest Earthquake and tsunami related conference in Asia where nearly 200 delegates participated and it has become a good opportunity for show casing the strength and quality of research programs undertaken under the project.
- A strategy for implementation of effective communication, between partners and beneficiaries, was materialized through establishment of the CASITA 2 website, the electronic distribution list. The Blackboard Platform was also effectively used
- During the final workshop the participant felt the need for establishing a formal network by converting the Project based network in to a formal CASITA network. Now it has been realized. The ADPC and ITC will act as the facilitators and technical support to the participating institutions and continue the assistance to universities after completion of the project.

Impact on target group: The universities targeted in this project are now more equipped and have developed or are at planning stage of developing post graduate courses on disaster management. The training courses that have taken place have been very beneficial and lot of knowledge has been exchanged between the European and Asian partners, which has helped strengthen the network of universities. the partners can use the training material in training conducted by them at national level. The topic of disaster management is more prominently placed on the action agenda of the universities with the use of modern e-learning tools in the Universities. The universities are now more equipped with teaching and training materials which will help them in integrating issues of urban disaster mitigation in their own academic program and to spread the information to their colleagues.

Immense growth seen in the recent past of cities in target countries, in terms of infrastructure, buildings and roads, presents both challenges and opportunities. The project has enhanced the skills of urban planning professionals on the use of GIS as a decision support tool and demonstrate the methodology for risk reduction through land use planning endeavours. Through the capacity enhancement the project has made the urban land use planers abreast of the latest technological development in city planning and management.

The faculty members of the universities lacked support of the authorities in improving the academic programs and therefore were highly incompatible with the needs of the country. Now they can present the outputs generated under the project and authorities have understood the importance of research and application of IT&C tools in risk assessment and other areas. The IT&C tools have been an excellent tool for data management and presentation

which have immensely helped university staff to sensitise the decision makers and authorities to support new academic and research programs.

The project has enhanced the capacity of university faculty of target universities in conducting research and postgraduate studies related to IT&C applications for disaster risk management. It is foreseen that integrating such solutions in urban planning and development and the faculty will be benefited due to participation of European experts.

The CASITA 2 support has been extended to two additional universities namely Post-graduate institute of Science in Sri Lanka and BRAC University in Bangladesh and hence project has extended the support over and above the commitments made in the project proposal.

Impact on applicant and partners:

The impact on ADPC is considerable. With inclusion of university partners ADPC has strengthened its network building of Asian organizations involved in urban disaster mitigation and ADPC's capacity building efforts have become sustainable. With the launch of the distance education course planned, ADPC as a regional resource center will be able to develop the competence in conduct of the distance education component in disaster risk management with the help of European experts. ADPC will also be able to increase the effectiveness of distance education by introducing new programs to cover other subject areas.

ADPC has recruited 03 GIS specialists to its permanent cadre through the introduction of ITC. These specialists have been trained by ITC at MSc level and conversant with IT&C applications in Disaster management. They are also from the member institutions of CASITA network. This is an indirect benefit to ADPC to expand its resource base and also to strengthen the partnership with European Institution.

ADPC has built a long lasting contacts and sustainable partnership with two European Partners namely ITC and BU. In addition they have helped to establish further links with European partners and universities such as EU, ETH, Switzerland, Middlesex University, UK etc.

The European partners also will have direct experience in managing such programs in an unfamiliar environment with limited facilities. The launch of the distance education course will also help ADPC in further dissemination of disaster risk management throughout the world. CASITA Phase 2 has also upgraded capacity of ADPC staff in modern IT&C tools as well as in use of Blackboard environment. This project has also helped ADPC in building of synergies with other projects and programmes in ADPC.

Through CASITA, ITC has access to an active network of universities, which enables them to connect easily with different universities and to exchange knowledge and staff for joint courses, project activities and student recruitment. Further, the student's acquired ability in using software tool ILWIS causes good promotion of ITC. Also development of distance education course on "Multi hazard risk assessment" with contributions from ADPC and Bonn University. This would help them in wider outreach of their disaster management programmes.

The impact on Bonn University is also considerable as CASITA gave it an opportunity to be involved in a large university network in Asia and enabled them to make many new and valuable contacts. It also gave impetus to the research work done in the fields of hazard and risk assessment.

Impact on IT&C sector

It is difficult to really have an impact on the huge and powerful IT&C sector in such a short span of time but at least the project made the universities know about the new software tools and huge advantage in usage of modern IT& C tools in subjects such as hazard and risk assessment, mitigation planning etc. The Universities have been trained in the use of software such as ILWIS and ERDAS, which are very suitable for training at University level. Regional training courses on "Tsunami Wave Modelling" as well as on Landslide Risk Mitigation" have also helped in enhancement of skills on new softwares and research in these areas. With the launch of distance education course, there would be further enhancement and usage of modern IT&C tools in the universities as well would increase the outreach to different parts of the world. The usage of RS and GIS tools and application of satellite images in disaster risk reduction is an additional advantage to academics from developing countries. Also indirect advantage is the assistance they can obtain in future from more advance partners such as ITC in their academic and research work through application of distance education modes.

In all these respect the project has clearly contributed to the aims of the Asia IT&C programme, building capacities in Asia by using modern IT&C tools.

VI. Links with other projects/programmes (if any)
Describe any links built with other projects/programmes:

- Highlight synergies created with similar projects.
- Are these projects/programmes funded locally, nationally or internationally?

The CASITA phase II was closely linked with The Asian regional Program on Landslide risk mitigation (RECLAIM), which ADPC is implementing with Norwegian Geotechnical Institute of Norway. The Royal Norwegian Government is funding this program. The RECLAIM project is being implemented in seven countries, Bhutan, India, Indonesia, Nepal, Philippines, Sri Lanka and Thailand. The partner universities under the CASITA 2 project have also been actively involved and participated in the training courses held under the RECLAIM project.

Synergies have also been developed with Tsunami Recovery assistance project funded by SNV, The Netherlands Development Organization. The project extended funding support for the conduct of national courses in partner universities on the “Earthquake and Tsunami Vulnerability Reduction for Cities (EVRC)” training course and Training workshop on “Damage and Loss estimation for Risk Management”.

Further, in 2005 ITC has become associated partner of the United Nations University. Within the UNU-ITC partnership, a program is being developed on Disaster Management. The CASITA-2 project is considered as an important project within this UNU-ITC program on Disaster Management, which gives it a broader scope and strategically places it in an internationally recognised academic network of relevant academic partners.

ADPC has commenced implementation of Program for Hydro-meteorological Disaster mitigation for Secondary cities in Asia (PROMISE) in 05 CASITA target countries. PROMISE is funded by USAID/OFDA and is a 03-year program extended up to 2008 and under its capacity building component the distance Education course will be institutionalised in 05 countries in Asia. This will be a joint effort between ADPC and ITC and 1st regional course will be held in March 2007.

VII. Sustainability

Describe here the plan for sustainability and the foreseen exit strategy.

- What are the potential areas for project success?
- What lessons, both positive and negative, can be drawn from the experience of the project? What action will be taken as a result? Mention any emerging issues relating to sustainability.
- Describe the planned multiplier effects?
Describe how this project can be replicated within the country, or in other countries, or in other fields of activity.
- Describe any post project financing plans after EC funding ceases.
- Describe the post project institutional arrangements, giving due consideration to local ownership.
- Does the project have governmental support?

Explain dialogue and support mechanisms set with local government.

Potential Areas of Success

1. Development of Post Graduate programmes on Disaster management with emphasis on Modern IT&C tools developed in remaining partner Universities
2. More research work and projects undertaken by the partner universities using the application of modern IT&C tools such as GIS and RS
3. Support to other universities in the region for development of postgraduate curriculum development on disaster management. Already support to the Master Programme on Disaster Management at (PGIS) in Peradeniya University, Sri Lanka, and BRAC University in Bangladesh has been taken up as additional activities
4. Networking of Asian universities of similar interest and academic programs with European institutions is the key achievement of the CASITA

5. CASITA network has been established as a permanent network and ITC and ADPC will act as facilitators of the network. Already the network members have drawn up a work plan for activities beyond the project period.

Lessons Learnt

1. Projects such as CASITA Phase II are very beneficial for knowledge and skill enhancement in application of modern disaster mitigation tools. More such projects will be planned in future by the implementing agencies
2. The CASITA project has provided an active forum for faculty and students of the universities for sharing of information, data on case studies, and course materials. Therefore networking of Asian universities of similar interest and academic programs with European institutions has been very effective. The network should be expanded to include more universities in future
3. There are a lot of emerging areas in application of modern IT&C tools for disaster management, which also provides lot of opportunities for research work. More research work and projects should be undertaken by the universities involving application of modern IT&C tools for disaster management.
4. More initiative and pro-active approach is needed from partner universities for further success and integration of curriculum on disaster management. The project is being implemented for the benefit of the universities and would be sustainable only by effective and enthusiastic participation by them. There is an ample opportunity for building up of synergies with other projects and programs undertaken by ADPC, ITC, BU and partner universities
5. The project has helped to develop professional links between institutions in Asia and Europe and eventually will lead to increasing European IT&C presence in Asia.

Multiplier Effects and Sustainability Plan

- Continued maintenance and updating of shared platforms, the website and the blackboard site.
- ADPC will continue to host and maintain the CASITA website and have linked the CASITA network to their other network and have given access to their electronic urban disaster newsletter. ITC will continue to host the blackboard site and ADPC will take charge of the website. The CASITA network will continue as a permanent network and ITC and ADPC will help the network partners as facilitators of the network.
- Multiplier effects:
 - The ADPC website gets around 30,000 hits per month, the ITC gets around 60,000 hits per month. The electronic newsletter of ADPC is disseminated to approximately 3000 persons. The other programmes of ADPC has a lot of direct and indirect partners as well as works in coordination with most municipalities, local, provincial and national government
 - ADPC and ITC will be integrating and using the material developed under CASITA program in their training courses and also other universities may use the material in their respective capacity building programs.
 - Post project Financing plan: low costs involved, will be borne by ADPC and ITC
 - Post project institutional arrangement: ITC and ADPC will take the responsibility of website maintenance

Sustainability Plan

- Continue organization of networking between the universities, specifically in taking the joint research activities leading to enhancement of skill of university professionals and students.
- Implementation of national programs and assistance of technical partners through other on-going projects

There would be low cost involved in national level activities and the universities can themselves bare that cost. The students from the partner universities can travel to each other universities and can undertake joint research work. Postgraduate students can continue receiving training in data capturing analysis and presentation using GIS. Such skill enhancement will be useful for application in other subject areas. The ITC, BU and ADPC will continue involvement in research programs through other projects. ITC will be having students from CASITA partners for MSC courses on regular basis and they will also be involved in joint research programs initiated during the project. Similar opportunities exist with BU and ADPC (for example ADPC has a regular program funded by ProVention consortium for research). In addition, within the scope of the UNU-ITC collaboration, linkages with other UNU associated institutions are being made, such as with the UNU Institute for Environment and Human Society (UNU-EHS) in Bonn, Germany.

Multiplier effects: multiplication of experiences and exchange of knowledge to more colleagues within the universities involved, also expanding to other universities in their respective countries

Post project financing plan: low cost involved, which will be borne by the universities themselves

Post project Institutional arrangement: The partner universities will take the lead with support from ITC and ADPC

- Promotion of active participation of other European institutions in joint collaborations with Asian partners ITC and ADPC will continue their collaboration in a number of other project activities related to urban disaster mitigation in Asia and also organization of short joint courses.

Multiplier effect: multiplication of experiences and strengthening of exchange of knowledge to more universities and staff within the universities involves, but also expanding to institutes and local/national government bodies in their respective countries.

Post project financing plan: activities being financed out of other project resources

Post project institutional arrangement: Already the project partners have MOUs signed with all CASITA partners and continuation of such arrangements for partnerships between organizations involved

- Postgraduate curriculum developed in the partner universities will help in sustainability and dissemination of knowledge on Disaster Management in their respective countries and in the region.

Multiplier effect: After the completion of project teaching staff of participating universities will have the capacity to conduct postgraduate and high quality research programs in disaster risk management. They will be able to conduct similar programs in other disciplines. Universities will also be able to conduct short term capacity building programs for urban development professionals working in other institutions, municipality staff, through their proposed capacity building activities. The approach adopted in conducting Distance Education course would be to associate the universities in the CASITA network to deliver courses. This will have a better marketing prospects and involvement of CASITA network partners in a regular manner. It will have a multiplier effect since more people will be involved in the course conduct and marketing.

Post project financing plan: The activities being financed out of other project resources

Post project institutional arrangement: Already the project partners have MOUs signed with all CASITA partners and continuation of such arrangements for partnerships between organizations involved

- The distance education course would be organized at regional level in Asia by ADPC in March 2007. This would be supported by ITC. The distance education course would be moderated by ADPC and it is envisaged to have a very wide outreach, which would help foster greater understanding of the tools for disaster management.

Multiplier effect: The distance education course will not only help the partner university professionals and students but will also be open for people in various sectors all over including 6000 strong alumni of ADPC. ADPC as a regional resource center will be able to develop the competence in conduct of the distance education component in disaster risk management. It will help them to introduce new programs to cover other subject areas.

Post project financing plan: The course that will be held in March will be supported by USAID/OFDA. The course in future would be made fee based course in order to sustain it

Post project institutional arrangement: ADPC will adapt and moderate the course. ADPC also will seek funding from potential donors for continuation of conduct of the course.

- The learning from the project will be incorporated in to the institutional memory of ADPC.

Multiplier effect: Utilizing its unique position as regional resource center on disaster management, the ADPC would be able to promote the project experiences in other countries through various forums, regional training courses and its publications, e.g. the Asian Disaster Management News, web-site. The learning experience of the project might get introduced to other disciplines/courses by other institutions, as the project outcome will be disseminated through the web site.

Post Project Financing Plan: From centralised ADPC funds and other projects in ADPC

Post project institutional arrangement: ADPC would undertake the activities as part of its information and unit.

- In addition, project expects to create general awareness of community members and hopefully they will pass the information to family members friends, and colleagues etc and it will help to develop a culture of safety among urban population.

Multiplier effect: The project will also have multiplier effects regarding promotion of concepts of urban disaster mitigation in to the region since many other professionals access ADPC web site. Especially this experience will be useful for academic institutions in the region. As demonstrated by ADPC's experience, successful experiences at the city level become learning examples for other city, provincial and national governments within and outside the country. Although the realization of this objective would take longer time, however, the impact would be enormous

Post Project Financing Plan: The four partner universities under the project are part of the governmental setup in their respective countries and come under the purview of either the local or national government. They get the funding support mainly from their government. Most of the research work and projects undertaken for disaster management by the universities are for the benefit of the local government. The data collection for research is done by the support of the local government and the results and outputs of this research is used by the local government in their development plans. Therefore a mutually beneficial support mechanism has been developed between the universities and the local government.

Post project institutional arrangement: By the respective partner universities.

VIII. Other Issues

- Mention any other issues you deem relevant (difficulties encountered etc.).

The participants of the final workshop felt that continued support to universities from the technical partners ADPC and ITC would be very beneficial to meet the current constrains in resource inputs. They are unable to recruit high calibre academic and research staff due to brain drain and other reasons and they are with the opinion that the technical partners should extend the support to CASITA network partners in Asia for a further period until such time they will have in-house competent Academic and research faculty members. They felt that it is better if EU can make available some sort of assistance for the future activities of the CASITA network. It can increase the outreach and the involvement of European Institutions in application of IT&C tools and further Research in application of the same in disaster risk management.

ANNEXES

- Please note that for the Asia-Invest programme it is compulsory to attach the "Participants' questionnaires" to the Final Technical Report. Specific questionnaires have been developed for each of the four Asia-Invest instruments. The questionnaires are available on the Asia-Invest web site: <http://europa.eu.int/comm/europeaid/projects/asia-invest/>
- Provide supporting documentation to clarify any issues in the report, such as minutes of meetings
- Provide one copy of all publications and media materials produced. This includes leaflets, posters, videos, radio tapes and newspaper articles, as well as the internet address of the project website etc.
- Attach copies of transfer of ownership for purchased equipment (if applicable)(Annex 6)

Project Budget	EUR 411, 346.00
Funds Disbursed by Commission to date	EUR 152,000.00
Expenditure Incurred by Project to date	EUR 441,336.12

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