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introduction

It's no secret that ITC has built up an extensive global network of international contacts over the years - a network that includes United Nations organisations, universities, research groups, professional associations, and naturally our alumni and readers of *ITC News*. As the nodes in this network continue to multiply in number, it's fortunate that modern technology has revolutionised methods of communication and provided us with such amenities as e-mail connections, teleconferencing services, chat facilities and the like. To a certain extent, you can keep your finger on the pulse without leaving your office. No doubt, music to the ears of those studying the ecological footprint of transport these days, and you can read about a project in this particular field on page 14. Another initiative that is rapidly gaining ground and allows people to stay at their home base is distance learning. If you turn to page 8, you'll discover that this mode of education offers many benefits - to students, to teachers, to organisations, and maybe even to you. Well, it could be worth thinking about!

Of course, ITC staff have travelling in their blood; in fact, they would probably feel quite naked without their passport. This is just as well, because many occasions, even in this day and age, call for a physical presence, and the ITC refresher courses organised for alumni in their home countries or regions are just one illustration of the efficient deployment of ITC staff abroad (see page 25 for the list of courses to be held in 2007 and 26 for a report on a course held in November 2006). The UNEDRA workshops recently run in South Africa also received the seal of approval from the participants (page 5) - with a reference to the multiplier effect. Furthermore, as the title of visiting professor has been conferred on two prominent staff members of the Institute this year (page 20), it looks like travelling will remain on the agenda.

Few of our readers are strangers to globe-trotting but, in this particular instance at least, the battered suitcase can remain stashed away under the bed because it's our job to bring the news to you. Naturally, we hope you will enjoy reading this current issue of *ITC News*, but also we hope you will feel it has bridged the distance between you and the Institute.

Janneke Kalf
Managing Editor

colofon

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Land Governance: Building Trust - A Training Programme on Transparency in Land Administration

Organised by UN-Habitat and ITC within the framework of the Global Land Tool Network (GLTN)

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Land remains a highly complex and contentious issue, involving economic, social, political, cultural and often religious systems.

There is a strong link between land and poverty, as spelled out in Article 75 of the Habitat Agenda: "legal access to land is a strategic prerequisite for the provision of adequate shelter for all and the development of sustainable human settlements affecting both urban and rural areas. The failure to adopt, at all levels, appropriate rural and urban land policies and land management practices remains a primary cause of inequity and poverty." Land administration is thus a critical element in the wider development agenda.

Transparency in Land Administration
Transparency is a critical component of a functioning land administration, particularly

in view of the scarcity of clear and credible information on land availability and transactions, and the poor dissemination of public information on land rights and policies. The risks of corruption and inequalities are very real in land allocation and management. The consequences for the poor often take the form of difficult access to land assets, unawareness of land policies and legal frameworks, ignorance of land transaction procedures and prices, misallocation of land rights, land grabbing and abuse. When in place, transparency can encourage civic engagement and stakeholders' accountability by rendering the public decision-making arena more accessible. This in turn strengthens confidence in governments and public agencies, and has a positive economic impact, also on GDP. Thus many of the general governance principles related to transparency appear highly relevant to the land administration field.

Capacity Building Agenda

Within the African context, as well as in many other developing regions, there is a vast demand for skills in the land administration area, including competencies to strengthen transparency. Developing tools in these areas without simultaneously building capacity to implement them is unlikely to create a sustainable impact.

There is a strong link between land and poverty





UN-HABITAT and ITC have agreed on a joint venture to enhance capacity relating to transparency in land administration through designing and conducting a training programme. This collaboration falls within the framework of the Global Land Tool Network (GLTN), which identifies land management/administration as one of five key thematic focuses for attention and land tool development. It also builds on ongoing work by ITC, including the UNU-ITC School for Land Administration Studies effort to promote the role of land administration worldwide in stimulating socio-economic development in less developed countries based on the principles of good governance.

As a first activity, an Expert Group Meeting under the title "Transparency in land administration: a capacity building agenda for Africa" was held in Nairobi in January 2007. This meeting brought together representatives from Sub-Saharan Africa and the international arena to identify issues and priorities in the land administration transparency area and prepare a road map for the way forward. The meeting confirmed the lack of existing training programmes in this specific area and provided suggestions for programme content and target groups for the first training programme in Africa. (The full report from the Expert Group Meeting is available at http://www.gltn.net/component/option,com_docman/task,doc_details/Itemid,144/lang,en/)

Pilot Programme in Africa 2007-2008

As a start, during the period 2007-2008 a three-day curriculum will be developed and delivered in four regions in Africa, possibly followed by expansion to other regions. In Africa, programmes will be delivered in:

- Eastern Africa (including Rwanda and Burundi)
- Southern Africa (including Mozambique and Angola)
- Western Africa (Francophone) (including Madagascar)
- Western Africa (Anglophone).

Four regional partner institutions will act as focal points in organising the first set of courses: University College of Lands and Architectural Studies, (UCLAS) Tanzania; Polytechnic of Namibia, Namibia; Environmental Development Action in the Third World (ENDA), Senegal; and Kwame Nkrumah University of Science and Technology (KNUST), Ghana.

The target group will be upstream change agents, including top civil servants, local government leaders, civil society leaders (including religious leaders and chiefs of customary tenure where applicable), the media, professional organisations (private sector) and academic professionals. Each regional course will have a broad representation from government, civil society, the media, etc.

The first pilot course will be delivered in 2007 in Ghana for Anglophone West Africa. The other three partner institutions will be invited to this pilot course to enable further adaptation prior to delivery of the other courses in early 2008. The course will include core elements relevant to all regions, and more specific modules for particular countries/contexts.

The programme will include the following key aspects:

- participatory methods and community knowledge on land
- awareness and understanding of transparency, development of indicators, disclosure management and information flow
- institutional and organisational ethics, professionalism and audits, development of a code of ethics, incentive systems and

- management systems, including regular and independent audits
- innovative tools to achieve/improve tenure security, socio-economic politics regarding land, and the dynamics of land
- dispute resolution and conflict management (effective, speedy, fair, transparent and affordable land dispute resolution).



The training programme will be experiment-based, and core attitudes will be included throughout the programme as cross-cutting issues, not as separate topics. The idea is for participants to realise/build these attitudes as they go along. In addition, all sessions will be pro-poor and gender-sensitive in nature.

If the training programme concept and design are positively evaluated after completion of the pilot programme, then it will be considered for upscaling within the countries/regions of Africa participating in the first round of four courses, as well as in other regions of the world.

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The final report of the Land Transparency Expert Group Meeting can be downloaded from the UN-Habitat/Global Land Tool Network (GLTN) website at http://www.gltn.net/component?option=com_docman/task/doc_details/Itemid,/gid,144/lang,en/



University Network for Disaster Risk Reduction in Africa (UNEDRA) Workshops

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From 26 March to 6 April, two UNEDRA one-week workshops, "Writing for Research Proposals and Publication" and "Geo-information for Food Security", were organised by the University of Johannesburg and held at the Adventure Addicts Lodge and Conference Centre, Hammanskraal (40 km north of Tshwane/Pretoria), South Africa.

"Writing for Research Proposals and Publication" (26-31 March 2007)
Some 33 of the 70 applicants were selected for this workshop. Over 80% of those accepted came with their own research paper ready; the rest had worked out PhD research proposals. The funding for this workshop came primarily from ITC and the University of Johannesburg, with some support from the South Africa National Research Foundation and the United Nations for Outer Space Affairs Division.

The organising UNEDRA partner, the University of Johannesburg, under the leadership of Professor Harold Annegarn, had everything in place: excellent accommodation, transportation to and from the airport, and a fine course programme, which was admired by everyone present. The workshop facilitators and presenters were Professor Harold Annegarn, University of Johannesburg (UNEDRA South Africa programme leader); Dr Tsehaie Woldai, ITC; Ms Beverly Terry, Airshed Planning Professionals; Ms Jeanette Menasce, professional editor; and Ms Elizabeth Lickendorf, editor and writing consultant; together with Ms Pavlinka Kovatcheva, science librarian, Mr Ferdi van der Walt, renowned grants advisor, Ms Melanie Kneen, research officer, and Dr Patience Gwaze, post-doctoral fellow, all from the University of Johannesburg. The participants were picked up from Johannesburg Airport and taken to the workshop venue by Ms Beverly Terry, where

they were exposed to team-building exercises led by experts from the Lodge.

Participants were given step-by-step guidance, based on best practice case studies, on how to formulate the introduction, methodology, results, discussion and abstract. In addition, they were taught how to develop an argument/structure (propositions, experiments, methods, data and deductions) within the context of geoinformatics and disaster assessment. A course on structural writing, using MS Word outlining tools, was also included to enhance writing skills. Furthermore, the use and abuse of the English language in scientific writing, the presentation of graphical evidence, and tips, tricks and no-no's in preparing graphs, images and tables for publication were reviewed. Lectures were always followed by practicals (ratio of one-third theory to two-thirds hands-on). The mini-conferences every



Workshop in session



UNEDRA workshop: even the elephants want to join!

evening gave the participants the opportunity to read pieces of their work so that everyone could comment. The publication process, including group readings, checking and proof reading, was undertaken in pairs. Once completed, the work was submitted for review to the editors in place, and every detail (including English usage and spelling) was checked. At the end of the course, participants had a better understanding of the structure of scientific writing, had attained the state of the art in writing papers for peer-reviewed journals, and had a scientific manuscript ready for journal submission.

“Geo-information for Food Security” (2-6 April 2007)

This four-day workshop too was organised jointly with the University of Johannesburg and held at the above location. Around 20 applied for this second workshop, and 18 were selected. The whole course was presented by Valentijn Venus from ITC.

Supported by hands-on experience, the course dealt with approaches and methods for regional production estimation, giving a historical overview, and mapping the start, end and length of the growing season, using NDVI and best practice case studies on IDV bundles for calculating NDVIs from Meteosat-8/SEVIRI over West Africa. This was followed by a presentation on seasonal integration techniques and optical aspects of agricultural land use systems, Excel worksheet exercises with observed leaf/canopy

parameters, and an essay on the strategy of plants. Temporal dynamics in weather and their influence on CO₂ assimilation in crops, with a screencast (modelling by first principles), was followed by hands-on experience in modelling gross primary production based on daily average radiation versus instantaneous radiation (from Meteosat-8/SEVIRI) and calculating diurnal ambient (air) temperatures from interpolated observations from weather stations (approximately 150 over Southern Africa). On the last day of the workshop, the combined use of polar-orbiting and geo-stationary satellite observations to improve time interpolation in dynamic crop growth models for food security assessment and screencasting, land use systems analysis, and remotely sensed effects of crop stress were covered.

Although this was the first encounter with ITC IDV, at the end of the course the participants had:

- a better understanding of various yield assessment approaches and optical aspects of agro-ecosystems
- free access to near-real-time satellite imagery and synoptic weather observations for modelling food and fibre productivity in agro-ecosystems
- a better understanding of estimating insolation and canopy temperatures from geo-stationary satellite data for generating consistent time series for crop growth simulation modelling and other purposes
- free access to open-source software to model productivity in agro-ecosystems.



Some of the participants

Letters Received

I would like to thank ITC and the University of Johannesburg for organising such a marvellous course. The course was very informative and inspiring. A lot of important aspects about writing a good paper were dealt with and such information has opened my eyes for the better, being a young researcher. I have made friends, I have met wonderful people and, most of all, I have met scientists with whom I am looking forward to work in the future. Words can barely express the joy I feel for having being part of such a great academic gathering. Most of all, I am greatly honoured to be part of a great organisation such as ITC. (Phila Sibandze, ARC, South Africa)

The short course was a wonderful learning experience. The course, despite laying much emphasis on writing for publication and not much on proposal writing, will remain as one of the most memorable short participatory courses I have ever attended. As I am a lecturer, the knowledge gained will have a multiplier effect, as it will be passed on to undergraduate students of the University of Malawi. Thanks ITC (UNEDRA) for giving me a chance to be part of the short course. God bless you! (Grivin Chipula, University of Malawi, Malawi)

Writing workshop post-mortem: The idea of a workshop of this nature is definitely impressive. I found workshop 1 highly equipping in nature, especially at my level, where I'll not only use the acquired skills for writing papers but also for my Master's and PhD theses. The sessions were well structured and the presenters did a marvellous job in imparting their knowledge. Workshop 2 was well delivered and much gratitude goes to Dr Venus for preparing and delivering the course, and for his patience as he moved from student to student for consultation during practical exercises. Many thanks to the organisers and

UNEDRA! (Patience A.N. Muchada, Midlands State University, Zimbabwe)

The course was well designed, very informative and I learnt a lot. The resource people were exceptionally knowledgeable and shared this knowledge with such humour and simplicity that it sank into even the hardest of heads. As a lecturer, I also learnt so much about knowledge sharing. Please accept my gratitude. I can't mention all the names, but all without exception deserve my thanks. Organisation, reception and travel arrangements were carried out with a surgeon's precision. Nobody can complain. However, without complaining, all work and no play makes Jack a dull boy. We could have done with an afternoon off and a trip to appreciate the beautiful South African landscape. The choice of camp was marvellous. Stan and his team really gave us a shove with the team-building process, which made us interact freely and sincerely. (Benjamin Mwasi, Moi University, Kenya)

With great appreciation we have received this precious gift that Dr Tsehaie sent us. We did not hear one complaint, despite the fact that Mr Venus had to work late in the evenings/nights to recover the lecture notes that were lost due to the theft of his laptop. He did not come to teach us the basics of remote sensing (assuming that we all had mastered these) but instead showed us the wealth of information that can be generated from new sensor data, even over data-scarce areas such as Southern Africa. (Professor Harold Annegarn, University of Johannesburg, South Africa).

The course exceeded my highest expectations as it has sharpened my writing and research skills, opening up the opportunity to write scientific papers with boosted confidence. (Mlengi Mgendi, UCLAS, Tanzania)



Coffee-break



Classroom in session

education news

Can We Benefit at ITC from Distance Learning?

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One of the most popular educational events at ITC is the Educational Seminar Series. These seminars offer a platform for information sharing on innovative educational developments at the Institute. Large numbers of ITC staff and students attend these meetings. On 21 March Dr Luc Boerboom was invited to present his experiences with distance education.

In this seminar Dr Boerboom explored the usability of distance education materials and teaching experiences in education at ITC. He gave a personal account of the distance course he had developed and the surprising paradoxes that he had observed in distance learning. Since these paradoxical developments had led to an improvement in the quality of education, he felt it would be interesting to see whether the same effects could be achieved at ITC.

Distance Course on Spatial Decision Support Systems

The six-week distance course Spatial Decision Support Systems was offered

for the first time in November 2006. This distance course was an adaptation of a popular elective module that had been developed over many years in the regular programme at ITC.

A rich array of courseware had already been developed by Dr Ali Sharifi and Dr Boerboom, and the Spatial Multicriteria Evaluation (SMCE) module that had been developed in the Integrated Land and Water Management (ILWIS) GIS software package was also a component of the new distance course. A team of academic and support staff was involved in the course development: Antonella Zucca, Liza Groenendijk, Martin Blankestijn and Ard Kusters, with Luc Boerboom as overall coordinator. Dr Boerboom and Dr Zucca were both involved in the course teaching.

The main features of the distance course included:

- a video of Dr Boerboom introducing the course and showing the ITC building and its departments
- homepages (Figure 1) in the

Blackboard® digital learning environment for each of the distance students so that they could make themselves known to staff and other participants

- PowerPoint® slide presentations with voice-over (Figure 2), which were developed from lectures that were recorded, transcribed, edited and recorded again and linked to the related PowerPoint® slides (presentations could be run from Internet Explorer)
- a software video demonstrating the use of ILWIS-SMCE in great detail (Figure 3)
- the use of discussion boards in Blackboard® so that students could submit their exercises and ask questions. Lecturers duly responded, referring participants to one another's work, and some interesting forum discussions resulted.

Course participants received a CD Rom with all course materials, which they could access through Blackboard®.



Figure 1: Student homepages improve contact between students and staff



Figure 2: Structured slide presentations with voice-over facilitate the revisiting of lectures

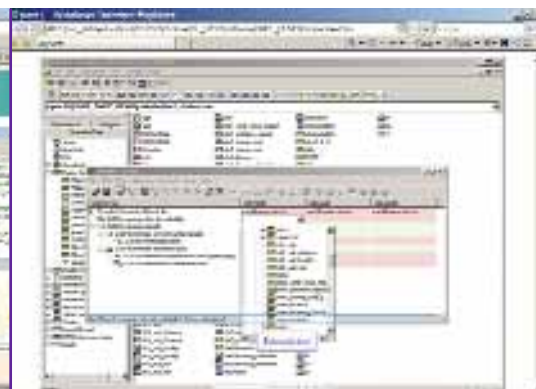


Figure 3: Software demonstration gives a thorough introduction to ILWIS-SMCE software

Course Experience

The well structured learning environment supported by Blackboard® and the online exercises improved the teaching and learning process considerably. Students were actively engaged in the course through exercises and case studies, through reviewing materials and searching for answers, and through lively discussions and feedback on the discussion boards. Thanks to better structured materials, the course participants gained better structured knowledge and a better quality of understanding.

Since all the lecture materials had already been developed and were accessible through Blackboard®, the lecturing staff could devote their time to feedback to the individual students. This was a highly enriching experience, not only for the students but also for the staff, since they could share more of their expertise and were increasingly challenged by the more thoughtful questions posed by the students.

Online teaching seemed to be completely different from classroom teaching. The attitude of the student and the role of the teacher changed dramatically: the students were more active, while the lecturers facilitated and responded to student needs.

Dr Boerboom experienced some interesting paradoxes. Contrary to expectation:

- he got to know the distance students better - through the student homepages and through the one-to-one exercise supervision
- distance students were more motivated
- students were more in control of the learning process because of the highly structured materials
- distance students performed better than students at ITC (although naturally many more runs are needed to establish any real difference)

- he could share more of his expertise with distance students because of his reactive role.

Developing a new distance course requires high staff input in terms of time and quality - even when plenty of course material is already available. Designing, developing and testing the course took around four months, with one staff member working on the course full-time. Most of the development time was spent on designing foolproof courseware and structuring the course materials. The production of the PowerPoint® presentations with voice-over and the development of interactive exercises and the video for software training were also time-consuming aspects of the course development.

Teaching time during course implementation was more or less equal to teaching time in a classroom situation.

Additional Effects

After completion of this first distance course, Dr Boerboom started to discover a surprising variety of additional benefits that stemmed from the development of new courseware and the implementation of an online course.

Better-quality online lectures could be offered in the regular classroom courses. Students at ITC now had the opportunity to revisit lectures, provoking more thoughtful questions and discussions.

One student who became ill and another who had to travel home for family reasons were able to catch up more easily later on. Moreover, a visiting PhD student was able to familiarise herself with important spatial decision support system concepts quite easily.

New methods of teaching were now possible. A large number of students could attend the lectures on their

own and have question-and-answer sessions with the lecturer in small groups.

Using courseware developed for the distance course, a colleague will now be able to teach a one-day awareness training session as part of another course he or she is teaching abroad. Dr Boerboom could then provide distant support.

One of the participants in the first course has shared experiences with (some 21) colleagues and they are interested in developing an institutional development programme based on the distance course.

Benefits for ITC

ITC students benefit from the improved quality of training materials, stronger student motivation in better structured and challenging environments, the more explicit (written) expression of expertise, and a tailored programme if necessary.

ITC benefits from better use and development of staff expertise, more flexibility in both the development and offering of courses, and the means to control and improve the quality of its course materials and lectures.

The experience of Dr Boerboom with the distance course Spatial Decision Support Systems demonstrates how engaging in distance education leads to an overall improvement of the quality of education at ITC.

Are you interested in a distance course? Have a look at <http://www.itc.nl/education>. ITC is offering eight distance education courses - and this number is still growing!

“Measuring Environmental Inequality within Cities”: Guest Lecture by David Satterthwaite (IIED)

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On Thursday, 22 March, Dr David Satterthwaite, senior fellow at the London-based International Institute for Environment and Development (IIED), gave a guest lecture at ITC. David Satterthwaite is also editor of the international journal *Environment and Urbanization* and a member of both the UN Millennium Development Goals Taskforce on Slum Dwellers and the Inter-Governmental Panel on Climate Change. Most of his work has been on poverty reduction in urban areas in Africa, Asia and Latin America and has been undertaken with local teams.

The guest lecture took place within the framework of the ITC Urban Planning and Management programme modules on understanding and analysing urban development.

In his lecture, David Satterthwaite particularly emphasised the difficulty of adequately measuring urban inequality, and the scant validity and usefulness of the data available from household surveys and censuses as far as local organisations were concerned. He referred to the gap that often exists between the routinely

available data and the actual issues to be measured. Examples were given of official data on sanitation that measure the provision of physical facilities rather than actual access to these services, the quality of these services, and the environmental conditions and health outcomes. In addition, he showed the importance of intracity differentials, since measurements at city level hide the inequalities between deprived and non-deprived areas. Given the difficulty of adequately measuring the qualitative aspects of environmental health at local level, he called for the increased use of alternative methods with a much stronger involvement of local organisations. In this context, he referred to a number of cases from India, Kenya, South Africa and Pakistan where local mapping initiatives and enumerations by organisations of the urban poor and slum dwellers had resulted in the successful implementation of upgrading and secure tenure programmes.

In the subsequent discussion, David Satterthwaite reiterated the need for locally generated data, involving those whose needs are meant to be addressed. This could be achieved only if researchers, governments and

international agencies overcame their reluctance to use qualitative and participatory methods of assessing environmental quality and conditions, and worked in partnership with the urban poor.



Joint Postgraduate Certificate Course Successfully Launched

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Monday, January 8, was the big day for the designers of the four-month postgraduate certificate course Applications of Earth Observation and GIS in Integrated Water Resources Management.

After 12 months of brainstorming, workshop meetings, marketing activities and curriculum development, the course was officially opened by Dr Eng. Mahboub M. Maalim, the permanent secretary of the Ministry of

Water and Irrigation of Kenya. Three of the four partners involved in the course attended the proceedings and presented an opening address: Dr Farah of the Regional Centre for Mapping of Resources for

Development (RCMRD), Dr Wycliffe Saenyi, dean of the Faculty of Engineering and Technology of Egerton University, and Course Director Arno van Lieshout of ITC. The formal ceremony was followed by food, drinks and interesting conversations with participants and guests.

Thirteen candidates have enrolled for the course, all of whom come from Africa, with seven from Kenya. RCMRD, Egerton University and the Kenyan Water Institute are among the various sources sponsoring participants, the biggest sponsor being the UNU-School for Disaster Geo-Information Management (DGIM) at ITC, which is sponsoring five candidates.

The course has an interesting set-up. It is partly given at RCMRD in Nairobi and partly at the premises of Egerton University in Njoro, and the teaching staff come from RCMRD, Egerton University, Addis Ababa University and ITC. The course has an application-oriented focus. The use of earth observation and GIS techniques for various aspects of water resources



Course participants and guests present at the official opening at RCMRD, Nairobi, Kenya

management is demonstrated, and groundwater, surface water and management issues (IWRM concepts) are addressed. The experience that ITC and Egerton University have amassed with regard to Lake Naivasha enables the lecturers to focus on real-life issues and problem-solving methods.

A workshop will be held at RCMRD during the first week of September 2007. Here, course participants will give presentations on case studies,

and developments in earth observation, GIS and integrated water resources management will be discussed.

If you are interested in the course or would like to participate in the workshop, please contact Arno van Lieshout (Lieshout@itc.nl) or Dr Tesfay Kormo (korme@rcmrd.org). NFP fellowships and co-financing possibilities under the UNU-DGIM programme are available for 2008.

Kenyans Graduate from ITC

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The month of March 2007 saw five Kenyans graduate with MSc degrees after successfully following courses ranging from Water Resources and Environmental Management, and Urban Planning and Land Administration, to Natural Resource Management and Environmental Modelling and Management (supported by the Erasmus Mundus programme). The occasion was graced by Ambeyi-Ligabo, chargé d'affaires at the Kenyan embassy in The Hague, and William Ochieng, the financial attaché.

Kenya has a long history of partnership with ITC in the development and application of geographical information systems (GIS) and remote sensing. This has gone a long way to enhancing capacity and good relations between the two countries over the past years. Since its establishment in 1950, some 500 Kenyans have studied at ITC, many of them with funding from the Netherlands Fellowship Programme (NFP). The NFP is administered by the Netherlands

Organization for International Cooperation in Higher Education (Nuffic).

Fifteen Kenyan students are currently registered for ITC's degree and diploma programmes. Coincidentally, one of these students (and the author of this article) is president of the ITC Student Affairs Board (SAB) for the year 2006/2007. She has worked tirelessly to enhance the Kenyan/ITC partnership.



ITC also conducts research and has projects in various fields in Kenya, and works closely with many organisations, including the Regional Centre

for Mapping of Resources for Development in Nairobi and Egerton University in Njoro.

We look forward to continued support and collaboration.

Utrecht Students Present Projects to Enschede at ITC

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Each year 2nd and 3rd year planning students from the University of Utrecht undertake a group project connected with the interests of a host municipality. This year the City of Enschede agreed to host this activity and ITC was able to assist in this work in a number of ways. Several students from ITC's Urban Planning and Management course were attached to different groups in order to provide a limited amount of assistance to the students from Utrecht in using geo-information and visualising some of their products.

Working in 11 groups, a total of about 120 students from Utrecht University were engaged in various projects for a period of nine weeks, and the opening presentations by staff of the City of Enschede and the final presentations of the students were hosted by ITC. The activities provided an opportunity for ITC stu-

dents and staff to obtain an insight into current planning issues concerning Enschede and the approach that Utrecht adopts in this part of their bachelor degree course. The six groups of 2nd year students all prepared a Structure Vision report for the city, while the five groups of 3rd year students addressed a variety of subjects, ranging from options for redeveloping the city theatre to the development of Enschede into a city of one million inhabitants. Clearly, there was scope for creativity and innovative ideas.

All the reports and presentations were reviewed by a jury consisting of Paul Zoete and Tejo Spit (UU), Maarten Veeger and Ypkje Grim (Enschede), and Richard Sliuzas (ITC). The prizes for the best projects were awarded to the Proplan team (2nd year) for their project *Gezond Enschede* (Healthy Enschede) and the Vector team (3rd year) for their cre-

ative concept for redeveloping Enschede's city theatre entitled O3: *Ontspannen Ontplooiën Opereren* (Relax Develop Perform). (More information in Dutch about the O3 project can be found at <http://www.o3-enschede.nl/>). The jury was impressed by the originality of the development concepts, especially by the creative way in which both groups incorporated local involvement into the implementation of the plans, and by the courage demonstrated in choosing one theme and successfully elaborating on it.

The UPM students involved in the collaboration were positive about the experience, as the remarks below demonstrate.

Ron, Alphonse, Hasti, Sabaya: *The collaborative exercise has been useful and has paved the way for future productive collaborations between the institutions. The UPM students*

highly appreciate the efforts of everyone who made the collaborative exercise possible.

Mohammed: *The exchange of experiences is one of the most important elements that increase the effectiveness and efficiency of planners. This experiment has made such exchanges possible and has allowed us to know more about the nature of planning in the Netherlands, and in Enschede in particular. We have tried to use our knowledge and skills in the area of GIS and map production to effectively convey the ideas developed by the*

Utrecht students. Our thanks and gratitude to those involved for making this possible.

Wang: *The UU students have to be admired; they were so diligent and active and visited Enschede many times to collect data. Fortunately, we had an excellent group working to overcome the challenges. By the end, we had worked out some thematic maps to support the analysis, and completed the task in time.*

As things turned out, the envisaged synergy between the ITC and UU students did not get far beyond cartographic visualisation. Nevertheless, an attempt has been made to create a new form of collaboration in education, and some new links with the planning department of the City of Enschede have also been established. Who knows what may happen next?

More information about this activity can be obtained via Richard Sliuzas (sliuzas@itc.nl), Emile Dopheide (dopheide@itc.nl) and Javier Martinez (jmartinez@itc.nl).



Proplan team with their supervisors Stef Ruiters (Enschede) and Angel Franken (Utrecht), and with Mohammed Aljoufie (ITC)



Vector team with their supervisors Ms Ypkje Grimm (Enschede) and Guido Wallagh (Utrecht)



The final presentations of the students were hosted by ITC



2nd year students from Utrecht University, together with supervisors from Utrecht and Enschede, and students and staff from ITC

research news

Transport Research at ITC: Impacts of Transport in Ahmedabad, India

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The recently expanded urban infrastructure knowledge field in the ITC department Urban and Regional Planning and Geo-Information Management (PGM) is concerned, among other things, with studying the application of geo-information and communication technologies in transport planning and management, and road infrastructure and transport systems analysis. Recently, ITC has been successful in acquiring a project through the Volvo Research and Educational Foundations (VREF) on land, urban form, and the ecological footprint of transport in Ahmedabad, India. This project will be conducted together with CEPT University (School of Planning), Ahmedabad, and IIT Delhi-TRIPP (Department of Transport Planning), Delhi.

Road infrastructure provision and transport management in rapidly urbanising regions in developing countries have been a huge problem and are likely to remain so for decades to come. The core of this problem is the apparent lack of success of the stakeholders involved in achieving environmental sustainability, equity, access, and a sufficient quality of service at affordable cost. The two-year VREF project that started in April 2007 aims to develop, assess and implement the transport ecological footprint concept as a data mining approach in order to enable decision makers and planners to develop sustainable transport and urban policies. This approach will help those concerned to better understand, control and plan the share of transport in the

ecological footprint of urban areas and their urban-rural fringes. The research will be case-tested in the city of Ahmedabad, India.

Project Overview

The 21st century marks the beginning of the first millennium with over half the world population living in cities. Particularly cities in developing countries such as India face a challenge in managing urban growth, land use and transport. Not only do urban form, transport systems, their energy use and their emissions have to change, but value systems and the underlying processes of urban governance and decision making also need to be reformed to reflect an agenda for sustainable development. Transport development aims at reducing time and energy; hence the costs incurred in improving people's access. Unfortunately, most benefits of transport development are often inequitably distributed both spatially and socially, and come at a high environmental cost. Transport ecological footprints calculate and visualise the extent of the ecological impacts of transport. They can be used for monitoring, analysing, comparing and controlling urban transport development, and as such contribute in the struggle for more ecologically based and liveable urban development.

The Indian city of Ahmedabad (five million inhabitants) has recently experienced a combination of population, economic and spatial growth that is putting a strain on public infrastructure, services, and the environment. The city's transport problems have

been exacerbated by the limited and outdated transport infrastructure, suburban sprawl, rising vehicle ownership and use, deteriorating bus services, a wide range of motorised and non-motorised transport modes sharing roadways, environmental problems, and inadequate and sometimes uncoordinated land use and transport planning. Recognising these problem areas, Gujarat State and the city government of Ahmedabad have initiated a series of measures to improve the urban transport situation in Ahmedabad, and these provide the motivation for locating the VREF study in this city. These measures include modal interventions such as a Bus Rapid Transit System, policy interventions such as the use of cleaner CNG fuels in buses and auto-rickshaws, and spatial interventions such as land use control.

The research programme will be carried out together with colleague Dr Luc Boerboom (also of PGM) and our partners at IIT Delhi (Professor Geetam Tiwari, Ms Anvita Anand) and CEPT University (Professor Utpal Sharma), and involves the development of a linked urban activity-transport-environment model (probably based on agent-based modelling), with data acquired through remote sensing and GIS databases.

In the project, three interrelated activities will be performed, built around three main research questions relating to:

- the selection and quantification of indicators of land, urban form and transport systems, using remote

sensing imagery and GIS, aided by data fusion from various sources and investigating appropriate levels of spatial aggregation as relevant to transport ecological footprint calculations

- the assessment of the impact of land use and urban form on the transport ecological footprint in Ahmedabad, using transport and environmental modelling principles
- the use of transport ecological footprints for informed governance and decision making regarding transport in the Indian policy context.

Further Collaboration

Under the VREF project, an ITC scholarship has been awarded to Mr Sriram Bhamidipati from IIT Delhi. He is currently enrolled in the Urban Planning and Management MSc degree programme. Another ITC scholarship will be taken up by a student from CEPT

University later this year. Further collaboration with CEPT University in terms of PhD research and joint education is also under discussion.

Moreover, the project partners, together with ITC's Earth Observation Science department (EOS) and the Indian Space Research Organisation, are currently exploring ideas for expanding the project into several PhD and post-doc projects.



ITC alumnus Talat Munsh of CEPT University and Ir Mark Brussel and Dr Mark Zuidgeest of ITC met recently in Ahmedabad to discuss project development



Transport plays an important role in urban development

GEOG2G: Understanding Geo-Related Government-to-Government Relations

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The GEOG2G research project started on 1 March 2007. It is funded by the Dutch innovation programme *Ruimte voor Geo-Informatie* and is part of GEOGOV, an umbrella programme managed and conducted by the Centre of Public Innovation (CPI) of the Erasmus University in Rotterdam. The overall aim of GEOGOV is to generate a more empirically-based fundamental understanding of whether and, if so, how geo-information is actually supporting current public governance.

The GEOG2G component of this programme, conducted by the department Urban and Regional Planning and Geo-Information Management (PGM), is looking specifically at how a number

of public agencies in the Netherlands are cooperating in exchanging and sharing geo-information.

In the Netherlands alone there are currently some 1,500 public sector organisations (e.g. ministries, provinces, municipalities, water boards), as well as between 5,000 and 10,000 organisations with a public interest (depending on the definition of "public"). Between these organisations there are frequent exchanges of information, yet often based on completely different modalities even if the information itself is very similar. There is, however, no systematic methodology for assessing whether the use of Geo-ICT has led to better (or even different) forms of cooperation and better ways of ex-

changing information. At the same time, however, discussions are taking place at the political level on how to reorganise public agencies dealing with geo- (or spatial) information.

The aim of GEOG2G is therefore to conceptualise the G2G relations dealing with this geo-information exchange, and to evaluate a set of research questions and variables that will enable the G2G reality to be described and understood more empirically. Based on a limited set of cases where different public agencies that are institutionally unrelated cooperate through specific agreements to exchange and share geo-information, most of the research will be interpretative and qualitative in nature. The cases concerned include:

- the cooperation developed for the maintenance of the national height network in the Netherlands
- the relations developed between the Netherlands cadastre and local municipalities for the exchange of parcel-based data
- the agreements made between national and public organisations for the exchange of groundwater data
- the long-term project developed by different local public agencies for the exchange of local public transport information in the region of Twente.

The GEOG2G project involves data collection through a number of site visits with interviews and two main workshops with stakeholders (scheduled for June 2007 and June 2008), followed by qualitative interpretative analysis using NVIVO software. This analysis will focus on the questions whether and, if so, how the specific characteristics of geo-information have impacted on the type and sustainability of public sector cooperation, and whether and, if so, how public sector motives and incentives have shaped the geo-technological solutions.

partnership news

Universities of the Himalayan Region Unite to Form a Consortium

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On Sunday, 25 March 2007, at a meeting held at the headquarters of the International Centre for Integrated Mountain Development (ICIMOD) in Khumaltar, Kathmandu, and organised by ICIMOD with support from the International Development Research Centre, Canada, and the Tata Institute of Social Sciences, India, five vice-chancellors and other high-level representatives from universities in five countries (Afghanistan, China, India, Nepal, Pakistan) and from five major regional and European organisations interested in university development (Asian Institute of Technology; Norwegian University of Life Sciences; ITC, the Netherlands; International Development Research Centre, Canada; and ICIMOD) announced the launching of the Himalayan University Consortium.

Discussion at the meeting focused on forging a strong alliance for purposes of teaching, research, training and policy advocacy, as well as on ways of supporting the development of Kabul University. All universities in the region are interested in having a greater focus on mountain-specific aspects and topics in university curricula. New curricula and academic and non-academic degree and diploma courses will help universities to increase their effectiveness, outreach, and relevance to mountain society at large. By working together on curricula and setting up a robust system for the exchange of students and faculty, universities and other institutions will be able to maximise the use of their own resources and profit from their combined experience and knowledge. By building mountain-specific approaches into university curricula, the organisations hope to develop a cadre of trained professionals able to promote the mountain agenda and

support the sustainable development of the greater Himalayan mountain region, which extends from Pakistan and Afghanistan in the west, through Nepal, China, and Bhutan, to India, Bangladesh and Myanmar in the east.

The broad-based Himalayan University Consortium will be open to universities and other institutions in the greater Himalayan region, as well as to those located elsewhere but engaged in sustainable mountain development initiatives in the region. The institutions represented at the meeting will constitute the founding members of the new consortium. The consortium will have multiple concerns, including the development of a postgraduate fellowship programme among member universities and institutions, mountain-focused curriculum development, the exchange of faculty, knowledge networking, policy advocacy, and promoting the concept and practice of sustainable mountain

ICIMOD is an international independent mountain learning and knowledge centre, serving eight regional countries of the Hindu Kush-Himalayas and the global mountain community.

Founded in 1983, ICIMOD is based in Kathmandu, Nepal, and brings together a partnership of regional member countries, over 300 institutions within and outside the region, and donors with a commitment to development action to secure the future of the Hindu Kush-Himalayas.

ICIMOD builds institutional capacities and facilitates the development of mountain policy and regional cooperation through its main functions as (i) a multidisciplinary documentation centre, (ii) a focal point for problem solving by research, (iii) a focal point for training, and (iv) a consultative centre on sustainable mountain development.

The ICIMOD Overall Strategic Plan (2003-2007) has identified the following six integrated programmes: Natural Resource Management (NRM); Agriculture and Rural Income Diversification (ARID); Water, Hazards, and Environmental Management (WHEM); Culture, Equity, Gender and Governance (CEGG); Policy and Partnership (PP); and Information and Knowledge Management (IKM).

ICIMOD member countries: Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan



development both in the region and elsewhere.

The first activities of the consortium are focused on ways of accessing the resources for building the capacity of Kabul University, and thus helping to rebuild and develop its faculties of agriculture, science and other disciplines in order to support the long-term development of Afghanistan. After years of disruption, Afghanistan's major university is now faced with the challenge of building the capacity of both faculty and stu-

dents in order to become a dynamic, creative and responsible partner in the growth and development process of the country.

It is hoped that the Himalayan University Consortium will lead to the

creation of a strong regional platform that will help not only to meet short-term needs, but also to build a long-term knowledge and learning resource and multiple joint learning opportunities

ASPRS-Sponsored Kodak International Educational Literature Award

Janneke Kalf

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The Programme in Land Administration of the Faculty of Agronomy (FAUSAC), University of San Carlos, Guatemala, has been selected as the 2007 recipient of the ASPRS-sponsored Kodak International Educational Literature Award (KIELA). It will be presented at the annual conference meeting that will take place in Tampa, Florida, in May.

The KIELA is awarded to a university or educational institution outside the

USA, and its purpose is to improve the quantity and quality of literature in the recipient's library that deals with the mapping sciences (i.e. photogrammetry, remote sensing, GIS, and related disciplines). It is supported by a generous grant from Kodak and administered by the ASPRS Foundation.

The award consists of the following:

- \$350 worth of books, manuals, or other literature published by ASPRS
- a five-year free subscription to

Photogrammetric Engineering & Remote Sensing

- proceedings of the annual convention for a five-year period
- one free registration for the convention where the award is to be presented for a member of the institution to whom the award is being given.

The total value of this award is over \$1,500, and the materials are to be placed in the library of the recipient institution.

visits

Director External Affairs Visits Nepal Survey Department

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On 22 and 23 March 2007, Director External Affairs Sjaak Beerens visited the Survey Department of Nepal (part of the Ministry of Land Reform and Management) in Kathmandu. Some 50 staff members of the Survey Department are ITC graduates, including the current director-general, Toya Nath Baral, and the first department employee to study at ITC, Rabin K. Sharma.

Sjaak Beerens met with some 20 ITC alumni present at the Kathmandu headquarters at the time of his visit, and exchanged ideas and suggestions for further enhancing the capabilities of the Survey Department in line with its ambitious plans for the future.

A new far-reaching plan of the Survey Department is the Cadastral Survey and Land-Related Record Reform Project. The aim is to create an accurate and up-to-date cadastral database and develop a reliable land records and archive system that will establish clear titles for landowners, including small farmers and women. A new section has been created within the Survey Department for this purpose. This section is led by ITC alumnus Krishna Raj Adhikary, the deputy director-general, and the first pilots have been conducted by recently graduated ITC alumni.

The Survey Department celebrates its 50th anniversary this year - reason

Department. On this occasion, Sjaak Beerens was presented with a copy of the recently completed *Atlas of Nepal*.



ITC alumni and staff of the Cadastral Survey and Land-Related Record Reform Project



ITC alumni employed at the Nepal Survey Department



ITC alumni working at the NGII



Sjaak Beerens was presented the Atlas of Nepal

The National Geographic Information Infrastructure (NGII) Project and the integral section of the Survey Department constitute one ongoing ambition. The NGII, led by ITC alumnus Raja Ram Chhatkuli, was established as a project with the support of the European Commission. It now fully supports a 15-staff (many being ITC alumni) operation from the revenues generated by selling geographical information.

enough for ITC to present the department with an MSc scholarship and contribute to building the necessary capacity to realise its ambitious plans.

During the visit of ITC's director external affairs, the Survey Department hosted a traditional dinner attended by the Secretary of the Ministry of Land Reform and Management, the three joint secretaries of the ministry, and senior staff of the Survey



Traditional dinner hosted by the Nepal Survey Department

staff news

Doctor's (PhD) Degree for Colleague Sherif Amer

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On Friday, 2 February 2007, Sherif Amer of ITC's department Urban and Regional Planning and Geo-Information Management (PGM) successfully defended his doctoral dissertation *Towards Spatial Justice in Urban Health Services Planning*.

He executed his research under the guidance of Professor Henk Otten (supervisor) and Dr Tom de Jong (co-supervisor), both from Utrecht University. The aim of Sherif's study was to attempt to develop a planning approach that will contribute to the equitable and efficient provision of urban health services in Sub-Saharan cities.

In the famous old Academy Building in Utrecht (built in the 15th century), questioners interrogated Sherif on the important elements of his thesis for 75 minutes. Demonstrating their support and interest, several ITC colleagues and a couple of his students witnessed the defence.



Dr Sherif Amer: the final speech before receiving his doctor's degree

Sherif, son of former ITC colleague the late Dr Fuad Amer, works as a scientist in the PGM department on various courses, in particular the Urban Planning and Management course. Moreover, he has participated - and still participates - in projects in Africa.



Dr Sherif Amer, with his wife and cousins, proudly showing the official certificate

Prize-Winning PhD Student Sander Oude Elberink and His Innovative Product

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Sander Oude Elberink, PhD student in the ITC department Earth Observation Science (EOS), and his study-mate Friso Penninga of Delft University of Technology worked together in the *Ruimte voor Geo-Informatie* programme on 3D topographics.

During the Geo Innovation Days 2007 in the old Van Nelle Factory in

Rotterdam, congress members voted for their favourite project. According to Programme Director Jacqueline Meerkerk, the project of Sander and Friso was found to be "scientifically advanced and extremely relevant in view of the emergence of virtual worlds and gaming". Although Sander and Friso are continuing to work on the project, the Geo-Information Award in the category of



Sander Oude Elberink

Science can certainly be seen as a climax. Sander: " This research is relevant because of the comprehensive way of getting, storing and processing 3D information. Until now it has only been done piece by piece. This solution for processing 3D information can be used in every part of the Netherlands (and abroad)." Prins Claus Plein near The Hague was modelled for this project. In the EOS department, Sander is being given the opportunity to work on this subject further and, after he has finished his project, the Topographic Mapping module will be updated



The elegant award representing the logo of *Ruimte voor Geo-Informatie*

Menno-Jan Kraak and Arbind Tuladhar: Visiting Professors at Chang'an University

Janneke Kalf

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The title of visiting professor has been conferred on both Professor Menno-Jan Kraak and Dr Arbind M. Tuladhar by Chang'an University, Xian, China.

Menno-Jan Kraak, chairman of the department Geo-Information Processing and Geo-information Management, has been given the title " Visiting Professor in Geo-informatics" , while Dr Tuladhar, assistant professor in the department Urban and Regional Planning and Geo-infor-

mation Management, has been given the title " Visiting Professor in Land Administration" . They received the awards in person from Professor Ma Zhimin during official ceremonies on 19 January and 23 April 2007, respectively.

The College of Earth Science and Land Resources Management at Chang'an University hosts the joint education Master and MSc courses in Geo-Information Management (CHIGIM).



Arbind Tuladhar receiving the award from Professor Ma Zhimin

Welcome to ITC	Ms M.N. Lengoiboni	Promovendus Urban Regional Planning and Geo-Information Management	1 January 2007
	Dr R. Slootweg	Associate Professor Natural Resources	1 February.2007
	N.A.S. Hamm	Assistant Professor Earth Observation Science	1 March 2007
Staff leaving	Dr C.R. Valenzuela	Earth Systems Analysis	1 January 2007
	Dr Ing. S.R.K.B. Heuel	Earth Observation Science	1 January 2007
	Drs J. Wiepkema	Information Technology	1 January 2007
	Eng. I. de Sousa	Geo-Information Processing	1 February 2007
	Ms T. Doko	Bureau Educational Affairs	11 February 2007
	Dr K. Sijmons	Information Technology	1 March 2007

Obituary

Barbara Ann Stewart

Janice Collins

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Ms Barbara Ann Stewart passed away at her home in Delft on 8 February 2007 at the age of 72. She joined ITC in 1981 to become scientific editor of the quarterly *ITC Journal* and, during the years up to her early retirement in June 1997, was entirely dedicated to the task of raising the quality and status of this scientific journal and serving the reading public for whom it was intended.

Ann Stewart (she was always known by her second name), who was born in Enid, Oklahoma, and grew up in the USA, gained a BSc degree in political science at the University of Utah in 1956. This degree was followed by studies in history (1962-1963) at the University of Utah and in economic history (1965-1967) at the University of Pittsburgh. She recognised her calling from the very beginning and successively worked as assistant editor on *Ethnology*, the international journal of social and cultural anthropology, at the University of Pittsburgh (1963-1965), as a research and technical writer for the Department of Psychiatry at the School of Medicine at the same university (1965-1967), as supervisor of documentation for the Computation Centre, Carnegie-Mellon University (1968-1970), and as a technical editor and editor at R.J. Brown Associates (1971-1976) and Sysdoc International (1977-1980) respectively. So it was with a fine academic background and a wealth of experience that Ann Stewart arrived at ITC in 1981.

Yet impressive though these credentials are, they failed to prepare you for the personality that was Ann. She was kind and generous, giving freely of her time to help any MSc or PhD student who was struggling with the vagaries of the English language when writing their thesis, and freely of her knowledge and skills to promote the interests of her staff. In fact, to work for her was to forget the meaning of Monday blues. However, she was also a person of strong conviction and would stand her ground under the fiercest fire.

The ITC *Kronkel* is tangible evidence of her fighting spirit. As plans for the new ITC building were being finalised in 1993, it became clear that no place for the *Kronkel* had been planned. Afraid that the statue would be consigned to the scrapheap, Ann Stewart made an appeal to journal readers in the 1993-3 issue of the *ITC Journal* to save the *Kronkel*. Many readers completed and returned the short form - among them, even alumni from the 1950s! And the result? In 2000 the *Kronkel* was relocated in front of the new ITC building in Hengelosestraat, where it stands to this day.

Many could work or study at ITC without ever finding their way to the Journal offices, but those who did and successfully negotiated the amazing archive and filing system (the mountains of paper gracing window sills, desks and floor space served as an efficient database and woe betide any meddlers!) to come face to face with the editor were amply rewarded for their pains.



Barbara Ann Stewart

With the passing of Ann Stewart, the world has lost a colourful and compassionate person, who left her imprint on the lives of many. She was a remarkable character in many ways, and the day she was born in Oklahoma was the day they broke the mould.

announcements

ITC's GIS software ILWIS migrates to open source

Rob Lemmens

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The Integrated Land and Water Information System (ILWIS, <http://www.itc.nl/ilwis>) is a PC-based GIS & Remote Sensing software, developed by ITC. ILWIS comprises a complete package of image processing, spatial analysis and digital mapping. It is easy to learn and use; it has full on-line help, extensive tutorials for direct use in courses and 25 case studies of various disciplines.

ILWIS software is renowned for its functionality, user-friendliness and low cost, and has established a wide user community over the years of its development. Even after its last release in 2005, its user community remained vivid, both within and outside ITC, however without a common base for further system development.

In order to create better opportunities for the reuse and deployment of GIS functionality in a wider community, the ITC directorate has recently decided to make current ILWIS software free of charge and to migrate it as such to open source software under the 52°North initiative.

52°North is an open initiative that advances the development of cutting edge open source geospatial software. Leading research organizations in the field of geoinformatics (ifgi, conterra, ITC, ESRI) participate in 52°North's innovative development for establishing open spatial data infrastructures (SDI) and transformation of these into practical technological

solutions. 52°North uses the GPL license, which implies that newly developed software should be open source as well. More information can be found at <http://www.52north.org/>.

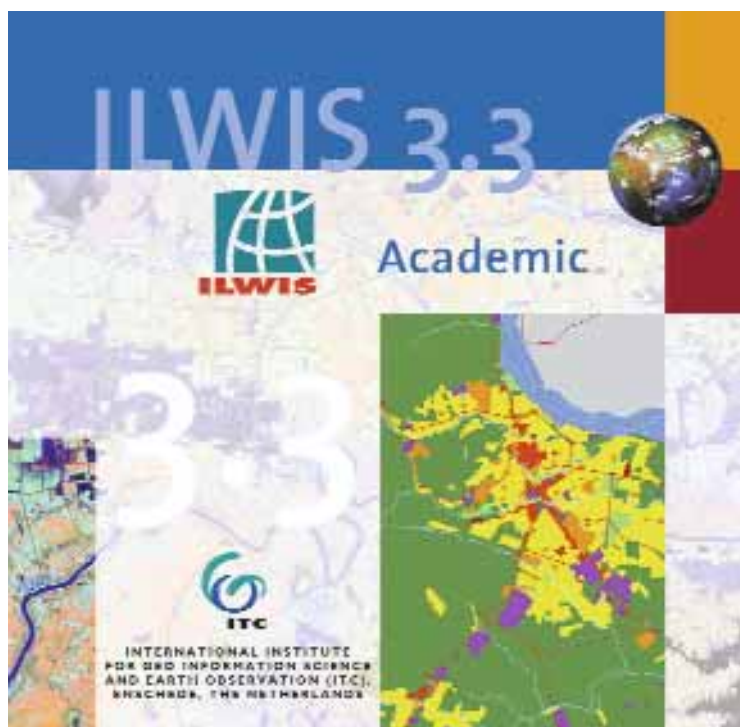
The migration has the following implications:

- ILWIS software will be made freely available ('as-is' and free of charge) as open source software (binaries and source code) under the

52°North initiative (GPL license) as per July 1st, 2007. The current ILWIS download page (<http://www.itc.nl/ilwis/downloads/default.asp>) will be directed to a page at 52°North, which will be announced in due time.

- ILWIS support by ITC has been stopped as per January 1st, 2007.

In case you have further questions on the ILWIS migration please contact ITC's 52°North team:
 Rob Lemmens (lemmens@itc.nl)
 Martin Schouwenburg (schouwenburg@itc.nl).
 For questions on participation in 52°North, please contact info@52north.org.



ACRS 2007: 28th Asian Conference on Remote Sensing 12-16 November 2007, Kuala Lumpur, Malaysia

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The Asian Conference on Remote Sensing (ACRS) is a yearly conference organised by the Asian Association of Remote Sensing (AARS). The idea of organising a remote sensing conference in Asia by Asians and for Asians was first raised and agreed at a gathering attended by Asian scientists in San José, Costa Rica, in April 1980, during the 14th International Symposium on Remote Sensing of Environment (ERIM symposium). The first ACRS was successfully held in Bangkok, Thailand, from 5 to 7 November 1980.

The AARS was officially established during the second ACRS, which was held in Beijing, China, from 29 October to 4 November 1981. The aim of the association is to promote remote sensing through the exchange of information, mutual cooperation, international understanding and goodwill among its members. While the principal activity of the AARS is holding the ACRS during the period October to December every year, the association also conducts other remote sensing activities that are consistent with its aims.

The 28th ACRS will be held in Malaysia from 12 to 16 November 2007. This is the third time that Malaysia will host the conference, the first being the 10th ACRS held at the Putra World Trade Centre, Kuala Lumpur, from 23 to 29 November 1989, and the second the 18th ACRS held at Hotel Nikko, Kuala Lumpur, from 20 to 25 October 1997. The 18th ACRS was attended by 330 participants: 165 from 31 Asian and non-Asian countries/organisations, and 165 professionals and scientists from Malaysia. The countries and re-

gions represented were Australia, Austria, Azerbaijan, Bangladesh, Brunei Darussalam, Cambodia, Canada, China, China Taipei, Egypt, France, India, Indonesia, the Islamic Republic of Iran, Japan, Jordan, Kuwait, the Republic of Korea, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, the Netherlands, the United Kingdom, the USA, and Vietnam. The conference also at-

tracted 20 international and two local exhibitors, who took the opportunity to introduce and promote their products and services in the field of remote sensing and related technologies. The 28th ACRS is expected to welcome some 800 participants from the host country and abroad. ITC will actively participate in the conference and will staff a booth at the exhibition. (Source: conference website)

The poster for ACRS 2007 features a satellite image of Kuala Lumpur, Malaysia, as a background. The text is overlaid on this image. At the top right, it says 'Welcome to Malaysia' with a small logo. The main title is 'ACRS 2007' in large red letters, followed by 'The 28th Asian Conference on Remote Sensing' in smaller yellow and red text. Below this, it reads '2nd Announcement and Call for Papers' in red. The website 'http://www.macres.gov.my/acrs2007' is provided. The location and dates are 'Kuala Lumpur, Malaysia' and 'November 12-16, 2007'. A section titled 'IMPORTANT DEADLINES' lists: 'Abstract Submission : July 16, 2007', 'Notification on Abstract Acceptance : August 16, 2007', 'Full Paper submission : September 24, 2007', and 'Registration : September 24, 2007'. At the bottom, there are logos for the Ministry of Science, Technology and Innovation, Malaysia; the Malaysia Centre for Remote Sensing; and the Asian Association of Remote Sensing.

Best Paper Award for ITC Alumnus Ajay Bhakta Mathema

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Mr Ajay Bhakta Mathema received the Best Paper Presentation Award for his presentation on his MSc work during the International Conference on Emerging Issues on Research and Development held from 4 to 6 April 2007 in Kathmandu, Nepal.

The award was presented to him by Shunji Murai, emeritus professor of the University of Tokyo and fellow of ITC. Ajay graduated from the ITC MSc course Natural Resources Management in 2005. His thesis was entitled "Monitoring of peat bog restoration".

Mr Ajay Bhakta Mathema



"Corruption and Land Administration": Article of the Month

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The article "Corruption and Land Administration" was selected Article of the Month for March 2007 by the International Federation of Land Surveyors (FIG).

The article was written by Professor Paul van der Molen and Dr Arbind Tuladhar of the ITC department Urban and Regional Planning and Geo-Information Management.

The full article can be found at:

http://www.fig.net/pub/monthly_articles/march_2007/march_2007_vandermolen_tuladhar.html



Each year ITC organises some ten refresher courses across the world

life after itc

Nine Refresher Courses in 2007

Refresher courses - certificate (post-graduate) courses of usually two-week duration that are organised for alumni in their home countries or regions - are meant to increase the impact and prolong the effects of earlier training.

These courses are funded mainly by the Netherlands Fellowship Programme (NFP) and, in principle, the target group consists of alumni who have completed any NFP-funded training or education at least two years before the planned starting date of the relevant refresher course. Colleagues and supervisors of alumni are also allowed to participate in (part of) a refresher course, as are alumni of earlier DGIS and SAIL projects.

Sustainable Economic Development and Conditions for Land Administration

Vietnam: 18-29 June 2007

Participatory GIS for Effective Land Management under Transitional Conditions

South Africa: 9-20 July 2007

Urban Environmental Planning and Management in Eastern and Central Africa

Tanzania: 3-14 September 2007

Use of Geo-Information Data for Coastal Area Management in West Africa

Senegal: 25 September-5 October 2007

Flood and Drought Monitoring in African Transboundary Water Basins

Ghana: 15-26 October 2007

Building Disaster Management Capacity in Western Africa with Regionally Owned Satellites

Nigeria: 15-26 October 2007

Empowering Citizens: New Techniques for Mapping on the World Wide Web

South Africa: 5-16 November 2007

Photogrammetric Spatial Data Acquisition within the Scope of GIS and Internet-Oriented Mapping

Vietnam: 5-23 November 2007

Targeting Urban Poverty Alleviation in Sub-Saharan Africa

Tanzania: 19-30 November 2007



For more information and registration:
http://www.itc.nl/education/courses/refresher_courses.asp

Refresher Course on Photogrammetric Spatial Data Acquisition within the Scope of GIS and Internet-Oriented Mapping

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From 6 to 24 November 2006, a refresher course on photogrammetric spatial data acquisition within the scope of GIS and internet-oriented mapping was held in Lusaka, Zambia.

Course coordination and execution were in the hands of Sokhon Phem of the Earth Observation Science department and Jeroen van den Worm of the Geo-information Processing department. The course was given in close collaboration with the Department of Geomatic Engineering, University of Zambia (UNZA). The initiative to organise this course was inspired by the long-existing cooperative relationships between the departments involved.

The director of the UNZA School of Engineering and UNZA vice-chancellor Professor Robert Serpell addressed those attending the official opening ceremony. To the surprise of all, Professor Serpell opened his speech by singing the Zambian National Anthem! Professor Serpell mentioned the relationship enjoyed by UNZA and the Netherlands Organization for International Cooperation in Higher Education (NUFFIC). He also mentioned that UNZA is currently engaged in a wide-ranging three-year programme of inter-university cooperation with the universities of Amsterdam and Groningen to strengthen technical, financial and administrative support.

In his opening speech, Sokhon Phem focused on the aim and objectives of the refresher course. With a course duration of three weeks, its main aim was to provide awareness and hands-on experience in applying up-to-date photogrammetric spatial data acquisition

techniques and processing acquired data into the construction of interactive and dynamic web maps, using Flash technology. The theme throughout the course was to simulate a complete digital (topographic) map production line, covering every (topographic) stage, from spatial data acquisition to the final distribution of a (interactive) web map via internet.

The two main topics covered were:

- using digital photogrammetric techniques for acquiring spatial data, and updating the existing topographic dataset
- the (cartographic) design and production of an interactive (topographic) map derived from the GIS dataset, and the distribution of maps of this kind via internet.

Website building was also included in this component.

The lectures were given, and the practicals carried out under the guidance, of ITC (Sokhon Phem and Jeroen van den Worm) and UNZA (Dr Augustine Mulolwa, Michael Phiri

and Mwanza) staff. While most of the alumni found that the photogrammetric topics refreshed the knowledge and experience gained during their earlier studies at ITC, the topic on interactive mapping using Flash technology was a real eye-opener for them all.

During a half-day excursion organised by UNZA on Saturday, 17 November, participants were able to see for themselves the rapid strides made in the development of Lusaka, and the impact of this on the local infrastructure. This field excursion was followed by a small party in the Commonwealth Youth Centre. Locally based ITC alumni were also invited to attend, enabling the renewal of professional and social contacts between the ITC alumni. Moreover, the first steps were taken during the party to establish a Zambian ITC Alumni Association.

During the closing ceremony, each participant received an ITC Certificate of Course Attendance signed by the



The participants

dean of the UNZA School of Mines (Department of Geomatic Engineering), the head of the Department of Geomatic Engineering, and the two ITC course coordinators. Before the ceremony, three participants gave a short PowerPoint and/or web-based presentation to the dean, explaining what they had learned during the course. Christine Mshana, lecturer at UCLAS, Dar es Salaam, Tanzania, gave a short presentation on the successful ITC/UCLAS joint education diploma course.

Based on course evaluations, the course can be seen as a success. All participants expressed the view that the knowledge and particularly the hands-on experience gained during the course would be of great benefit to their organisation.

The same course will be offered for a second time as a refresher course in November 2007 in Hanoi, Vietnam, in

cooperation with Digital Photogrammetry Enterprise (DPE), one of the biggest concerns of the Aerial Photogrammetry Company (APT). APT is a state-owned company that falls under the Ministry of Natural Resources and Environment.



Anaglyph stereo for stereo digitising: for mapping purposes, the 3D anaglyph glasses can enable an operator to interpret and measure topographic features such as roads, buildings and rivers

ITC Alumni Assist Thai Schools with Teaching GIS and Remote Sensing

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Mr Thiva Supajunya and other alumni are actively involved in encouraging schools to incorporate some basic teaching on remote sensing and GIS. ITC was asked to cooperate in this respect.

As a start, two Aster images of the area around Hua Hin were prepared. A poster was made displaying these data, and ITC's rector presented this to the Thai alumni during an alumni reception held on 6 November 2006 at the Dutch embassy in Bangkok. Furthermore, a Memo of Understanding was signed on this occasion to establish the ITC Alumni Association of Thailand under the

auspices of the Netherlands Alumni Association of Thailand (NAAT). The president of the ITC Alumni Association of Thailand is Mr Thiva Supajunya and the secretary is Ms Parida Kuneepong.

During a meeting with Mr Thiva, it was suggested that Eduard Westinga should visit him at the Thin Than Thai Institute in Prachuab Khiri Khan in January 2007 to develop training material and conduct a three-day workshop. The Thin Than Thai Institute is a non-profit organisation that studies ancient cities with the aid of remote sensing and GIS. It has a fully equipped remote sensing/GIS labora-

tory and an archive of old aerial photographs of Thailand.

On Wednesday, 17 January 2007, Eduard Westinga travelled with Mr Thiva Supajunya and Ms Parida Kuneepong from Bangkok to Prachuab Khiri Khan. The road from Petchaburi to the Thin Than Thai Institute was digitised with a handheld GIS and GPS for purposes of verifying the georeferencing of images.

At the institute, staff assisted in verifying the georeferencing of existing data. An Aster image of 29 December 2003 covering the area around Prachuab Khiri Khan was

brought from ITC; Mr Thiva Supajunya had obtained an Ikonos image of the school location and Prachuab Khiri Khan; and Ms Parida Kuneepong had brought a digital orthophoto of the school surroundings taken on 17 January 2003. Using the digitised roads and other available topographic data, the images were verified for geometric accuracy, and all the data fitted together perfectly.

Teachers from the nearby Huay Nam Pu School are participating in this project on a voluntary basis. In total six teachers attended the workshop, including Mr Prasong Seetang-on, the deputy headmaster, who teaches geography. On the Friday, the project was explained to the schoolteachers. They were introduced to satellite imagery, given some hands-on training on PointAsia (Thai version of Google Earth), and given a demonstration of handheld GIS and GPS around the institute premises. On the Saturday, it was into the field around Huay Nam Pu School with the Ikonos image and orthophoto. Based on this fieldwork, some training material was prepared for the school. One example is the orthophoto with 19 polygons on an html page. A click on a polygon produces the corresponding ground photo. On the Monday, the programme was discussed with regard to the availability of the teachers. All the participants were full of enthusiasm and debated among themselves how to organise the project.



Demonstration of handheld GIS with GP



Orientation on orthophoto and Ikonos image at Huay Nam Pu School



Field observation