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introduction

For the last 18 months all leading scientific staff, under the guidance of the rector, have been working on the formulation of a new research programme. Five research spearheads have been defined under the title "Geo-information Science and Earth Observation. These spearheads address the main issues that will confront the world over the coming decades - moreover, they are firmly rooted in ITC's expertise. In this issue ITC's research coordinator reports extensively on the new research programme.

On 6 and 7 September the graduation ceremonies took place. Happy faces at the reception after the official ceremony! But sad faces too, since graduation implies farewell. However, these graduates are now members of ITC's alumni network, so farewell does not mean goodbye forever. Hopefully within the next few years many graduates will have the opportunity to follow a refresher course, and ITC News is here to keep you posted in this respect. ITC's dean of students has written an article for us about the graduation ceremonies.

Shortly after these events came the official opening of the Academic Year 2001-2002 on 28 September. The keynote speaker on this occasion was Mr Luis Rolando Durán. In his address - you will find an abridged version on page 9 - he gave an introduction to the role of geo-information in the context of disaster reduction, an issue claiming urgent attention in many parts of the world. The Klaas-Jan Beek Award, named after the former ITC rector, was presented for the first time during this year's ceremony. More about the award and of course this year's winner on page 11.

But ITC's activities are not confined to Enschede. Throughout the year staff are flying off to distant parts. Paul van der Molen was recently in Addis Ababa, representing the Institute as observer at the second meeting of the Committee on Development Information of the UN Economic Commission for Africa. Connie Blok, Allan Brown, Menno-Jan Kraak and Sjef van der Steen attended the 20th International Cartographic Conference in Beijing, China. And in Peru staff carried out a three-week course within the framework of the Peru Urban Management Education Programme. You can see that ITC News means news from all over the world!

Janneke Kalf, Acting Managing Editor

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ITC's New Research Programme

Elisabeth Kosters kosters@itc.nl

When Prof. Martien Molenaar was appointed incoming rector of ITC in June 2000, his first initiative was to invite all leading scientific staff to work with him in formulating a new research programme for the Institute.

The new Directorate during the May retreat (from left to right: Prof. Molenaar, Sjaak Beerens and Gerard van Dorp)

Background and Rationale

Why first a research programme? Isn't ITC primarily a training institute? This question was raised repeatedly when we started this process about 18 months ago. It is important to remember that Prof. Klaas Jan Beek, rector of ITC from 1980 to 1996, always pushed research and was responsible for the start of ITC's PhD programme, so research is definitely not a new issue at ITC. Moreover, since 1996 ITC has been listed as an institute for "higher education and research" in the planning document for the higher education sector (HOOP) of the Netherlands' Ministry of Education, Culture and Science.

Second, ITC needs a strong research programme exactly because it is a training institute. Good education is grounded in staff members who are top experts in their field. Such a position can only be realised when people are actively involved in the global scientific debate by publishing their own research efforts. Peer-reviewed publications demonstrate the tested quality of scientists. Consequently, good research is a necessary component of good education. Well-focused high-quality research carried out by the Institute's rank and file enables us to base our education on questions rather than answers. We owe it to our trainees to provide them with not only the appropriate technological skills but also, and most importantly, the skills to ask the right questions about our science - and we must be actively involved in research in order to be able to ask these questions.

Although interesting and challenging research is carried out and published by numerous ITC scientists, and by the PhD students they supervise, the overall effort shows that we are "spread too thinly". A quick glance at the annual publication effort (published in ITC's *Annual Report*) shows that our effort is insufficiently focused on *geo-information science and earth observation* (the title of all of ITC's diplomas since 2001) for specific purposes in specific contexts. The result is that our research effort is not efficient and therefore not effective. We are simply dealing with too many different issues for the amount of staff time available. Expert groups are too small and subjects become fragmented. It is almost impossible for ITC to make an impact in the world of remote sensing and geo-information science.

An important line of thought of the new rector is that ITC should cease to think of itself as the only source of knowledge – we should position ourselves more as a gateway to highly specialised knowledge in fields linked to

our own. This means we must actively cooperate with scientists in "the North", most importantly through co-operation in the national and international research programmes of the Netherlands Science Foundation (NWO), the European Union (EU), the European Space Agency (ESA) and similar organisations. This ambition is new to many (but not all!) in ITC. At institute-scale, we have only been marginally involved in such efforts to date.

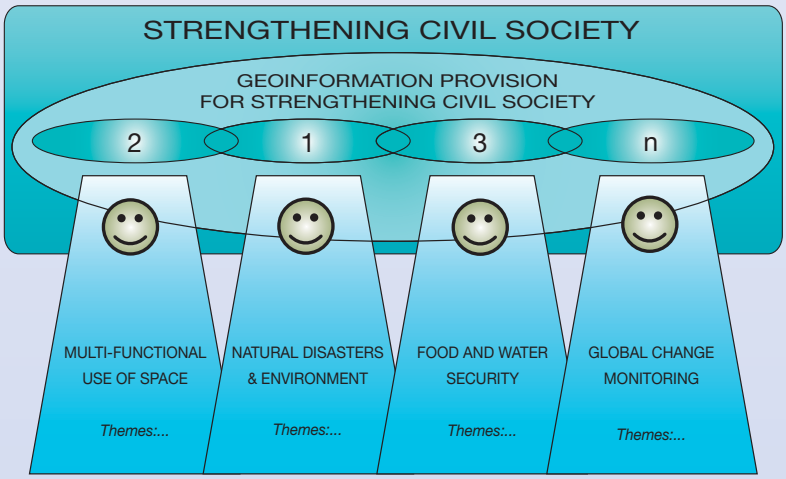
In other words, we have not been targeting our own human resources properly. Not only must we work harder to develop the research skills of our staff, we must also focus their research activities more carefully in order to make greater impact, increase research funding and thus attract more PhD students. This is what the process of the last 18 months has been all about.

Introducing SMART

This process has become known as the "SMART" process. The acronym for "Strategic Market-Adjusted R&D Transfer" thus encapsulates our ambition to improve ITC training through improved application-driven research.

ITC's full professors first got together with the rector, the research coordinator, the head of Educational Affairs and the head of the Bureau of Project Services in July 2000, soon after the appointment of Prof. Molenaar by the Board of Governors. There were three more meetings in the autumn of the same year, and by the end of that first cycle of sessions the group had decided to formulate a limited number of research spearheads under the main title "Geo-information Science and Earth Observation" by early spring 2001. These research spearheads were to fulfil a number of criteria (summarized below).

- The research spearheads should deal with either one of two types of problem area:
  1. problem areas where geo-information science and earth observation play an essential role in finding solutions
  2. problem areas that need solutions to guarantee relevant, economic, timely and reliable information provision.
- They should attract as research partners certain research groups from our four core university partners (Delft Technical University, Utrecht University, Wageningen University, Twente University) and/or Dutch R&D institutions such as the Kadaster and the National Geological Survey.
- They should also be attractive to certain key "Southern" partners, e.g. IMPE, AIT, CGIAR institutes, etc.
- ITC should be able to attract external sources of research funding on the basis of a strong performance in these spearheads.
- The programmes should be development-relevant in that they should address or take into account:
  - good governance, including strengthening civil society
  - gender
  - poverty alleviation
  - sustainable use of resources
  - security, both legal and environmental
  - social justice, including rights to land.



The meetings of the SMART group were not only important in terms of starting the debate on a new research programme, they also gave Prof. Molenaar the opportunity to test his ideas in an informal setting. He was thus able

to incorporate much of the feedback in his inaugural address on 18 December 2000.

At a one-day retreat in March 2001, the SMART group met together to present a series of research lines and at the end of the day these presentations were summarized in five spearheads:

1. Geo-information science and earth observation for strengthening civil society
2. Geo-information science and earth observation for improving the multi-functional use of space
3. Geo-information science and earth observation for improving water resources, food security and the environment
4. Geo-information science and earth observation for disaster management
5. Geo-information science and earth observation for the better understanding of global change.

These spearheads address the main issues that will confront the world over the coming decades and they are also firmly rooted in ITC's expertise. The goal is to eventually have all research activities grouped under these spearheads. Of course, not all currently ongoing research fits within these spearheads, and naturally we will not go back on commitments made to these projects, so we'll need a few years to successfully refocus our effort.

Defining spearhead 1: What do we mean by strengthening civil society ...?
(from left to right: Prof. Reeves, Prof. Groot, Prof. Georgiadou and Prof. van der Meer)

Subsequently, the rector invited all associated and visiting professors to join in the next phase of the effort, which took place between March and the middle of May. Over these two months, the spearheads were further thought out and elaborated. During a two-day retreat in the middle of May, the five spearheads were presented and were the subject of further discussion and deliberation. Between May and early October 2001, the different groups prepared the final documents.

The Directorate issued a call for proposals for the budget year 2002 by 1 September, with a deadline of 1 November 2001. All proposals will be scrutinised by experts from outside ITC. The Directorate will announce funding and time allocation before the end of the calendar year.

We are asking for project proposals that fall under these spearheads and incorporate the activities of staff, PhD students and post-docs/visiting scientists. In doing so, we are trying to redress one of the weaknesses that became apparent from an evaluation of the PhD programme, carried out during spring 2001 (Goussiev and Orlova, 2001). The majority of PhD students feel they are too isolated during their research and insufficiently involved in a research team. We already knew about this weakness in our PhD programme, but we had never quantified it among PhD students and PhD graduates until this evaluation. This isolation can be partly explained by the fact that most PhD students are recruited on the basis of their own proposal, which relates to an issue relevant to their country and employer organisation. This characteristic is also a strength of our PhD programme because it guarantees a high degree of commitment from PhD students to their research topic, and we don't want to detract from this in the future. So we are confronted with a dilemma: the need to strengthen the coherence and focus of our research programme and the need to accommodate the demands of our clients.

The rector in charge

This balancing act will need careful fine-tuning and monitoring over the next few years!

Although we have spent nearly 18 months on this process, we realise that it is still a tall order for many staff members. After all, their normal tasks did not let up during this period, so we're asking a lot. We have therefore set a second deadline, 1 March 2002, and this deadline is still open for funding during 2002.

It is our sincere hope that we can bring ITC to the forefront of this important knowledge field over the next five to eight years.

All documents and PowerPoint presentations pertaining to the five spearheads can be found on the following website:
http://www.itc.nl/res/index.html - go to ITC Research Program from here.

Reference

Goussiev, S. and S. Orlova, 2001, Evaluation of the ITC PhD program. Internally published ITC report, available through the ITC Library.

High ambitions indeed! Members of the SMART group during the May retreat

Opening of the Academic Year 2001-2002

On 28 September 2001

Martien Molenaar molenaar@itc.nl

Address delivered by
Martien Molenaar, rector of ITC

Ladies and gentlemen,
Welcome to the opening of the academic year 2001-2002 of the International Institute for Aerospace Survey and Earth Sciences (ITC). And a special welcome to the ambassadors and representatives of the embassies of 17 countries, who have travelled all the way from Brussels and The Hague to be here on this occasion. Your excellencies, welcome. I certainly hope that after these official proceedings you will have time not only to get acquainted with ITC, but also to meet your fellow citizens who have freshly arrived here over the last few days.

I would also like to welcome Mr Helder, vice-mayor of Enschede, Prof. Apers, member of the Board of the University of Twente, and Mr Boom, chairman of the Board of Saxion Hogescholen. And a special welcome to Prof. Liu, vice-president of Wuhan University, with which we have enjoyed such a long and successful cooperation.

But most of all I welcome our new course participants.
It is with great pleasure that we welcome you at the beginning of your stay here at ITC. About 240 young professionals from all over the world have taken the decision to leave their families and their home organisations to join the ITC community for the next 12 to 18 months and to make use of the facilities for education and knowledge exchange provided by our six educational programmes. You will join the 180 participants of the 2000-2001 programme who are still here finishing their MSc studies, and the 50 PhD candidates currently doing their research at ITC. Now that you are here, I am happy to open this new academic year.

The ITC Community

You will soon find out that ITC with its multicultural and international character is a very special community. It is different from many other schools or universities because our Institute provides educational programmes for professionals in the field of geoinformatics and earth observation and its application domains. Most course participants come from organisations that want to improve their performance in this field. Therefore, they send their staff to acquire new knowledge and expertise

The official ceremony starts when the academic cortege files into the "Grote Kerk"

that are of fundamental importance in this respect.

The very fact that most of you are professionals implies that our educational programmes are not just meant to be a one-way transfer of knowledge from lecturer to course participant. We sincerely expect active participation from you too, because exchange of experience among course participants is one of the important aspects of education at ITC.

Equally important is the fact that, besides the official education provided by our Institute, there is the opportunity to make new friends from different national, cultural and religious backgrounds. This will increase mutual understanding, which is so important for creating a world community. The world has recently learned just how important this is. There is good reason to believe that, with better understanding between the different peoples of this world, the recent violence that shocked the world might have been avoided and the violence we may fear in the near future would be much less likely.

We hope that after experiencing and enjoying life in the ITC community you will leave here a different person, with friends all over the world. We sincerely hope that you will experience this as a positive personal development and that it may contribute to a more peaceful world in the future.

During your stay here you will notice that ITC is in a stage of transition. Our funding position is to change and with that the Netherlands Fellowship Programme that made it possible for many of you to come here. Also the main project funds of the Netherlands' Ministry for Development Cooperation will be subject to different criteria. Access to these funds will be on a much more competitive basis.

University Networks

For ITC this means that we have to inject more energy in participating in networks of universities and scientific and professional organisations here in Europe. Four universities are represented on our Board of Governors: the universities of Delft, Utrecht, Wageningen and Twente. We already have several forms of cooperation with these universities, and this cooperation will be further stimulated by the fact that these universities will introduce a Bachelor-Master structure. ITC has programmes at Master's level only, so we can see good opportunities for linking the educational programmes. Furthermore, the universities are actively developing international programmes in fields closely related to ITC's domain of expertise.

ITC will intensify the co-operation with four Dutch universities

With our nearest neighbour, the University of Twente, we will have an administrative relationship as from 1 January 2002. This means that the university will act as our penman and be our main representative to the Ministry of Education. But we certainly both have the intention to build on this relationship and jointly develop educational programmes and research activities. The Saxion Hogescholen are also actively developing their international activities. Therefore, the time seems ripe

Mr. Leslie Nkansa Osei -Bonsu welcomed the new students on behalf of the Student Association Board

to see what synergy can be created through joining forces here in Enschede. Besides educational and internationalisation activities, facilities and particularly student accommodation are other areas offering good opportunities for collaboration.

Worldwide Contacts

We also want to strengthen relationships with organisations in your home countries. We see that the traditional aid and donor relationships are rapidly changing into partnerships, where both partners join in projects for the exchange of expertise and both partners will be responsible for acquiring the funding for such projects. This means cooperation on the basis of equality. An important aspect will be the decentralisation of our educational activities. One of ITC's strategic priorities will be to develop joint educational programmes with high-quality universities and institutes in different regions of the world. The objective is to create facilities where future generations of course participants will be able to follow parts of our programmes, or even full programmes, in their home regions. In this way they won't have to leave their countries and maybe their jobs for a year or more. We will be happy to have your inputs while we are developing this strategy.

Ambassadors and representatives of the embassies of 17 countries attended the opening ceremony. Among them the Ambassador of Nigeria, Mrs. Awolowo-Dosumu, here together with students from her country

To operate under these new conditions, ITC will have to work continuously to maintain its expertise at a very high - even top - level in order to remain an attractive partner in such cooperative networks.

Spearheads

Consequently, we have decided to make investments in this respect and a new research programme has been recently introduced. Five themes or spearheads have been formulated, namely *geo-information science and earth observation for:*

- strengthening civil society
- improving multifunctional use of space
- water management, food security and the environment
- disaster management
- understanding global change.

These will be the focal points of future development in our field of expertise, under the general heading of "Geo-information Science and Earth Observation". With these themes we hope to further develop our problem-solving capacity in domains that are of great relevance for many countries all over the world. It will not be possible to give a sketch of all these themes, but we are happy that Dr Rolando Durán has accepted our invitation to give an introduction to the role of geo-information in the context of disaster reduction. This issue is highly important in many parts of the world.

Information Management for Decision Making in Disaster and Risk Reduction: Experiences in Central America and the Andean Ridge

Niek Rengers

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Abridged version of a presentation given on the occasion of the Opening of the Academic Year 2001-2002 by Luis Rolando Durán, Executive Secretary of the Centro de Prevencion de Desastres Naturales en America Central (CEPREDENAC) till June 2001

Mr. Luis Rolando Durán

Some Notions about Risk and Disaster

The world's historical development has been characterised by recurring disaster situations. It seems, however, that developing countries experience disasters with a higher frequency and greater intensity than developed countries. Latin America, for instance, has run up a larger account of disasters than neighbouring North America, even though geographically they share the same continent and almost the same types of natural phenomena.

Risk is inherent in development. It is the result of the social dynamics of humankind in action at global, regional, national and local scales. Disaster is a state attributable to a risk – or a series of risks – that has not been well managed. This issue has been the focus of various studies conducted by the Latin American Social Studies Network for Disaster Prevention (LA RED).

Risk and Development Management

Development managers have a responsibility to introduce vulnerability reduction criteria in every activity. *Development without considering risk management cannot be sustainable*. Indeed, risk management implies a solid well-based decision-making process - initially oriented by risk managers, but implemented by all sectors involved.

Actors in risk management are the same as those in development management. The public and private sectors, local and international organisations, individuals and group producers, they are all entitled and indeed expected to participate in risk management, as they do in other development processes.

Geospatial Information: Main Instrument for Decision Making

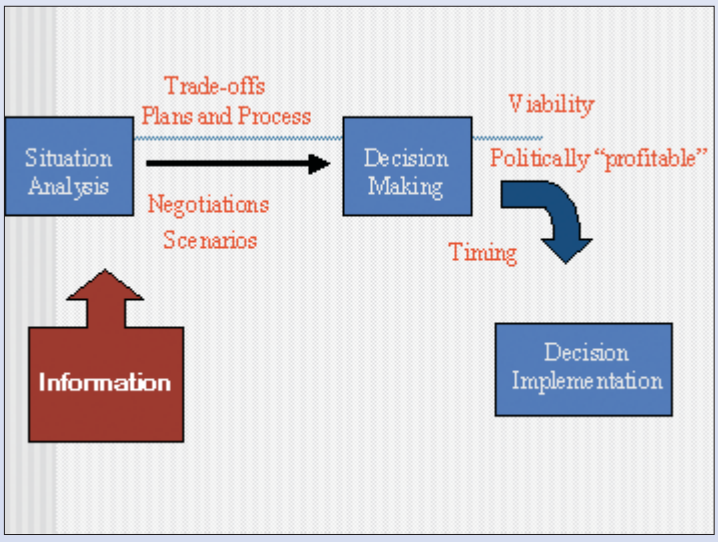
One of the most important instruments – if not *the* most important instrument – for decision making in risk management is geospatial information. However, style of presentation, content and tendencies vary significantly according to the stage in the process where this information is required. *Situation analysis* leads to negotiation scenarios and the definition of priorities. Here, the possible social, human, political and financial costs are assessed in order to define all the relevant conditions and enable a choice to be made between the various options. An effective decision-making process, considering such delicate factors as viability and political convenience, and the development of timely implementation depend heavily on these earlier stages. The whole process requires solid well-presented information.

There is a rising demand for information for risk management. Few of the actors, however, have a clear conception of their involvement in the process. For this reason, the information produced may itself turn into a stimulating element, provoking information demand in potential users. The whole process depends on the capacity to convince users of the necessity for

Mr. Durán delivering his address

information. In many cases, it is the scientific product that is being promoted, not the input that information can provide to decision-making processes. In this regard, geospatial information should be seen not as an objective in itself but rather as a management instrument to improve governance at local level, increase the impact of governmental programmes, reduce the conflict between civil society and the State, encourage the political control of risk-building processes, and increase transparency and accountability.

In recent years, many efforts have been made to improve data accuracy and quality. ITC is engaged in such work in various countries, and other specialised institutions too, such as USGS and BGS, are supporting regional efforts in this way. At the same time, governments are making important decisions in an endeavour to improve the capacity of their countries to reduce disaster impacts and protect development processes.



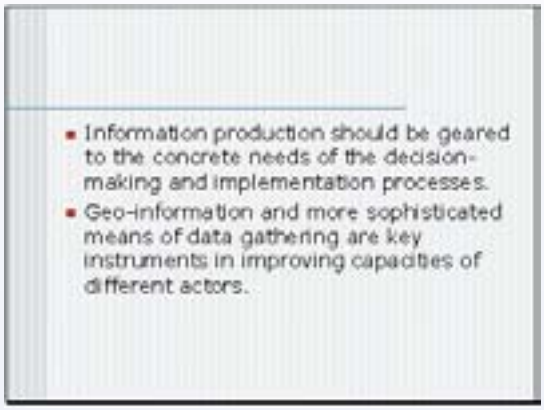
Risk and Disaster Management: Tendencies in Central America and the Andean Ridge

In the 1960s, strategies were dominated by an emergency and civil defence approach. Parallel to the International Decade for Natural Disaster Reduction (IDNDR) (1990-2000), prevention and risk management featured prominently on the agenda - in some cases as a result of local or regional processes, and in other cases as a result of the IDNDR promotion process. In the early days of this new approach, prevention tended to be seen as a process of hazard information production, with prediction capacity one of the primary objectives. Currently, visions and strategies are constantly evolving into risk management concepts.

Establishing CEPREDENAC in Central America towards the end of the '80s was the start of a significant process of promoting risk reduction, a process consolidated in 1999 by the adoption of the Strategic Framework for the Reduction of Vulnerabilities and Disasters in Central America by the prime minister of Belize and the presidents of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama and the Dominican Republic.

In 2000, under the terms of the Integration of the Andean Region (SIA), the Coorporación Andina de Fomento started to promote the introduction in South America of risk management using a sectoral approach in development processes. The presidential mandate includes Bolivia, Colombia, Ecuador, Peru and Venezuela.

However, even with the adoption of such important agreements, few of the investment processes have established procedures to reduce the vulnerability factors. During recent years, major catastrophes have led to the loss of thousands of lives and damage to the socio-economic infrastructure running into billions of US dollars. But there is light at the end of the tunnel. Ever more risk management systems are arriving on




Students were invited to wear traditional dress

the scene and new legal frameworks are being approved throughout the region, introducing new institutional structures that are more participative in nature and offer scope for development.

Conclusion

Tragedy has hit Central America time and again. Fortunately, this has not brought total darkness to the area but has heightened awareness about causes and possible solutions, thus making it clear to all sectors that risk management and prevention are vital concepts in development. This definitely creates firm ground for introducing geospatial information as an element of prime importance in decision-making processes and, consequently, in development.

The complete address can be found on the following website: http://www.itc.nl/gen/news/events/frames-events.html

Klaas Jan Beek Award

Martien Molenaar molenaar@itc.nl

The Klaas-Jan Beek Award, named after the former ITC rector and made possible through the Schermerhorn Fund, is presented annually to the writer of the best ITC MSc thesis. The award is presented at the opening of the ITC academic year each September and consists of a certificate and a cash sum of EUR 900.

To qualify for submission, the MSc thesis must

- have earned a grade of at least 80 as a component of an MSc degree, with an overall grade of at least 80
- have been completed within a continuous period of six months, and without extending the total MSc study period of 18 months for any reason whatsoever
- demonstrate the proper use of state-of-the-art geo-information science (GIS and/or remote sensing methods)
- have a well-defined scientific focus.

MSc students who are selected for nomination *must* give a presentation of their thesis research on the MSc day.

The jury - a specially appointed committee of senior scientists and PhD stu-

Mr. Walid Belal received the Klaas Jan Beek Award from the rector

INTERNATIONAL INSTITUTE FOR AEROSPACE SURVEY AND EARTH SCIENCES

ITC

This is to certify that the

Klaas Jan Beek Award
2001

has been granted to

Mr. Walid Belal

by the Board of the "Stichting ITC-Fonds"
for his MSc thesis entitled:

"The use of bicycles for accessibility of the low-income population to work opportunities"

This award was presented at the
ITC Opening of the
Academic Year 2001-2002
Ceremony
Enschede, the Netherlands, 28 September 2001

Drs. D. Schermerhorn, MSc
Chairman of the Board

Prof.Dr.Ir. M. Molenaar
Rector of ITC

dents from within ITC - selects the top theses and presentations (in combination) and submits these to the Scientific Council for a final decision.

It is now my pleasure to notify you of the outcome of the evaluation by the external members of the Scientific Council.

The winning thesis this year was written by **Mr Walid Belal** from Egypt (UPLA programme) and entitled *"The Use of Bicycles for Accessibility of the Low-income Population to Work Opportunities"*. Mr Belal was born on 14 March 1973. He studied at the Department of Architecture and Urban Planning at Assiut University, where he obtained a BSc degree. Here at ITC he joined the UPLA MSc programme, where he achieved an average grade of 82, with 83 for his thesis. The Scientific Council found his thesis to be thoroughly executed and clearly written. It addressed a practical and relevant issue by combining fieldwork and the use of complex geospatial modelling.

However, since competition was fierce, an honourable mention goes to **Mr Chudamani Joshi** from Nepal (NRM programme) for his thesis entitled *"Invasive Banmara Spatial Detection and Prediction"*. This well-written thesis addresses an important environmental problem, which is tackled using a GPS-aided field-based approach and analysis with Landsat data.

Time to relax after the official ceremony.
Mr. and Mrs. Belal and Richard Sliuzas

ITC Observer at CODI II

Paul van der Molen vandermolen@itc.nl

Paul van der Molen (visiting professor of cadastre and land administration) represented ITC as observer at the second meeting of the Committee on Development Information of the UN Economic Commission for Africa (UN/ECA) in Addis Ababa from 4 to 7 September 2001.

Paying a visit to the Ethiopian Mapping Authority together with John Trinder (president ISPRS) and Bengt Rystedt (president ICA)

Meeting with ITC alumni in Ethiopia

The meeting of the Committee - the successor of the UN Regional Cartographic Conference for Africa - was attended by representatives from 46 African countries and focused on issues relating to ICT, statistics and geo-information. Paul van der Molen presented a paper on the economic aspects of geo-information (prepared by Richard Groot) and the concept of cost recovery.

Jointly with John Trinder, president of ISPRS, Bengt Rystedt, president of ICA, and Jes Ryttergaard representing FIG, ITC contributed to drafting the CODI II resolutions. With regard to the issue of geo-spatial data infrastructures (SDIs), the Committee recommended that member states give priority to establishing SDIs with all the necessary components (national standards, metadata, clearing houses and national databases). According to the Committee, the content of the core data sets should be defined by a collective of all GI stakeholders in the country. Furthermore, to meet the wish for regional applications, regional SDIs should be established, with a component African regional database based on a unified African reference system. To promote the coordinated establishment of SDIs in African countries and to facilitate the establishment of regional SDIs and the regional African database, the Committee recommended that a permanent committee on SDIs be set up for Africa, along the lines of the permanent committees for the Americas and for Asia and the Pacific. Observing that land administration organisations were playing an increasing role in the provision of foundation data (property data and large-scale maps), the Committee recommended that African countries should develop appropriate institutional, legal and technical frameworks to integrate land administration and topographical programmes within the context of a wider national SDI strategy.

Messrs Mhlanga, Surveyor General of Swasiland, Medhin, director general Ethiopian Mapping Authority

Turning to the economic aspects of geo-information, the Committee recommended further investigation into the regulatory conditions under which national mapping agencies are eligible for competitive value-added production and into the concept of cost recovery in various financial and accounting regimes.

A visit to the Ethiopian Mapping Authority (EMA) brought Paul van der Molen up to date with the current policy and activities of the organisation. Paul was also invited to a dinner with Dr Hadgu Medhin, EMA director-general, to discuss developments in Ethiopia and to meet ITC alumni, as well as to a private dinner with Dr Orlando Nino Fluck from UN/ECA to discuss the role of ITC in elaborating the Committee's recommendations. During all meetings the Committee showed great interest in advancing the establishment of SDIs in Africa.

Our Alumni are Our Ambassadors

Jan de Ruiter deruiter@itc.nl

A last sentence or two of encouragement and as a token of our respect and esteem, and then we take leave of our new graduates.

Right up to the last week of their study programmes, our "graduates-to-be" were still unsure whether the Professional Master's degree or the diploma would actually be theirs. By the end of the closing and graduation ceremony, all doubt had been removed and this autumn some 200 students were awarded the degree of Professional Master in Geo-information Science and Earth Observation or received the Diploma in Geoinformatics.

Four separate graduation ceremonies - for GFM, EREG and WREM, UPLA and GIM, and NRM - took place on 6 and 7 September, with the Geoinformatics diploma presentation two months later on 14 November. Prof. Martien Molenaar, Gerard van Dorp and Niek Rengers represented the Directorate (Sjaak Beerens was unable to attend for personal reasons). Speakers on these occasions included Prof. Kainz (GFM), Prof. Kraak (GIM), Prof. Hale (EREG), Prof. Skidmore (NRM), Prof. Masser (UPLA) and Prof. Meijerink (WREM), in their capacity as chairmen of the respective programme boards, and the programme directors Allan Brown (GFM), Boudewijn de Smeth (EREG), Arno van Lieshout (WREM), Kees Bronsveld (GIM), Mark Brussel (UPLA) and Michael Weir (NRM).

In the presence of family, friends, fellow students and many other guests, the student advisers presented the degrees or diplomas to the new graduates with a few well-chosen words. Looking ahead, the Directorate observed that receiving their degree or diploma marked only the beginning of their future careers with their own organisations in their own countries. That they would have to surmount many obstacles when introducing new knowledge and new techniques went almost without saying. But they would always be able to call on their ITC supervisors and ITC itself for further help and information when required. Within a few years many graduates might well have the opportunity to follow a refresher course, either in their own region or here at ITC. It was also pointed out that as graduates they were now members of the ITC alumni network, and as such could join their national Netherlands Alumni Association. In this way our students take on a new role and become our ambassadors.

For most students, it's been a long time away from home, far from their family and friends. But that's one reason why so many lifelong friendships are forged among ITC students. During the ceremonies, programme directors and student advisers alike expressed their regard and admiration for the commitment and perseverance displayed by the students. On behalf of the Student Association Board, Ms Jenevy Smith (president) and Mr Isah Kiti Nabide (academic commissioner) also addressed the students.

Finally came the good wishes for a safe journey home and a happy reunion with their families … and we'd like to add our own warm wishes in this respect.

"Mapping the 21st Century":
20th International Cartographic Conference in Beijing, China,

6-10 August 2001

Connie Blok, Allan Brown, Menno-Jan Kraak and Sjef van der Steen

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Last summer, 519 cartographers from countries all over the world went to China to attend the 20th conference of the International Cartographic Association (ICA).

In addition, there were 295 Chinese participants. Unfortunately, though, there were only a few attendees from African countries.

Speeches warmly welcoming the participants featured in the opening ceremony, along with greetings - taped on video - from former ITC professor Dr F.J. Ormeling Sr, who during his term as ICA president was able to persuade China to join the organisation. Some cultural interludes added lustre to the ceremony, which was concluded by a presentation given by former ICA president Michael Wood. He emphasised the role of the map in society and, although there are some threats, he foresees a bright future for cartography.

Programme and Conference Impressions

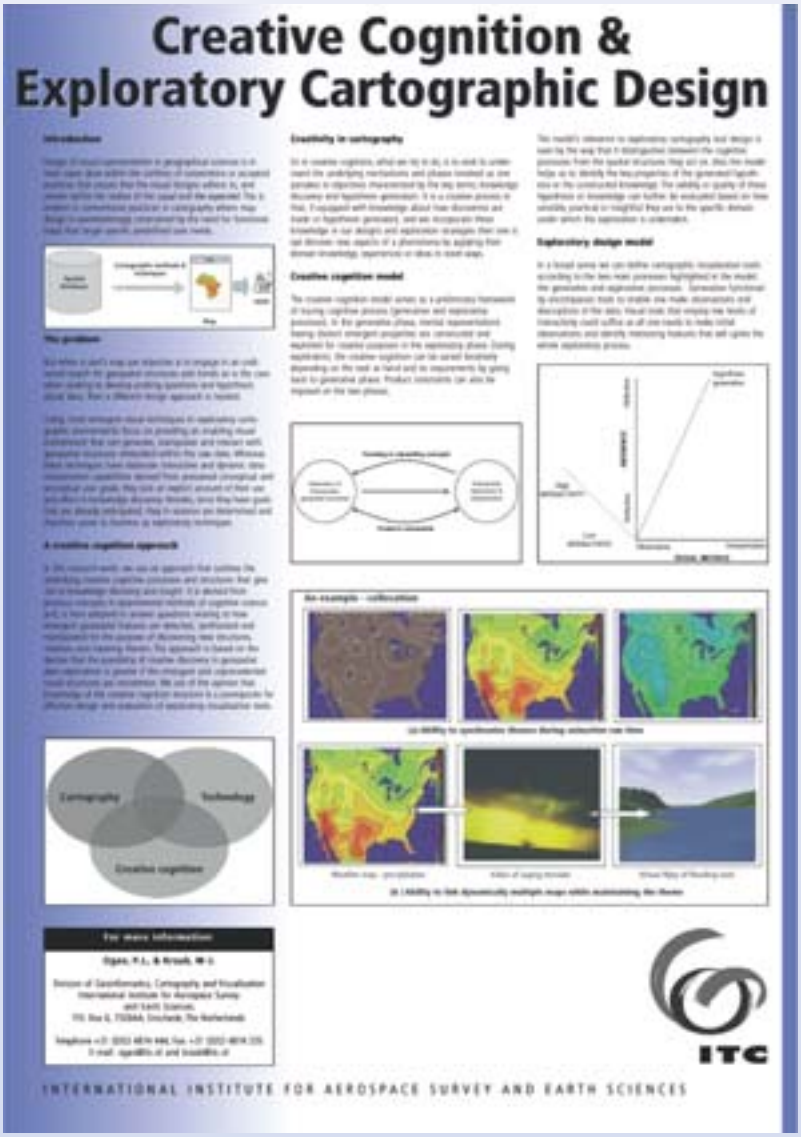
On the programme were 80 posters and 260 presentations scheduled in various parallel sessions and concentrated in a period of less than five days. In addition, there were exhibitions and possibilities to join excursions to several cartographic institutes in Beijing. As it is impossible to cover the full programme in this report, you will find some conference impressions and a report of the plenary sessions and exhibitions. For papers and posters we refer to the conference proceedings (available in ITC's library).

Due to the full programme, the time available for each speaker in a paper session was generally limited to about 10 minutes - a common cause of complaint. It was a pity that quite a number of speakers did not show up and that the tunes of mobile phones frequently disturbed the presentations. Apparently the vibrating mode is not popular in China! All papers and posters are available in the conference proceedings (weighing 6.5 kg and running to 3,450 pages!) or on CD-ROM. Papers and posters cover about 30 conference topics, such as education in cartography, GIS and digital mapping, generalisation, maps on the Internet, visualisation, geo-data quality, cartographic theory and methods, atlases, etc. ITC provided eight paper/poster contributions to the programme. Certain trends could be noticed. For example, many speakers stressed the need for map use research, and the cognitive aspects of map use were also mentioned quite often. Furthermore, there seems to be a revival of the discussion about definitions of concepts such as "map" and "cartography".

In two plenary sessions, the local organisers tried to highlight topics that would attract many participants. During the first session some global issues and their relation to cartography were addressed. The cartographic activities of the United Nations and the UN Geographic Information Working Group established last year were illustrated. The main tasks are related to peacekeeping operations and humanitarian

assistance, as well as global demographic and environmental analyses. Global geo-data infrastructures, together with the related challenges and opportunities for developing countries, were briefly sketched and there was a presentation on the influence of modern technologies such as virtual reality.

During the second plenary session, entitled "Toward a cartographic research agenda", the research and development needs of the European national mapping agencies were explained and the needs from the perspective of the increased individualisation of map making and mobile map use were illustrated. Ferjan Ormeling, secretary-general of the ICA, gave his reaction and presented ICA's ideas for research directions and an associated infrastructure.



Exhibited at the ICA congress: a poster prepared by Patrick Ogao, PhD student at ITC

Technical Exhibition

The technical exhibition, where cartographic products and services were on show, was relatively small. It appeared that the supply of ready-made and printed products exceeded the number of digital products. Unfortunately, most of the Chinese firms present focused predominantly on the Chinese market. This will undoubtedly change rapidly in the near future as the Chinese economy becomes more integrated with the world economy.

Few new developments can be reported from this exhibition, although a large-format scanner developed by Kongsberg KartoScan AS (Norway) is worth mentioning. Transparent and opaque (e.g. printed) materials of up to 1.60 x 1.10 m can be handled, resolution is 1200 dpi and geometric accuracy is +/- 0.1 mm. Associated software enables conversion of the raster output into vector files and offers the possibility to create separate layers. BARCO Graphics (Belgium), mainly known for its Mercator products, recently developed Atlas VIP, software that with the help of master pages assists in the production of several standard layouts for atlases. Desktop publishing techniques are used for the final production of the atlases. Intergraph (USA) came with a new software module that now enables users to include changes that are graphically made in the database. The company also demonstrated improved generalisation and text placement software.

Map Exhibitions

Four map exhibitions could be visited: one organised by the International Hydrographic Organisation (IHO), an overview of Chinese historical maps, an international exhibition, and maps made by children for the Barbara Petchenik competition. IHO forwarded a travelling exhibit set up in Beijing for the occasion. It was clearly designed

Some participants of the well-attended reunion of ITC's alumni

for the layman and had little to offer the professional cartographer. Unfortunately, the Chinese historical map exhibition contained only reproductions of the older maps, and the many 19th and 20th century atlas maps significantly resembled European maps of the same period.

The other exhibitions were more interesting. Thirty countries forwarded material for the international exhibition, in such categories as topographic, hydrographical, geological, urban, satellite and image maps, atlases and globes, and leisure time and orienteering maps. It was apparent that the amount of geological information acquired has rapidly increased in recent years. Detailed geological maps exist, even for isolated areas, and the rocks of the ocean bottom have been mapped. Digital techniques are so common that often their use is not specified on the maps themselves; it was not even considered necessary to indicate this on the exhibition display labels. Sometimes it was evident that maps had been produced by hand, for example in the case of illustrated tourist and urban maps. Satellite and image maps, on the other hand, are fully digital products. However, it was often difficult to discern exactly what techniques had been applied, particularly as regards the topographic maps. Digital terrain models are utilised for the production of most satellite and image maps and often for the generation of hill shading, an addition that remains popular on many map types. High-quality paper maps are still produced, despite the growth in the number of digital products. Some countries forwarded maps on CD-ROM, but the availability of only one computer to view the CDs inhibited assessment of their quality. The maps for the Barbara Petchenik competition deserved their own exhibition room. All visitors were asked to contribute to the judging - not an easy task, but very stimulating!

ITC Reunion

The ITC tradition of organising a gathering of alumni during international conferences was continued in Beijing. It was a well-attended meeting, with participants from many countries. Here too, African countries were under-represented, while not surprisingly China was the best represented.

The Future

The ICA executive committee has plans to change the name of the organisation to the *International Association for Cartography and Geographical Information Sciences*, and to create a better infrastructure for cartographic research. Strategic plans currently under development will be presented at the next conference in Durban, South Africa, in August 2003.

Sightseeing in Beijing with ITC alumnus Wang Ze-shen as guide

ITC and China: Building a Long-Term Relationship with the Anhui Provincial GIS Committee

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As experience has shown - from the coal fire project in north China and several visits of delegations from the Chinese Ministry of Land Resources, to the rector's successful visit to China earlier this year - building any long-term relationship between ITC and complementary organisations involves many steps.

However, it is these strong strategic partnerships that, through extending our business scope in support of the Institute's core activities, will help ITC to achieve its long-term objectives.

In July 2001, a Chinese delegation from the Anhui Provincial GIS Centre paid its first visit to Enschede as an initial step in the potential development of co-operation with ITC. The nine-strong delegation, which included senior representatives from the Anhui Provincial Bureau of Land Resources, the Anhui Provincial Seismological Bureau and the Anhui Provincial GIS Centre, as well as the Water Conservancy Bureau, was led by Mr. Zhang Qiu Bao, Deputy Secretary General to the Anhui Provincial Government.

During a full programme organised by Prof. John van Genderen and Ms. Tina Tian (AGS Division), with the assistance of Mr. Jan Schipper (BPC) and Mr. Harry Homrighausen (Bookshop), the group visited UNESCO-GIS in Paris and the DGI (Research) of the European Commission in Brussels. Presentations were also given by Prof. Van Genderen, Mr. J. Kooistra (ILWIS support officer) and Mr. Tang Xinmin (PhD student, Geoinformatics Division), and the delegation was very impressed by ITC's work in the fields of education, research and consulting.

During discussions with several ITC staff, all members of this delegation expressed their wish to co-operate with ITC in a number of ways: staff exchange in respect to GIS training, sending students to study at ITC, joint fellowships and projects. Having a strong interest in GIS, this delegation particularly enjoyed the presentation on the latest version of ILWIS by Mr. Sjaak Beerens, ITC's director of external affairs.

This visit has produced at least three notable achievements:

- A greater awareness among the delegation of ITC's role in developing countries and in Europe, and especially of the Institute's well-established track record in long-term co-operation with partners in China. This proven experience is key to the development of our partnership with Anhui Province and its agencies.
- Increased knowledge of GIS applications in the main ITC fields, as well as of ILWIS software and its advanced features to handle both raster and vector data. ILWIS will now be used by the organisations represented by the delegation, who will in turn recommend ILWIS to their subsidiary GIS centres within the province.
- An introduction to other relevant contacts within international (EU

and UN) institutions and organisations, with exposure to their work towards sustainable development, risk management and the use of GIS. This exposure to new and current policies and practice provided the senior decision makers among the Chinese delegation with much food for thought.

The Chinese guests were highly appreciative of the way in which they were received. While just how this partnership will develop remains to be seen, it is clear that a little investment made by a few ITC staff will lead to more and more opportunities for the Institute to co-operate with China in the future.

announcements

Obituary Prof. Dr Morris Juppenlatz

Paul Hofstee hofstee@itc.nl

Prof. Dr Morris Juppenlatz

Morris Juppenlatz passed away on 29 October 2001 at the age of 75.

Morris Juppenlatz joined ITC in September 1977 as a professor and the head of the Department of Urban Survey and Human Settlement Analysis (now Division of Urban Planning and Management). He stayed until December 1990 (obligatory retirement on reaching the age of 65). After leaving ITC, he continued to work in Australia at the Queensland University of Technology in Brisbane (his place of birth in 1925) and the Australian Institute of Spatial Information Sciences and Technology in Bathurst.

As a young man during the second world war, he was a navigator in the Southwest Pacific for the Royal Australian Air Force. This provided a basis for his later interest in aerial photography. After the war he was educated as an architect and town planner in London. He worked nine years as an architect, town planner and lecturer in Cyprus and Australia, and later eight years as a UN advisor in the Philippines and Brazil. He did research at the Department of Urban Design and Regional Planning at the University of Edinburgh, where he received his PhD degree in 1974 with the thesis "The relevance of British new towns to the urbanization problems of the developing countries". Before joining ITC, he worked at the University of Science and Technology, Kumasi, Ghana, where he established the land administration research centre.

Morris Juppenlatz came to ITC as a town planning professional with considerable experience in developing countries, including many years as a UN planning and housing advisor. His book *Cities in transformation: the urban squatter problem in the developing world* (1970, University of Queensland Press, Brisbane) is based on his experiences as a UN advisor in developing countries.

As head of the Department of Urban Survey and Human Settlement Analysis at ITC, Prof. Juppenlatz quickly appreciated the value of the ongoing departmental research and practical developments in geo-information systems and small format aerial photography. These techniques played a central role in later projects in India and China.

He had a keen interest in consulting activities and played a key role in both the acquisition and the implementation of two major institutional strengthening projects:

- the establishment of the Human Settlements Analysis Department, Indian Institute for Remote Sensing, NRSA, Dehra Dun, U.P., India
- the establishment of the Educational Centre for Urban Rural Survey, Planning and Management (later renamed School of Urban Studies), Wuhan Technical University for Surveying and Mapping, Wuhan, Hubei Province, China. In 1987 Prof. Juppenlatz was appointed Honorary Professor at the WTUSM.

Morris will be remembered by all who knew him as a very colourful personality.

project news

from Bureau Project Services

Building Urban Management Capacity in Peru

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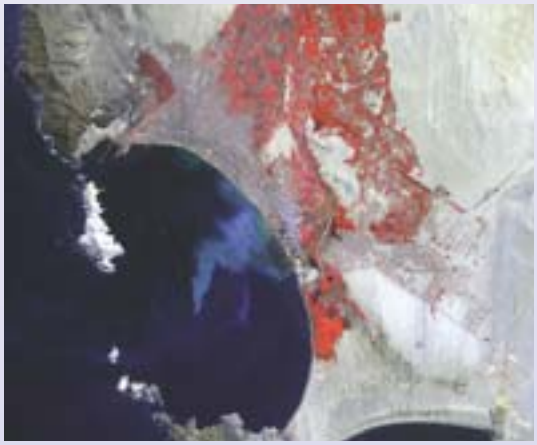
Participants during GIS practicals

August 2001 saw the end of a three-week course on the use of geographical information systems for urban disaster management in the Peruvian capital of Lima. The course was carried out within the framework of the Peru Urban Management Education Programme (PEGUP). The overall aim of this project is the development and implementation of training and educational programmes at postgraduate level for the Peruvian urban development sector. Universities in Trujillo, Arequipa and Lima run three MSc programmes focusing on urban environmental management. In relation to these MSc courses, ITC has been involved in several projects within PEGUP, such as developing an urban environmental atlas of Arequipa, and is presently assisting the metropolitan municipalities of Trujillo and Lima in developing their atlases.

The course carried out in Lima during the month of August was the first to be arranged in conjunction with the Centre for Applied Research in Geography (CIGA) at the Pontificia Universidad Católica del Perú (PUCP). The first week of the course was conducted by Pablo Arteaga (staff member of the university in Trujillo and former ITC student) and dealt with basic GIS concepts and tools. The second week was conducted by Lorena Montoya (staff member of ITC's Urban Planning and Management Division) and dealt with the use of GIS for disaster management.

The course participants included university lecturers (in the majority) and government staff from the cities of Iquitos, Cuzco and Lima. The course not only builds the local capacity in these three cities but also contributes to establishing a network of people from several key institutions working towards improved urban management.



Landsat TM7 false-colour composite image of Chimbote

Participants at the closing ceremony

Town hall in downtown Lima

Education in Land Information Management

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A second phase of the educational project "Land Information Management in Southern Africa" has been started on 1 September 2001. This project designs, accredits, develops and implements customized training and education for institutions delivering Land Reform in southern Africa. A complementary training programme is implemented and further expanded in Namibia.

In South Africa the project partners are Department of Land Affairs (DLA), the Centre for Environment & Development (CEAD) of the University of Natal and ITC.

The goal of the project is to strengthen the capacity of the nine Provincial Departments of Land Affairs (PDLA) and the National Department of Land Affairs (NDLA) to deliver the targets of the Land Reform policy. A customized course program has been designed, accredited and partly developed in the first project phase by the partners. The first project phase also included training of PDLA staff at the Polytechnic of Namibia.

The project has a total value of approximately 50 million Rand in the SADC region of which the Netherlands Government provides 20 million Rand. One-third of the budget is earmarked for the South African project component. The project partners in South Africa, the DLA and the University of Natal, together contribute about a similar amounts as the Netherlands Government.

The project in South Africa supports the Land Information Management CLM course programme, that is a post-graduate certificate, a post-graduate diploma and a Master degree course. The course programme will be offered from January 2002 onwards. In the first year 30 professionals from the nine PDLA's and the DLA will be released in blocks of several weeks. Applications for the LIM course programme have been received from other SADC-countries already prior to publishing.

Training in Land Management

Eric Holland holland@itc.nl

A further phase of the programme in the field of Land Management has been approved recently for funding from the Netherlands International Education Programme. This programme focuses on institutional cooperation and human resource development in support of the land reform programme in southern Africa.

In Namibia the main beneficiaries of this programme will be the Ministry of Lands, Resettlement and Rehabilitation (MLRR) and the Polytechnic of Namibia where the training programme is being institutionalised. A complementary programme is being developed in South Africa.

The main objective of the project in Namibia is to strengthen the capacity of MLRR to ensure effective implementation of the land reform programme. This will be achieved by the further development of the education and training capacity in land management at

the Polytechnic of Namibia. This is the third phase of a programme, which began in 1996.

The Netherlands Government provides approximately 20 million Namibian Dollars and Namibia contributes a similar amount to support the implementation of the programme in Namibia. The new phase of funding provides support to mid 2004.

The project will be implemented by the Ministry of Lands, Resettlement and Rehabilitation, the Polytechnic of Namibia and the International Institute of Aerospace Survey and Earth Sciences, supported by the Institute of Housing and Urban Development Studies (IHS) based in Rotterdam, the Netherlands and the Maastricht School of Management (MSM) based in Maastricht, the Netherlands.

The project will support five one year National Certificate courses in land use planning, land measuring, land valuation, urban land use management and land registration, a three year National Diploma course and a four year B.Tech. programme in land management. Furthermore short courses for MLRR managers will be developed. Currently 100 students are studying on this programme at the Polytechnic of Namibia from 6 SADC-countries (Namibia, Zambia, Zimbabwe, Botswana, Tanzania, South Africa).

ITC staff of the Bureau Project Services together with the project partners in the "Education in Land Information Management" and "Training in Land Management" projects

Dear Mrs. Janneke Kalf and staff of ITC-News,

I'm Nguyen Thi Hong Hai, geologist of National Institute of Mining and Metallurgy in Vietnam. I'm happy to receive ITC News.

I studied in ITC in 1997-1998. ITC give me very good new idea and help me and my Institute very much. Netherlands is very beautiful country but we didn't have time to rest. In ITC we had always very busy because study very hard.

ITC News is remind me time in ITC and give me new information of processional.
Thank you very much and please help me send my greeting from Vietnam to our teachers and staff of ITC.

Thank again.

Hong Hai
vncm&lk@vista.gov.vn

My name is Ahmet Hýzal from Turkey. When I was working in Turkish Forest Service I joined your ITC course in soil erosion survey and completed it on December 10th, 1976.
After I came back to Turkey I worked in forest service for a while and finished my PhD study named "a study on the application of aerial photo-interpretation to the watershed surveys" in 1984. Later on, I started working at university of Istanbul, faculty of forestry as a professor. I have used knowledge I gained in ITC course in many erosion related studies in addition to my PhD study. Here is some of them:
1. Erosion problem and its effects on pollution of Manyas Bird Lake (Baýkesir-Turkey, 1992.
2. Determination of principals of administration and management of forest resources to increase water yield in terms of water quality, quantity, and regime in the watershed of Yuvac?k dam in izmit-Turkey (still continues).
3. Erosion control works in Burdur region, 1987.
4. Remote sensing data related to forest surveys in Turkey, 1985.
Besides the studies I mentioned above I have many researches related to soil erosion.
I am currently employed at University of Ýstanbul, faculty of forestry, department of watershed management.

Prof. Dr. Ahmet Hýzal
ahizal@istanbul.edu.tr